TOP MANAGEMENT TEAM PSYCHOLOGICAL CHARACTERISTICS, INSTITUTIONAL ENVIRONMENT, TEAM PROCESSES AND PERFORMANCE OF COMPANIES LISTED IN NAIROBI SECURITIES EXCHANGE

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DECLARATION

This thesis is my original work and has not been presented for an academic fulfillment in any other institution of learning.

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DEDICATION

This research is dedicated posthumously to you my parents – Njoki and Kinuu. For after you had served God's purpose in your generation, you rested on 21 August 2012 and 21 November 2012, respectively. Thank you for the good deposit of sound teaching that you entrusted to me – I will guard it.

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ABBREVIATIONS AND ACRONYMS

AIC:	Akaike Information Criterion
BIC:	Bayesian Information Criterion
BSC:	Balanced Score Card
CEO:	Chief Executive Officer
CFA:	Confirmatory Factor Analysis
CFI:	Comparative Fit Index
CMA:	Capital Markets Authority
CSE:	Core Self-Evaluation
GFI:	Goodness of Fit Index
IFI:	Incremental Fit Index
KMO:	Kaiser Meyer Olkin
MI:	Modification Index
NFI:	Normality Fit Index
NSE:	Nairobi Securities Exchange
RMSEA:	Root Mean Square Error of Approximation
SBSC:	Sustainable Balanced Score Card
SE:	Standard Error
SEM:	Structural Equation Modeling
TMT:	Top Management Team

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ABSTRACT

Researchers have established that top executives affect company outcomes. This finding is grounded on the top management teams demography research, which forms the bulk of the extant literature in upper echelons theory. As the volume of research linking top management teams and strategic outcome grows, so too does the call for research that goes inside the "black box" of the upper echelons. The black box criticism is so common in a majority of upper echelon studies that some researchers encourage a moratorium on the use of demographic variables as surrogates for top management team behavior. This study sought to contribute to knowledge by departing from the demographic path to assess the effect of top management team psychological characteristics on organizational performance, cognizant of the probable role of institutional environment and team processes. The main objective of the study was to establish the influence of institutional environment and team processes on the relationship between top management team psychological characteristics and organizational performance. The study's population consisted of 61 companies listed at Nairobi Securities Exchange and data was collected from 46 organizations. Data was analyzed and interpreted based on descriptive statistics, multivariate regression analysis and structural equation modeling. The study revealed on one hand, significant results for the effects of top management team psychological characteristics on non-financial performance and on the other hand non-significant results for the effects of top management team psychological characteristics on earnings per share performance. Additionally, the study also revealed significant results for the moderating role of institutional environment on top management team psychological characteristics and performance relationship. In opening up the top management team 'black box', this study has provided an empirical foundation for investigating the impact of top management team psychological characteristics on organizational performance. The study has also made a unique contribution to the academic literature arising from integration of upper echelon theory, group dynamics theory, institutional theory and social psychology theory. The study has also made a unique contribution to policy formulation and development in Kenya. Policy makers will benefit in understanding how institutional forces in the Kenyan context impact organizational performance and hence be guided in formulation of reforms in various political, judicial and economic institutions. This research has given rise to several new research avenues and practical implications such as the need to replicate this study in different contexts in order for researchers to draw patterns showing effect of top management team behavior on various organizational outcomes. One of the main drawbacks of this study was that all the study's data except organizational earnings per share were obtained through self-reporting measures, which are subjective in nature. The reliance on primary data has the potential associated with sources of systematic measurement error. Future studies could focus on using secondary data to measure, for example, organizational non-financial performance. Secondly, the study employed a cross sectional approach whereas a longitudinal approach would provide for a longer time of study to observe relationships among study's variables.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Strategic leadership research has over time focused on establishing if Top Management Teams (TMTs) really matter to organizational outcomes. The TMT refers to those executives holding senior most offices and have influence on organizational strategic outcomes (Finkelstein, 1992). Hambrick (2007) has argued that TMTs provide an interface between the firm and its environment, are relatively powerful and therefore their choices and actions are likely to have an impact on the organization. The TMT behavior affects performance of organizations through decisions making, promptness and quality of decisions.

The uncertainty associated with today's business environment (Peterson & Zhang, 2011) is such that TMT decision making within an organization takes place in the context of an institutional environment. Institutional forces in any environmental context impose significant demands on TMT to collect, track, and analyze information (Carpenter et al., 2004). Impliedly, managers will respond to institutional forces through bias to certain strategic choices. The TMT research highlights the importance of team leadership as opposed to individual leaders in a firm implying existence of interplay of group dynamics and TMT behavior (Hambrick, 2007).

The TMT research is grounded in upper echelons theory, which suggests that managerial choices do not always follow rational motives but are influenced by the natural limitations of managers (Carpenter & Fredrickson, 2001). The upper echelons theory postulates that an organization's strategic choices and subsequent performance

are reflections of its TMT (Hambrick & Mason, 1984). In addition, the theory proposes that demographic characteristics serve as useful proxies for unobserved cognitive and psychological characteristics of top managers. Although TMT diversity research has flourished (Bolo et al., 2011), studies in psychology theory have brought out the inadequacy of demographic measures as proxies of behavior (Judge et al., 1999). Institutional theory highlights the importance of the TMT to monitor the environment and deftly navigate through institutional forces (March & Sutton, 1997).

Institutional theory, as observed by Machuki et al. (2012) besides explaining the alignment of a firm's strategy with internal and external factors of the organization also seeks to examine the preferences, behaviors and actions of organizations and individuals. Group theory postulates that team processes will affect the development of shared cognitive maps, which are critical in decision making (Smith et al., 1994). Buyl et al. (2011) has argued that successful TMT performance depends on team dynamics and the independent interactions there-in.

This study was based on the premise that TMT behavior influences organizational performance. However, organizational performance may also be moderated by other factors like institutional environment and team processes. The study, therefore attempted to establish the influence of institutional environment and team process on the relationship between TMT psychological characteristics and organizational performance in the Kenyan context.

Kenya is situated in the eastern part of the African continent and has a total area of 582,646 square kilometers. The country has diverse physical features, major among them being a 536 kilometer coastline and the port of Mombasa that enables the country to trade easily with other countries. The Kenyan economy is predominantly agricultural with a strong industrial base. In 2003, the government prepared the Economic Recovery Strategy (ERS) paper for wealth and employment creation with the objectives of restoring economic growth, strengthening the institutions of governance, restoring and expanding infrastructure and investing in human capital. In order to consolidate the gains of ERS, the government in 2008 launched Vision 2030 to transform Kenya into a newly industrialized middle-income country by 2030.

1.1.1 Top Management Team Psychological Characteristics

Finkelstein (1992) has defined TMTs as those executives holding senior most offices and have influence on organizational strategic outcomes. Additionally, TMT is seen as the primary unit that governs the firm's environment; makes strategic choices; and evaluates feedback (Irungu, 2007). There are two types of TMT characteristics namely psychological and demographic characteristics. The TMT demographic characteristics of age, gender, education level, functional background, experience, tenure and TMT size have been found to be imprecise and noisy surrogates for team behavior whilst psychological characteristics have both the explanatory power to delve into the behavior "black box" and bring to light the actual mechanism underlying behavior (Dezs & Ross, 2012).

Psychological characteristics can be classified broadly as either trait-like or state-like constructs. State-like constructs are more malleable and open to development and intervention whilst trait-like constructs are more fixed and difficult to change (Peterson & Zhang 2011). Self-esteem, self-efficacy, locus of control and emotional stability are classified as trait-like constructs while task specific self-efficacy, hope, optimism and resilience are state-like constructs.

Upper echelons research inconsistent findings have brought out the inadequacy of demographic measures as proxies of behavior because the variables' proxies do not tap directly into the underlying TMT behavior and values (Buyl et al., 2011). In response, researchers have combined upper echelons theory in a small scale with social psychological theories in opening up TMT behavior 'black box' but with little success due to the difficulty in operationalizing psychological characteristics beyond clinical settings (Hiller & Hambrick, 2005). While recent research has attempted to examine TMT psychological characteristics, many of these studies have involved an array of disconnected concepts that lack rigorous conceptual and methodological grounding (Peterson & Zhang, 2011; Hiller & Hambrick, 2005).

Today, when research on TMT behavior is discussed, there is always the mention of the 'black box' and how so much of what takes place is unknown (Ling et al., 2008). The study of TMTs is at a crossroad (Clark & Maggitti, 2011) and the ability to extend knowledge in this area is predicated upon the courage of dedicated researchers to use ingenuity in the application of borrowed methodologies. Recent psychology research in establishing and validating concepts of Core Self-Evaluation (CSE) and psychological capital may provide substantial leverage for research on TMT

psychological characteristics. The CSE refers to an enduring evaluation of oneself as an individual (Judge et al., 1999). The CSE, which unifies the four separate concepts of self-esteem, self-efficacy, locus of control, and emotional stability, has been found to be positively related to individual performance and lower-level team performance (Walumbwa et al., 2009).

Similar to CSE, psychological capital is also a broad higher-order psychological construct that assesses one's motivational propensity to accomplish goals and succeed (Peterson & Zhang, 2011). Psychological capital unifies four resources of task-specific self-efficacy, hope, optimism and resilience. This study emphasized that TMT behavior, as conceptualized by top management team psychological characteristics, affects organizational performance.

1.1.2 Institutional Environment

An institutional environment refers to the stable rules, cultural schema, social standards and cognitive structures in a society that guide, favour or restricts business activity (North, 1992). Institutions form a continuum moving from the legally enforced to the taken for granted (Nielsen & Nielsen, 2013). A combination of formal and informal institutions guides organizations in dealing with uncertainty, deciphering environment and taking appropriate action (Martin, 2014). This study focused on three selected factors namely regulatory quality, rule of law and economic policies whose effect on TMT psychological characteristics and organizational performance relationship are not known to have been examined. Regulatory quality refers to the degree to which compliance with the existing laws, rules, and other government regulatory procedures impose burdens on firms (Martin, 2014; Chadee & Roxas, 2013).

Rule of law collectively embraces laws, regulations, government policies and programs, and basic infrastructure and services that support the full functioning of a market-based economy (North, 1992). Gomez-Haro (2011) argues that institutional forces significantly influence environmental characteristics by reducing uncertainty, transaction costs, and information asymmetry thereby nurturing a business climate of competitiveness. Institutional forces impose significant demands on top managers to collect, track, and analyze information (Hambrick, Finkelstein & Mooney, 2005).

1.1.3 Top Management Team Processes

In the traditional inputs-process-outputs framework for teams, processes are defined as interactions among team members (Carpenter et al., 2004). The central argument of team processes hinge on the three main implications of group dynamics namely social categorizing, similarity-attraction paradigm and implications of information available within a group (Li & Hambrick, 2005). Team processes have been shown to influence various team and/or organizational outcomes (Don et al., 1999) by providing greater efficiency and effectiveness. However, research documenting the impact of executive team processes on organizational performance is scanty and hence researchers have not gained a good understanding of the nature of TMT process (Simsek et al., 2011). This is due to the challenge of gaining access to TMTs, past claims that the direct assessment of executive processes is unnecessary and inferring team process relationships instead of measuring them (Nielsen, 2010; Barrick et al., 2007). There are three categories of team processes namely socio political (consisting of task conflict, relationship conflict and trust), social integration and behavior integration.

Task conflict constitutes disagreements or intellectual opposition among group members about the content of their decisions (Jehn, 1995). Task conflict is appealing in the context of top management teams, since by its very nature, teams should bring to decision platform multiple perspectives, engender well thought out alternatives, and ultimately lead to better decisions (Parayitam et al., 2010). Relationship conflict is interpersonal incompatibility (Hiller & Hambrick, 2005) and it causes group members to work less effectively, inhibits peoples' ability to process complex information and produces sub-optimal products leading to poor performance. Intra-group trust allows group-wide expectations of truthfulness, integrity and a sense of shared respect for group members to amplify perceptions of competence among one another (Peterson & Zhang, 2011).

When team members trust each other, they are more likely to accept stated disagreements at face value and less likely to attribute hidden agenda to task conflict behaviors (Finkelstein & Hambrick, 1996). Social integration is a multifaceted phenomenon that reflects the attraction to the group, satisfaction with other members of the group, and social interaction among the group members (Smith et al., 1994). Researchers have identified benefits of social integration to include higher quality problem solving, greater productivity, efficiency and superior member satisfaction. Hambrick et al. (2005) set forth the concept of behavioral integration, which they defined as the degree to which mutual and collective interaction exists within a group. This study sought to assess the effect of team processes on organizational performance and establish the intervening effect of team processes on TMT psychological characteristics and organizational performance relationship.

1.1.4 Organizational Performance

Organizational performance is a recurrent theme in strategic management research (Machuki & Aosa, 2011) and is often identified with effectiveness and efficiency (Lusthaus et al., 2002). However, performance as argued by March and Sutton (1997) extends to a wide range of research that seeks to understand organization's competitive survival. Neely (2004) postulates that performance refers simultaneously to the action, the result of the action, and to the success of the result compared to some benchmark. Performance, therefore, can be expressed as a set of parameters that describe the process through which various types of outcome and results are achieved (Kaplan & Norton, 1992).

The importance of organizational performance can be seen from theoretical, empirical and managerial lenses (Venkatraman & Ramanujam, 1986). The theoretical lens focuses on the effectiveness of strategies that influence level of performance they cause whilst the empirical lens brings to light the many constructs that have been employed to capture performance. The managerial perspective focuses on the quality of decisions that managers make on day-to-day basis (Venkatraman & Ramanujam, 1986). In spite of this importance, the findings of the studies on performance remain inconclusive and various reasons have been advanced for the inconclusive results including methodological flaws, ignoring organizational characteristics in performance relationships and contextual application of models (Mugambi & K'Obonyo, 2012). Measuring performance is one of the most problematic issues in the field of strategic management.

Strategic management researchers, in their quest for establishing performance implications of strategic conduct of businesses, continue to measure business performance using a wide array of operationalizing schemes (Mugambi & K'Obonyo, 2012; Richard et al., 2009). There is however, no informed scientific debate among researchers as to what constitutes a valid set of criteria. Most of strategic management studies have measured performance using traditional financial measures. The main issue associated with traditional performance measurement is failure to include non-financial and less tangible factors such as quality, customer satisfaction and employee morale (Kaplan & Norton, 1992). Today, there is a consensus that the old financial measures are still valid and relevant (Yip et al., 2009), but these need to be balanced with more contemporary, intangible and externally oriented measures.

The growing importance of satisfying stakeholder requirements has seen the development of the Sustainable Balanced Score Card (SBSC) as a contemporary stakeholder centric measure (Hubbard, 2009). The SBSC encompasses six perspectives of financial, customer, internal business, learning, social and environmental. This is in line with the emerging stakeholder theory, which calls for assessment of organizations' performance against the expectations of a variety of stakeholder groups that have particular interests in the effects of the organizations' activities. The customer perspective shows how an organization is performing from its customers' view. Internal processes are those critical internal operations that enable organizations to satisfy customers' needs. Global competition is such that organizations need to have ability to innovate and hence learning is critical. Social perspective measures the impact a firm has on communities in which it works.

Finally, environmental perspective focuses on the amount of resources a firm uses in its operations and the by-products it creates. Consequently, out of recognition of the inappropriateness of traditional approaches to performance measurement, in a stakeholder driven economy, this study sought to measure organizational performance using contemporary framework as defined by SBSC.

1.1.5 Companies Listed in Nairobi Securities Exchange in Kenya

The study was carried out in Kenya, which is a developing economy. Researchers appreciate that national context play an important role for the TMT characteristics-performance relationship (Nielsen & Nielsen 2013). Since upper echelons theory might take on very different complexions depending on the macro-social context, Hambrick (2007) has called for the need to explicitly take the upper echelons research agenda to the international scene where there is a great opportunity to examine how cultural and institutional forces affect executive profiles and behaviors, as well as their influence on organizational outcomes.

Kenya is a sub-Saharan country that hosts a diverse mix of organizations that conduct local and international business. Over the last decade, the country has undergone significant institutional changes. These include peaceful change of government in 2003, violent general elections in 2007 and in 2010 Kenya witnessed a major political change that ushered in a new constitution with attendant changes in governance. In year 2007, Kenya's economy grew at 7 percent per annum. Political events of year 2007/2008 involving the general election and the subsequent post-election violence plummeted the economy to a negative growth rate. All the above factors are clear pointers of a dynamic macro institutional environment.

The study focussed on all companies listed at Nairobi Securities Exchange (NSE). The NSE was formed in 1954 as a voluntary association of stockbrokers registered under the Societies Act. In July 2011, the Nairobi Stock Exchange Limited changed its name to the NSE to reflect the evolution of NSE into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments. In September 2011, the NSE converted from a company limited by guarantee to a company limited by shares. As of February 2014, a total of 61 firms in 10 different industries were listed at the NSE. A number of factors informed the focus on companies listed at the NSE in this study.

Firstly, there exists prior TMT demographic research upon which scholarly and managerial comparisons can be done with the TMT psychological characteristics research of the same companies. Secondly, the companies are industry heterogeneous thus providing a within and without industry comparison. Thirdly, the variation in financial performance of the companies notwithstanding that they operate in the same macro-environment may be explained by the behavior of TMT. Fourthly, the companies are more constrained by extraneous influences like regulatory compliances and board of directors. Fifthly, there exist defined governance structures, which provided confidence that the targeted study population of TMT existed in the publicly listed companies. Finally, companies listed in NSE cut across 10 different sectors of the Kenyan economy. The manifestation of TMT psychological characteristics was expected to be more profound in companies listed in NSE than in any other population.

Over the last five years, companies listed in NSE have witnessed significant changes in TMT composition owing to after-effects of boardroom wars and appointment of TMTs members into public service (NSE annual handbook 2012). Unlike the appointment of board of governors, which is defined by Capital Markets Authority (CMA) statutes, there is no set statutory criterion for appointing TMTs yet this team has the symbolic responsibility for organization performance. It could be that individuals with certain psychological characteristics stand a better chance of ascending to TMT.

1.2 Research Problem

Strategic leadership research has established that TMTs' behavior, values and cognitions really matter to organizational performance (Hambrick, 2007). This finding is grounded on demographic methodology as a measurement proxy for underlying behaviors (Marimuthu & Kolandaisamy, 2009). The methodology however creates a 'black box' of TMT behavior hence the need to study TMT psychological characteristics that are measures of behavior (Dezs & Ross 2012). Despite the great emphasis on the link between TMTs' behavior and corporate performance, there is no known study that has investigated TMT psychological characteristics. The conflicting results of upper echelons research may also be due to not accounting for the intermediate role of team processes between TMT behavior and organizational performance (Nielsen, 2010). It could also be that team processes jointly with TMT psychological characteristics influence organizational performance. Organizations exist in an institutional environment where forces impose demands on TMT to collect, track, and analyze information (Carpenter et al., 2004).

Impliedly, there is need to investigate how this interaction influences TMT decision making in strategic choices that eventually affect organizational performance. Interestingly, organizational purpose is as divergent as there are different stakeholders in an organization hence the need to focus measurement of organizational performance using contemporary stakeholder-centric approaches.

Companies listed in NSE are the face of the Kenya economy as they cut across 10 industries. This industry heterogeneity provided a within and without industry comparison. Additionally, there exists prior TMT demographic research upon which scholarly and managerial comparisons can be done with the study of TMT psychological characteristics research of the same companies. The variation in financial performance of the companies notwithstanding that they operate in the same macro environment could perhaps be explained by the extraneous influences, like regulatory compliances and board of directors, dictated by companies' institutional environment.

Peterson and Zhang (2011) have observed that lack of conceptually and theoretically grounded constructs has made it difficult to operationalize TMT psychological characteristics. Consequently, the TMT psychological characteristics, being part of the TMT diversity research, have not been interrogated with the consequence of researchers always referring to the 'black box' to cover the unknowns in TMT research.

Although scholars recognize that institutions and team processes matter in shaping TMT behavior (Martin, 2014), there is no known study that has examined the intervening effect of team processes and institutional environment on the relationship between TMT psychological characteristics and organizational performance. Studies in strategic management have often than not measured performance using the traditional financial measures. In recognition of the limitations of financial approaches to performance measurement in a stakeholder driven economy, this study has presented measurement of organizational performance using a contemporary framework as defined by SBSC that incorporates economic, social and environmental performance dimensions.

In Kenya, Irungu (2007) used demographic characteristics to proxy TMT behavior in the NSE context. The author identified the inherent limitations of TMT demographic measures and called for the need to examine TMT psychological characteristics. This study examined the effect of TMT psychological characteristics in the NSE context. Muchemi (2013) found that TMT diversity in commercial banks in Kenya had significant effect on executive groups. The author proposed that the role of team process variables and context on TMT behavior be further investigated.

Mutuku (2012) investigated the TMT demographic diversity effects on organizational performance of companies listed in the NSE. The author measured organizational performance using the Balanced Score Card (BSC) that integrates financial, customer,

internal business and learning perspectives. The BSC framework, though popular, does not encompass critical non-market performance dimensions. These dimensions are represented by a group of stakeholders of growing power and significance in the current business environment namely regulators, pressure groups and communities (Schaltegger et al., 2011).

This study therefore sought to contribute to the strategic management by addressing the challenge of operationalizing TMT psychological characteristics, examining the mediating and moderating effect of team processes and institutional environment on the TMT performance linkage and finally by adopting a stakeholder centric view of organizational performance measurement. In making contributions to strategic management, the study set out to ascertain the effect of TMT psychological characteristics on organizational performance through attempts to fill the identified gaps. What is the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance?

1.3 Research Objectives

The broad objective of the study was to determine the influence of TMT psychological characteristics on performance of companies listed in NSE, cognizant of the probable role of institutional environment and team processes. The specific objectives were to:

i. Determine the effect of TMT psychological characteristics on organizational performance;
ii. Assess the relationship of TMT psychological characteristics and team processes;
iii. Examine the joint effect of TMT psychological characteristics and team processes on organizational performance;
iv. Assess the effect of team processes on organizational performance;
v. Establish the mediating effect of team processes on the relationship between TMT psychological characteristics and organizational performance;
vi. Establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance.

1.4 Value of the Study

This study is important in a number of ways. First, it has provided insight in tackling the measurement challenge of TMT behavior by providing a measurement methodology that opens up the TMT behavior 'black box'. This study has provided more insights of performance measurement framework by using a contemporary framework as defined by SBSC. The resultant literature from integration of upper echelon theory, psychology theory, institutional theory, group processes and business performance will enrich the strategic management field by way of theory building.

The study has also contributed to policy formulation and development in Kenya. Policy makers will benefit in understanding how institutional forces in the Kenyan context affects organizational performance and hence be guided in formulation of reforms in various political, judicial and economic institutions.

Finally, this study has also implications to managerial practice as regards hiring, training, coaching and talent development of TMTs. The results of the research will be useful to organizational management on how TMT behavior, team processes and institutional environment affect organizational performance. A second managerial implication is on TMT compensation. Executive compensation is a complicated issue that has vexed researchers and practitioners for years (Ward et al., 2011). The TMTs compensation in most cases is tied to the financial performance of the organization. This study has provided other performance parameters that TMT compensation can be based on.

1.5 Structure of the Thesis

The study is organized into six chapters. Chapter one presents the background of the study, research problem, research objectives and the justification of the study. Chapter two introduces the theoretical grounding of the study's variables, discusses empirical literature of the relationship of the study's variables on organizational performance and identifies knowledge gaps. Thereafter, the study's conceptual framework and hypotheses are presented.

Chapter three presents the research methodology, which entails the research philosophy, research design, population of the study, data collection method, operationalization of variables and data analysis techniques. Chapter four provides various data tests and descriptive data analysis. Chapter five presents test of hypotheses, interpretation of results and discussion. Chapter six offers the summary of findings, conclusion, contributions to knowledge, implication on theory, policy and managerial practice, limitations of the study and recommendations for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the literature review in the fields of upper echelons, institutional environment, group dynamics and organizational performance. The review of literature not only establishes the theoretical foundations upon which this study is anchored on, but also identifies a number of unresolved issues in the upper echelon research. In order to address the identified unresolved issues, a conceptual framework is discussed upon which the research hypotheses are built on.

2.2 Theoretical Foundation

This study has been inspired by integration of concepts from upper echelon theory, psychology theory, group processes literature, institutional theory and business performance theory. Researchers have established that top executives really matter to company outcomes (Newman et al., 2014). This finding is grounded on the TMT demography research, which forms the bulk of the extant literature in upper echelons theory. Studies in psychology theory have however, brought to the fore the inadequacy of demographic measures as proxies of behavior (Nielsen & Nielsen, 2013). In response, researchers have combined the upper echelons theory in a small scale with social psychological theories in opening up TMT behavior 'black box'. Impliedly therefore, the TMT psychological characteristics as part of the TMT diversity research has not been interrogated. Hiller and Hambrick (2005) postulate that measurement and operationalization of TMT psychological characteristics has been a challenge in upper echelons research.

A key postulation of upper echelon research is the importance of team leadership as opposed to individual leaders in a firm (Hambrick, 2007). Impliedly therefore, is the existence of an interplay of group dynamics and TMT behavior. Group dynamics literature has established that team processes work to influence various team and organizational outcomes such as firm performance (Walumbwa, 2009). Barrick et al. (2007) has also noted that one challenging aspect of TMT research is its relative independence of the broader work teams' literature. It may be that our further understanding of the effect of TMT behavior on organizational outcomes may be enhanced by understanding TMT processes and interactions as guided by group dynamics constructs.

Firms, which are led by the TMT, do not operate in a vacuum but in an environmental context. Institutional forces in any environmental context have been known to influence environmental characteristics. The effects of environmental characteristics such as turbulence, dynamism and munificence on TMT behavior have been documented in empirical research (Chadee & Roxas, 2013). The authors further observe that the influence of environmental features on a firm's strategic approaches is a perceptual phenomenon by nature and hence executives will only react to their perceptions of a context. This interaction influences TMT decision making in strategic choices that eventually influence organizational performance. As observed by March and Sutton (1997), comparative organizational success requires consideration of the context of decisions made by executives. It may be that institutional environment has an indirect effect on organizational performance through moderation effect on TMT psychological characteristics and team processes.

Interestingly, the meaning of organizational performance is as divergent as there are different stakeholders in an organization and it is upon organization's TMT to accommodate the needs of all stakeholders. Different organizational stakeholders view organizational performance differently just as the purposes of a firm existence are as divergent as the stakeholders (Richard et al., 2009). Although performance has been measured from different perspectives (such as marketing, operations, finance, and human resource management) and for different purposes, there is little or no informed scientific debate as to which measures are appropriate and how these measures should be combined and used in order to measure the business performance of firms (Yip et al., 2009).

The literature review in this chapter explores the upper echelon research and identifies the probable reasons for the inconsistent research findings. The review leads to a conceptual framework as shown in Figure 2.1 upon which this research is based on. The conceptual framework integrates several theories from various management disciplines. The study integrates theories of upper echelons, psychology theory, institutional environment, team processes and organizational performance to propose a unique interaction of the influence of institutional environment and TMT processes on the relationship between TMT psychological characteristics and organizational performance.

2.2.1 Upper Echelon Theory

Finkelstein and Hambrick (1996) postulate that the roots of the upper echelons theory lie in the behavioral theory of the firm which suggests that managerial choices are not always following rational motives but are to a large extent influenced by the natural limitations of managers as human beings. The central idea in Hambrick and Mason

(1984) paper, and the core of upper echelons theory, has two interconnected parts namely that executives act on the basis of their personalized interpretations of the strategic situations they face, and that these personalized construals are a function of the executives' experiences, values, and personalities (Hambrick, 2007). Consequently, the theory is built on the premise of bounded rationality, which states that informationally complex and uncertain situations are not objectively knowable, but are merely interpretable (Carpenter et al., 2004).

There are three central tenets of the upper echelon perspective as documented by Carpenter at al. (2004). First, the strategic choices made in firms are reflections of the values and cognitive bases of powerful actors. Second, the values and cognitive bases of such actors are a function of their observable characteristics like education, age, gender, functional experiences, ethnicity, race and work experiences. Finally, significant organizational outcomes will be associated with the observable characteristics of those powerful actors.

A number of important features also characterize the upper echelon theory. First, as outlined by Hambrick and Mason (1984), the underlying framework is a linear one, that is, the top management team enacts the situation, enactment leads to strategic choices, and those choices affect performance. Second, the study gave rise to a theoretical framework predicting that organizations will be a reflection of their top management teams and a methodology that relies on TMT demography as a measurement proxy for underlying individual and group cognitions and behaviors (Marimuthu & Kolandaisamy, 2009; Hambrick et al., 2005; Carpenter, 2002).

The seminal paper also introduced two subordinate ideas, each of which seems to have stimulated major streams of research (Qian et al., 2013; Hambrick, 2007). First, a focus on the characteristics of the top management team will yield stronger explanations of organizational outcomes than will the customary focus on the individual top executive alone. Secondly, demographic characteristics of executives can be used as valid, albeit incomplete and imprecise, proxies of executives' cognitive frames due to the inherent difficulty in measuring cognitions, values and perceptions. Therefore, the upper echelon proposes that an organization and its performance will be a reflection of its top managers and theorize an interface with underlying team dynamics.

Although research on upper echelons has flourished, empirical findings are not wholly consistent. Several scholars have argued that the conflicting results and equivocal findings of upper echelons research are due to inherent limitations of organizational demography related to and not accounting for the intermediate role of cognitive, psychological characteristics and team processes (Nielsen 2010). Dezs and Ross (2012) have observed that the demography-based research creates a 'black box' which moves researchers further and further away, both empirically and theoretically, from the actual mechanism underlying observed relationships.

2.2.2 Institutional Theory

Institutional theory focuses on how social influence toward conformity shapes organizations' actions (Berrone et al., 2013). Organizations are assumed to seek approval and thus are susceptible to social influence (Scott, 1995). Institutional theory does not delve into efficiency issues because financial considerations are not the primary driver of socially compliant managerial practices (Berrone et al., 2013). This

feature has made the theory particularly attractive to environmental management researchers, since ‘green investments’ often cannot be financially justified, at least in the short term. Institutional theory considers the processes by which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behavior (North, 1992). The theory enquires into how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse (Neely, 2004).

Scott (1995) identified three institutional pillars that structure and provide meaning to organizational behavior namely regulative, normative, and cognitive. Regulation provides explicit guidance to organizations through rules, controls, rewards, and sanctions. Norms guide behavior through a less explicit system of standards and values. Cognition includes cultural elements that govern choice often without receiving conscious thought. Research has recognized that all institutions combine the three elements at varying degrees and their relevance is context-specific (Berrone et al., 2013).

The potential contribution of institutional environment research to strategy comes from its highlighting of the interactive role that institutions play in both constraining and enabling organizational action (Chadee & Roxas, 2013). In addition, utility of the theory is not confined to the organizational level but also at national, transnational, and global levels (Neely, 2004). There exist opportunities for future research on upper echelons that includes environmental characteristics to determine the relative roles of environmental complexity in moderating TMT behavior

2.2.3 Group Process Theory

Group dynamics is a field of inquiry dedicated to advancing knowledge about the nature of groups, the laws of their development, and their interrelations with individuals, other groups, and larger institutions (Barrick et al., 2007). A group is defined as two or more individuals who are connected to one another by social relationships (Forsyth, 2006). Group members get into arguments, talk over issues, make decisions, upset each other, give one another help and support, take advantage of each other's weaknesses and rally together to accomplish difficult tasks (Smith et al., 1994).

Group interaction is as varied as human behavior itself and is mainly dominated by two classes of interaction that are most common in group situations, that is, task interaction and relationship interaction (Forsyth, 2006). Task interaction includes all group behavior that is focused principally on the groups work, projects, plans, and goals while relationship interaction (or socio-emotional interaction), in contrast, is focused on the interpersonal and social side of group life. Group dynamic theorists have argued that there is a trade-off between task-oriented and group-maintenance behaviors (Jehn, 1995). From an organizational perspective, task-oriented behavior provides an efficiency benefit, while group maintenance carries an efficiency cost.

Group cohesion is the strength of the bonds linking individuals to the group, feelings of attraction for specific group members and the group itself, the unity of a group, and the degree to which the group members coordinate their efforts to achieve goals (Pitcher & Smith, 2001). The great advantage of a cohesive group is that its members can find in group responsibility and group achievement satisfaction for their

individual needs for self-expression and self-determination, as well as affiliation (Smith et al., 1994). Team processes postulate that, individuals' thoughts, actions, and emotions are shaped by individual-level processes, but that each individual is also shaped by the groups to which he or she belongs (Nielsen, 2013). These groups are shaped by their individual members, but they are also nested in larger groups themselves, including communities and organizations (Don et al., 1999).

Group process theory asserts that team processes variables lie within the behavior black box, and it is important to study the variables in this black box to understand strategic decision-making process (Parayitam et al., 2010). Research on group processes illustrates how interpersonal processes work to influence various group outcomes such as member satisfaction, commitment, and cohesiveness, as well as organizational outcomes such as firm performance (Forsyth, 2006). Barrick et al. (2007) has noted that a key troubling aspect of TMT research is its relative independence of the broader work teams' literature yet TMTs are assumed to work as a team.

2.2.4 Social Psychology Theory

The science of social psychology began when scientists first started to systematically and formally measure the thoughts, feelings, and behaviors of human beings (Kruglanski & Stroebe, 2011). Social psychology concerns the interplay between an individual and a social situation (Haslam et al., 2009). The key aspect of the social situation is that people produce social influence, or the processes through which other people thoughts, feelings, and behaviors are changed (Kruglanski & Stroebe, 2011).

Team members rely on three capacities of affect, behavior, and cognition, which work together to help the team create successful social interactions (Carlson et al., 2011). Social psychology is therefore devoted to the understanding of human relations and interactions from the perspective of an individual (Nielsen, 2010). The theory suggests that people have a natural tendency to categorize others in groups and to differentiate between in-groups and out-groups. In this case, social psychology meshes very well with psychology theory that deals with the study of human behavior that contributes to the effectiveness of organizational functioning (Judge et al., 1999).

Theorizing of social psychology resonates well with group dynamics theory due to a number of factors. Firstly, in social cognitive theory, groups or teams' factors operate through psychological mechanisms to produce behavioral effects (Simsek et al., 2011). Secondly, social psychology has a long tradition of analyzing the interactions among group members (Pitcher & Smith, 2001).

Additionally, social psychology resonates very well with upper echelons theory due to a number of factors. First, group performance is usually better and group decisions generally more accurate, than that of any individual acting alone (Allen & Hecht, 2004). Secondly, a group has more cohesiveness when the group members have frequent interaction and communication with each other. Interaction is particularly important when it is accompanied by interdependence that defines the extent to which group members are mutually dependent upon each other to reach a goal (Carlson et al., 2011)

2.2.5 Resource Based View

The resource-based theory of the firm is a popular theoretical foundation for many studies seeking to explain the sources of sustainable competitive advantage for organizations (Newman et al., 2014). Among the strategic resources that may contribute to sustainable competitive advantage, human capital, psychological capital and social capital have been presented as the most universally valuable and imperfectly imitable resources (Crook et al., 2011). Yet, the underlying mechanisms tying these strategic resources to competitive advantage are poorly understood. This calls for developing a better understanding of individuals (including their idiosyncratic preferences, mental models and motivations) and their interactions with one another (Foss, 2011) in order to better understand people-based advantages.

Newman et al (2014) has differentiated the three people-based resources namely psychological, human and social capital. Psychological capital refers to an individual's psychological capacities that can be measured, developed and harnessed for performance improvement. Human capital refers to an individual's stock of knowledge, skills and abilities that can be increased by experience and/or investment in education and training (Foss, 2011). The concept of social capital emerged from sociology and relates to the aggregate of the actual or potential resources that are linked to the possession of a durable network of relationships of mutual acquaintance and recognition (Newman et al., 2014). Put simply, human capital is concerned with 'what you know', and social capital is concerned with 'who you know', whereas psychological capital is concerned with 'who you are' and 'who are you becoming' (Luthans et al., 2008).

The fundamental idea underlying studies on TMTs is that TMTs with more diverse and higher levels of cognitive resources will positively influence organizational outcomes than teams with less diverse and lower levels of cognitive resources (Rau, 2008). A manager's cognitive base consists of his or her knowledge or assumptions about future events, knowledge of alternatives, and knowledge of consequences attached to alternatives (Hambrick & Mason, 1984). Cognitive resources are defined as type and variety of cognitive bases represented by top team members in the strategic decision-making process (Wiersema & Bantel, 1992). Collectively, these bases provide the team with an assorted stock of knowledge and capabilities that a team can draw upon when making complex decisions (Rau, 2008).

2.2.6 Organizational Purpose Theories

Shareholder theory and stakeholder theory are two contradicting and contrasting theories of organizational purpose (Saint & Tripathi, 2006). Shareholder value theory sets the purpose of the firm as the maximization of financial returns for shareholders while stakeholder theory suggests that the purpose of the firm is to serve broader societal interests beyond economic value creation for shareholders alone (Hillman & Keim, 2001). The shareholder theory was originally proposed by (Friedman, 1970) and it states that the sole responsibility of business is to increase profits. The theory is based on the premise that management is hired as the agent of the shareholders to run the organization for shareholders' benefit (Donaldson & Preston, 1995). According to this theory, among the various actors associated with a business, shareholders have unrivalled primacy, and hence, organizations should be managed so as to maximize their value alone (Ferrero et al., 2014).

Critics of the shareholder theory point out that Friedman (1970) economic writings assume an economy in which businesses operate under the protection of limited liability, which allows corporations to privatize their gains while externalizing their losses (Ferrero et al., 2014). However, by accepting limited liability, shareholder theory proponents must also accept a view of business as embedded in social interdependency, which serves as the logical and moral foundation for other stakeholders (Saint & Tripathi, 2006). The shareholder theory is today seen as the historic way of doing business with companies realizing that there are disadvantages to concentrating solely on the interests of shareholders. The role of shareholder theory can be seen in the demise of corporations such as Enron and Worldcom where continuous pressure on managers to increase returns to shareholders led them to manipulate company accounts (Lee, 2008).

The introduction of limited liability in the economic system implies that if shareholders have limited liability, then those who have full liability are stakeholders of the firm, which not only includes shareholders themselves, but ultimately society as a whole (Ferrero et al., 2014). There is a growing consensus that firms have responsibilities to society beyond profit maximization and once the responsibilities of business are situated within a social context, a retinue of stakeholders appears, which includes not only shareholders, but also other social and environmental stakeholders (Shum & Yam, 2011). The stakeholder theory has been advanced and justified in the management literature on the basis of its descriptive accuracy, instrumental power, and normative validity (Donaldson & Preston, 1995). These three aspects of the theory involve different types of evidence and argument and have different implications.

Stakeholder theory describes the organization as a constellation of cooperative and competitive interests possessing intrinsic value. It establishes a framework for examining the connections, if any, between the practice of stakeholder management and the achievement of various corporate performance goals. Finally, stakeholder theory is used to interpret the function of the organization, including the identification of moral or philosophical guidelines for the operation and management of organizations. The stakeholder theory therefore offers an alternative purpose of the firm by suggesting that the purpose of the firm is to serve broader societal interests beyond economic value creation for shareholders alone (Ferrero et al., 2014).

2.2.7 Business Performance Theory

There are several ways to think about the theory of the firm and each has different implications for reporting organizational performance (Hubbard, 2009). The key ways are shareholder theory and stakeholder theory (Brown & Fraser, 2006). In the 1980s, the firm was viewed as belonging to the shareholders, so shareholder theory, which uses shareholder return to measure overall firm performance, dominated organizational performance measurement systems (Porter, 1980). In this case, the firm is seen as a "black box" operated so as to meet the relevant marginal conditions with respect to inputs and outputs, thereby maximizing profits (Jensen & Meckling, 1976). The limitations of this black box view of the firm have been brought to the fore by academic debates over the social responsibility of corporations and attempts have been made during recent years to construct a theory of the firm by substituting other models for profit or value maximization (Jensen & Meckling, 1976).

Since the early 1990s, a more stakeholder-based view has gradually come to prevail where the firm is seen as having responsibilities to a wider set of groups than simply shareholders (Brown & Fraser, 2006). Other stakeholders can include employees, customers, suppliers, governments, industry bodies and local communities. Stakeholder theory assesses organization performance against the expectations of a variety of stakeholder groups that have particular interests in the effects of the organization's activities (Hubbard, 2009). Consequently, out of recognition of the inappropriateness of traditional approaches to performance measurement, in a globalized, highly dynamic, market focused and stakeholder driven economy, the contemporary approaches to performance measurement were born (Kaplan & Norton, 1992).

The BSC performance measurement system by Kaplan and Norton (1992) is based on stakeholder theory. Later on, the Triple Bottom Line (TBL) emerged as a new tool for measuring organizational performance in response to a groundswell of public opinion that firms were responsible for more than just creating economic value (Schaltegger et al., 2011). It is based on the idea that a firm should measure its performance in relation to stakeholders including local communities and governments, not just those stakeholders with whom it has direct transactional relationships (Hubbard, 2009). The emergence of the concept of sustainable development reflect a seminal change in global thinking, which is forcing firms to again re-evaluate their approach to measuring organizational performance (Hubbard, 2009). Sustainable development embodies three inextricably connected principles: environmental integrity, social equity and economic prosperity (Yip et al., 2009). Performance in one area has effects on the other two areas.

The emergence of sustainable balance scorecard, based on stakeholder theory, is revolutionizing organizational performance measurement by considering a group of stakeholders of growing power and significance in the current business environment namely regulators, pressure groups and communities (Schaltegger et al., 2011). The sustainable balance scorecard introduces two non-market perspectives, that is, environmental and social to the four perspectives in the balance scorecard. The discourse on contemporary approaches to performance measurement highlights the importance of contingency approach. This emphasis on a contingency approach implores the need to consider the contingency variables when measuring performance (Yip et al., 2009).

2.3 Top Management Teams

The meaning of the TMTs differs widely between studies (Nielsen, 2010). Most of the post 1990 research works draw on broader measures of the TMT as those executives holding senior offices (Carpenter et al. 2004; Finkelstein 1992) since these executives are likely to have influence on the particular strategic outcome. A few studies have followed an opposing tack where the conceptual definition of the TMT is based on the particular outcome in question, although perhaps because primary data are needed, such cases have been somewhat few (Smith et al., 1994). This latter approach follows Pettigrew (1992) assertion that rather than assuming titles and positions as indicators of involvement, the first task is to identify which players are involved and why. Some researchers claim that the differences in how TMTs are measured may account for inconsistent findings in the current literature (Certo et al., 2006).

Li and Hambrick (2005) have observed that the influence of top executives on firm performance remains one of the most widely studied relationships in strategic management. The prominence of this research reflects the importance ascribed to TMT characteristics by the academia and business community as observed earlier on by Finkelstein and Hambrick (1996). Although some researchers have argued that TMTs have little impact on organizational outcomes (Smith et al., 1994), the emerging view from more recent research suggests otherwise.

Since the TMT takes important corporate decisions and sets strategic directions, it is therefore recognized as a key component affecting a firm's performance (Marimuthu & Kolandaisamy, 2009). Scholars have postulated that to understand why organizations do the things they do, and why they perform the way they do, it is important to understand the experiences, values, motives, and biases of the TMTs (Hambrick, 2007). The importance of the TMT has thus been anchored in empirical and theoretical foundations.

2.4 Top Management Team Characteristics

Researchers have identified two types of TMT characteristics namely psychological and demographic characteristics. The TMT demographic characteristics of age, gender, education level, functional background, experience, tenure and TMT size have been found to be imprecise and noisy surrogates for team behavior (Carpenter, 2002). Psychological characteristics, on the other hand, have both the explanatory power to delve into the behavior "black box" and bring to light the actual mechanism underlying behavior that impacts organizational performance (Dezs & Ross, 2012).

The practice of using TMT demographic characteristics as proxies for psychological dimensions of top management behavior results in sacrificing construct validity for higher measurement reliability (Carpenter, 2002). Psychological characteristics have remained a mystery due to conceptual and methodological challenges in studying the TMT psychological characteristics (Peterson & Zhang, 2011).

In 1984, Mason and Hambrick forewarned researchers on the need to blend upper echelons theory with other theories, for example psychology theory, to attempt to open up the 'black box' of TMT behavior. Recent psychology research in establishing and validating concepts of CSE and psychological capital may provide substantial leverage for research on TMT psychological characteristics. The CSE refers to an enduring evaluation of oneself as an individual (Judge et al., 1999). The CSE unifies the four concepts of self-esteem, self-efficacy, locus of control, and emotional stability (Walumbwa et al., 2009).

Similar to CSE, psychological capital is also a broad higher-order, psychological construct that assesses one's motivational propensity to accomplish goals and succeed (Newman et al., 2014). Psychological capital has four resources namely task-specific self-efficacy, hope, optimism and resilience. Although the four resources have received considerable research attention in psychology literature, recent theory and empirical research suggests that combining them into a higher order construct results in a common synergistic capacity considered representative of one's positive appraisal (Luthans et al. 2008). The concept of testing CSE and psychological capital in TMT characteristics offers an opportunity to open the 'black box' in upper echelon research using constructs that have been validated widely in psychology studies.

Self-esteem represents an individual's global evaluation of self-worth (Peterson & Zhang, 2011). Self-esteem has been shown to be related to various outcomes in non-executive samples including successful handling of jobs with ambiguous roles, acceptance of change, motivation and organization commitment (Hiller & Hambrick, 2005). Self-esteem has been considered as one of the primary factors in TMTs success.

Generalized self-efficacy refers to one's overall belief in their capabilities to execute and perform well across situations (Gist & Mitchell, 1992). General self-efficacy has not been examined in an executive context (Hiller & Hambrick 2005). However, it has been shown to be positively related to job performance and has significant impact on individual motivation, behavior and performance (Clark & Maggitti, 2011). Core to the notion of self-efficacy is the concept of confidence (Peterson & Zhang, 2011). Confidence plays a major role in the display of vigilant decision-making, increased effort and persistence of individuals and these behaviors affect performance (Stajkovic, 2006).

Locus of control is the belief one holds about control over life's events (Peterson & Zhang, 2011). Individuals with an internal locus of control believe that they control what happens to them while those with external locus of control believe that what happens to them is driven by factors outside of their control (Peterson & Zhang, 2011). In TMT research, managers with internal locus of control have been associated with innovativeness, product differentiation and cost leadership strategies (Hiller & Hambrick, 2005).

Emotional stability is the ability to adapt to diverse situations and to cope with stress and it is considered a strong predictor of a person's adaptability to unpredictable and changing situations (Peterson & Zhang, 2011). Emotionally stable persons remain calm and maintain focus in dynamic situations, shift focus to initiate appropriate actions to deal with unpredictable situations and act decisively in crises (Peterson et al., 2003). Such a balanced and adaptive approach allows a person to process adverse and ambiguous information objectively and rationally, and this manner of responding is likely to evoke a broad field of vision and to reduce selective perception and interpretation biases (Nadkarni & Herrmann, 2010).

Emotional stability has been observed to be positively related to team cohesion and intellectual stability (Peterson et al., 2003). Task-specific self-efficacy is an individual's conviction about their abilities to mobilize cognitive resources and courses of action necessary to successfully execute a specific task within a given context (Stajkovic, 2006). Task specific self-efficacy in non-executive samples has been found to be strongly correlated with work-related performance (Newman et al., 2014).

Hope is composed of two components: agency and pathways. Whereas agency refers to an individual's motivation to succeed at a specific task in a set context, pathways refer to the way or means by which that task may be accomplished (Luthans et al., 2008). Individuals with high levels of hope show greater goal-directed energy and are more likely to exhibit the capacity to develop alternative pathways to accomplish their goals (Newman et al., 2014). Hope has been found to impact on individual's job performance and organizational profitability (Peterson et al., 2003).

Optimists are people who expect good things to happen to them and pessimists are people who expect bad things to happen to them. The difference between the two is on how they approach problems and in the manner in which they cope with adversity (Peterson & Zhang, 2011). Resilience is the psychological capacity to rebound from failure, adversity, conflict and uncertainty (Luthans et al., 2008). Research has shown that resilience is related to performance across a variety of non-executive samples (Clark & Maggitti, 2011).

2.5 Institutional Environment Affecting Organizations

An institutional environment is the stable rules, social standards and cognitive structures in a society that guide, favor or restrict business activity (Gomez-Haro 2011; North 1992). Institutional environment can be manifested at firm level, industry level and country context. The link between institutional environment and organizational performance rests on the argument that environmental characteristics such as turbulence, hostility, dynamism, and munificence determine organizations' performance outcomes and ultimately the survival of firms operating in such environment (Chadee & Roxas, 2013).

Institutional forces will influence environmental characteristics by reducing transaction costs and information asymmetry thereby nurturing a business climate of competitiveness (North, 1992). The scanty research that has investigated the embeddedness of firm upper echelons in institutional environments has prevented researchers from drawing conclusions on the influence of country-level institutional and economic factors on the relationships between TMT psychological characteristics and organizational performance (Qian et al., 2013; Dezs et al., 2012).

Recognizing these insufficiencies, a great opportunity therefore exists to examine how the institutional environment might influence what is currently known about the TMT behavior and organizations' performance. Since institutional forces significantly influence these environmental characteristics (North, 1992) it could be perhaps that the environmental influence on TMT behavior may be understood better in the context of institutional environment. Scott (1995) established three types of institutional environment under the terms regulatory, normative, and cognitive, and the terms have been widely accepted and used in organizational research. The regulatory dimension includes laws and governmental policies, the normative dimension refers to peoples' cultural values and the cognitive dimension consists of the knowledge and abilities that people in a country or firm have regarding business management (Kostova & Roth, 2002). This study focused on three selected factors namely regulatory quality, rule of law and economic policies whose effect on TMT characteristics has not been examined.

Regulatory quality refers to the degree to which compliance with the existing laws, rules, and other government regulatory procedures impose burdens on firms (Chadee & Roxas, 2013). Studies have operationalized regulatory compliance through practices of business inspections, business licensing and permits, tax rates and tax administration. Rule of law collectively refers to the laws, regulations, government policies and programs, and basic infrastructure and services that support the full functioning of a market-based economy (North, 1992). Rule of law determines the extent of protection and enforcement of legal rights of the local populace including corporate entities such as business firms (Ahn & York, 2009).

A place with a strong rule of law has sound political institutions, a strong court system, and provisions for orderly succession of power, as well as citizens who are willing to accept the established institutions and to make and implement laws and adjudicate disputes (Oxley & Yeung, 2001). Government economic policies of any country are another environmental factor that impact managers' behavior and ultimately organizational outcomes (Kostova & Roth, 2002). In institution environment literature, economic policies have been operationalized using taxation laws, implementation of government policies, existence of clear policy direction, and laws that are conducive for business.

It is argued that firms will likely thrive in an environment characterized by the presence of rule of law, economic policies perceived as supportive, regulatory quality that does not impose unreasonable burden and business support programs that are available and accessible (Chadee & Roxas 2013; Gomez-Haro et al., 2011). These institutional patterns have been found to strongly influence economic behavior and organizational behavior, affecting firm decision and strategic choices (Arregle et al., 2013). The effects of institutional patterns on the relationship between TMT behavior and organizational performance have, however not been investigated.

2.6 Team Processes and Interactions

Team process variables lie within the black box, and it is important to study the variables in this black box to understand TMT behavior (Parayitam et al., 2010). Past claims that the direct assessment of TMT processes is unnecessary and inferring team process relationships instead of measuring them have all contributed to the slow accumulation of TMT processes research (Nielsen 2010; Barrick et al., 2007; Smith et

al., 1994). Barrick et al. (2007) has also noted that one troubling aspect of TMT research is its relative independence of the broader work teams' literature. Therefore, the authors observe that lack of integration of established findings from small groups' research into new TMT research could be a reason why researchers have not gained a good understanding of TMT processes.

On the other hand, social psychology has a long tradition of analyzing the interactions among group members (Smith et al., 1994). Interactions among members of TMT are important in determining the decisions TMT make. Team processes have an important effect on development of shared cognitive maps (Don et al., 1999). This being the case and knowing that TMT members operate on bounded rationality to make decisions, then studies of intervening group processes should be pursued. This study identified social politico (including task conflict, relationship conflict and trust), social integration and behavior integration as key processes whose effect on the relationship between TMT psychological characteristics and organizational performance has not been investigated. Nielsen (2010) supports the evidence that team processes may add significant explanatory power and help shed light on the link between TMT characteristics and performance.

2.6.1 Socio- political Dimension

Socio-political dimension includes task conflict, relationship conflict and intra group trust. Task conflict constitutes disagreements or intellectual opposition among group members about the content of their decisions, and involves differences in viewpoints, ideas, and opinions (Jehn, 1995). When factions are of widely differing backgrounds, they bring divergent experiences and frames of reference to problem solving and task

conflict emerges (Li & Hambrick, 2005). Research on the effects of task conflict on group processes has yielded mixed results (Jehn 1995). An absence of task conflict may mean that competing ideas are not aired or detected whilst moderate amounts of task conflict can be healthy, especially when there are explicit norms that support debate and contention (Jehn, 1997). High levels of task conflict, on the other hand, can cause member dissatisfaction and withdrawal from group affairs (Li & Hambrick, 2005)

Task conflict is beneficial for groups working on non-routine activities and reduces groupthink. However, task conflict may not be beneficial to groups working on routine activities that are governed by operating procedures (Gladstein, 1984). Task conflict is appealing in the context of TMTs, since by its very nature, teams should bring to decision platform multiple perspectives, engender well thought out alternatives, and ultimately lead to better decisions (Parayitam et al., 2010). However, during the process of creating alternatives and expending resources, task conflict will likely occur as the members interact.

Relationship conflict is also known as interpersonal conflict, social or affective conflict and emotional conflict. It is perceived as interpersonal incompatibility and typically includes annoyance, tension and animosity among group members (Rau, 2008). When group members experience relationship conflict, they work less effectively, inhibits peoples' ability to process complex information and produce sub-optimal products leading to poor performance (Li & Hambrick, 2005). Relationship conflict is usually considered destructive to teams.

Intra-group trust allows group-wide expectations of truthfulness, integrity and a sense of shared respect for group members to amplify perceptions of competence among one another (Rau, 2008). When team members trust each other, they are more likely to accept stated disagreements at face value and less likely to attribute hidden agenda to task conflict behaviors (Don et al., 1996). As a result, the team as a whole may successfully plan and implement strategies by benefiting from the positive effects of task conflict while avoiding the negative effects of relationship conflict.

2.6.2 Social Integration

Social integration is a multifaceted phenomenon that reflects the attraction to the group, satisfaction with other members of the group, and social interaction among the group members (Smith et al 1994). Researchers have identified benefits of social integration to include higher quality problem solving, greater productivity, efficiency and superior member satisfaction. In cohesive TMTs, members are attracted to the group and presumably want the group to be successful, and they therefore work harder to help the group solve problems (Li & Hambrick, 2005).

Li and Hambrick (2005) used the concept of social integration to explain links between average team tenure and diversification strategy and performance. They proposed that the length of team tenure is a proxy for the level of team cohesion and that cohesion in turn affects performance. Similarly, Don et al. (1999) had earlier on used social integration and communication patterns to predict the form of the relationship between team heterogeneity and organizational performance.

2.6.3 Behavioral Integration

Hambrick (1994) set forth the concept of behavioral integration, which he defined as the degree to which mutual and collective interaction exists within the group. Researchers have invoked a number of constructs to describe the degree to which, and how, group members interact (Smith et al. 1994). These constructs include communication, collaboration and social interaction. In an attempt to develop a unified construct to describe the tendency for some management groups to engage in more team-like behaviors than others, behavioral integration was born (Li & Hambrick, 2005).

Behavioral integration has three main manifestations: information exchange, collaborative behavior and joint decision-making. Behaviorally integrated teams have been found to have a higher capacity to deal with behavioral complexity and to integrate diverging opinions into balanced strategic decisions (Buyl et al., 2011). The obverse of behavioural integration, disintegration, can be expected to be an integral by-product of conflict in a group. If relationship conflict is great, and members dislike each other, they will want to avoid each other and try to compartmentalize their tasks (Li & Hambrick, 2005).

2.7 Measurement of Organizational Performance

Organizational performance is crucial to the survival of any organization, and over time, provides the test of leadership and strategy (Irungu, 2007). In the strategic management literature, performance is more often identified or equated with effectiveness and efficiency (Lusthaus et al., 2002). Performance has been measured from different perspectives such as marketing, operations, finance, human resource management and for different purposes.

There is little or no informed scientific debate as to which measures are appropriate and how these measures should be combined and used in order to measure the business performance of firms (Richard et al., 2009). Additionally, performance can be expressed as a set of parameters or indicators that are complementary, and sometimes contradictory, that describe the process through which the various types of outcome and results are achieved (Kaplan & Norton, 1992). However, the descriptors, the qualitative and quantitative measures, are mere surrogates of performance and should not be mistaken for performance itself but performance should be equated with purposeful action taken today, designed to produce meaningful results tomorrow (Kennerly & Neely 2004).

Organizational stakeholders define performance from their own point of view (Richard et al., 2009) hence creating a field with vast richness and diversity. Although problems of a conceptual nature continue to underlie much of the discussion on organizational performance, its use as a key construct in strategy research studies has continued unabated (Venkatraman & Ramanujam, 1986). Strategic management researchers, in their quest for establishing performance implications of strategic conduct of businesses, continue to measure business performance using a wide array of operationalizing schemes (Mugambi & K'Obonyo, 2012). There is however, limited consensus among researchers as to what constitutes a valid set of criteria.

Most of strategic management studies have measured performance using the traditional financial measures. The main issues associated with traditional performance measurement may be summarized as lack of alignment between performance measures and strategy; failure to include non-financial and less tangible

factors such as quality, customer satisfaction and employee morale; mainly backward looking, thus poor predictors of future performance; encouraging short-termism (Kaplan & Norton, 1992). Today, there is a general consensus that the old financial measures are still valid and relevant (Yip et al., 2009), but these need to be balanced with more contemporary, intangible and externally oriented measures.

There is a widespread acceptance of the need for organizations to take a balanced approach to performance measurement, which has led to the development of several measurement frameworks (Kennerly & Neely, 2004). The most popular is the Kaplan and Norton (1992; 1996) balanced scorecard framework that identifies and integrates four different ways of looking at performance, that is, financial, customer, internal business and learning perspectives. This framework, though popular, does not address the needs of all stakeholders in an organization.

The growing importance of satisfying stakeholder requirements has seen the development of a contemporary measure, that is, the SBSC that adopts a stakeholder centric view of performance measurement (Schaltegger et al., 2011). For many organizations, shareholders remain the most important stakeholder. Consideration must be given, however, to other important stakeholder groups, such as customers, employees, and suppliers (Kennerly & Neely, 2004). In addition to these stakeholders, the SBSC also considers a group of stakeholders of growing power and significance in the current business environment namely regulators, pressure groups and communities (Schaltegger et al., 2011). The SBSC introduces two non-market perspectives, that is, environmental and social to the four perspectives in the balance scorecard.

2.8 Top Management Team Psychological Characteristics and Organizational Performance

The influence of TMTs on firm performance remains one of the most widely studied relationships in strategic management (Certo et al., 2006). Scholars have linked TMT behavior to various organizational outcomes, for example, innovation, strategic change and diversification (Marimuthu & Kolandaisamy, 2009; Li and Hambrick, 2005). While ample empirical evidence exists to suggest that executives matter to organizations, results are not wholly consistent (Nielsen, 2010) and as scholars continue to uncover new underlying processes and variables, a number of debates are emerging. These debates attempt not only to uncover the probable reasons for the conflicting findings (Priem, 1990), but also present several avenues for future advancement of TMT research

The effects of TMT demographic characteristics on performance range from positive through non-significant to negative (Nielsen & Nielsen 2013). Studies have shown that the common practice of using demographic variables as proxies for psychological dimensions of top management behavior leads to sacrificing construct validity for higher measurement reliability (Carpenter, 2002). Recent research has attempted to examine psychological characteristics such as, as trait, positive effect, locus of control, emotional stability, hubris, overconfidence, hubris, personality profile and narcissism. Sangster (2011) found out that TMTs personality centroid might explain some aspects of corporate performance. Clark and Maggitti (2011) introduced the notion of different forms of confidence and found that unbounded confidence appears to have deleterious effects on firm performance and that the effects of confidence follow an inverted U-shaped curve whereby confidence beyond some level results in poor performance.

While research has attempted to examine effect of psychological characteristics on organizational performance, many of these studies have involved an array of disconnected concepts that lack rigorous conceptual and methodological grounding (Hiller & Hambrick 2005). It has, thus been difficult to operationalize the psychological characteristics. The concept of testing CSE and psychological capital in TMT characteristics offers an opportunity to open the 'black box' in upper echelon research using constructs that have been validated widely in psychology studies.

2.9 Top Management Team Psychological Characteristics and Team Processes

Nielsen (2010) has argued that the conflicting results of upper echelons research are due to inherent limitations related to not accounting for the intermediate role of cognition and team processes. Following this line of criticism, a number of process studies have attempted to advance upper echelons research in this direction. Nielsen and Nielsen (2013) postulate that studies on TMT dynamics confirm that team processes add significant explanatory power and help shed light on the link between TMT behavior and performance.

Empirical studies that have directly investigated the process through which the TMT behavior influences organizational outcomes have been slow to accumulate. Research has, however proposed several social-psychological linkages for team processes (Smith et al., 1994). These linkages are such as comprehensiveness, consensus, social integration, conflict and decision speed. Clark and Maggitti (2011) have observed that TMT potency was strongly related to decision speed and that potency fully mediated the relationship between TMT characteristics and speed. These findings are in line with Smith et al. (1994) who at the end of last century found a positive direct effect relationship between team social integration and performance.

2.10 Top Management Team Psychological Characteristics and Institutional Environment

Qian et al. (2013) has shown that the mixed results regarding TMT processes and organizational performance are due, in part, to researchers not considering the environmental context. Effects of environmental characteristics such as turbulence, dynamism and munificence on TMT demographic characteristics have been documented in empirical research at industrial level context (Chadee & Roxas, 2013).

The degree of environmental turbulence or stability has been found to greatly influence the information processing requirements of TMT and the complexity of managerial work (Finkelstein, 1992). Research suggests that TMT influences a wide range of organizational processes and outcomes (Carpenter et al., 2004). For instance, competitive dynamics has found that TMTs characterized by high levels of cognition are more likely to proactively initiate competitive actions and quickly respond to competitors' actions. Socially integrated TMTs were found to carry out more competitive actions and do so with greater speed and frequency than socially disconnected TMTs (Ling et al., 2008).

2.11 Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Performance

There is extensive literature that examines social relationships within groups and their effect on outcomes (Sangster, 2011). Psychosocial characteristics of executive groups have been shown to differ in important ways from work groups and as such, research in these workgroups should not be generalized to executive leaders (Clark & Maggitti, 2011).

Nielsen (2010) support the evidence that team processes add significant explanatory power and help shed light on the link between TMT psychological characteristics and performance. It is imperative to note that up to the end of last century, no empirical studies had directly investigated the process through which the TMT's characteristics influence organizational outcomes (Smith et al., 1994).

Li and Hambrick (2005) used the concept of social integration to explain links between average team tenure and performance. They proposed that the length of team tenure is a proxy for the level of team cohesion and that cohesion in turn affects performance. Smith et al. (1994) offered a model predicting that both TMT behavior and process will directly and independently be related to organizational performance, with process accounting for variation in performance that TMT characteristics leave unexplained.

Research shows that various organizational outcomes like innovativeness, changes in organizational strategy, diversification, entrepreneurship and internationalization are likely to thrive in an environment characterized by efficient institutions (Martin, 2014; Chadee and Roxas 2013; Gomez-Haro et al., 2011). Researchers are almost unanimous that national context may play an important role for the TMT characteristic-performance relationship (Nielsen & Nielsen, 2013). Since upper echelons research might take on very different complexions depending on the macro-social context, Hambrick (2007) has called for examination of how institutional forces affect executive profiles and behaviors.

From the literature review documented so far in this study, it is quite clear that the TMT research is a flourishing one. At the same time, and as argued by Carpenter et al. (2004) the upper echelon research stands at an important crossroad. While ample empirical evidence exists to suggest that executives matter to organizations, results are not wholly consistent (Nielsen, 2013) and as scholars continue to uncover new underlying processes and variables, a number of debates are emerging. These debates, addressing both underlying theory and methodology, attempt not only to uncover the probable reasons for the conflicting findings as observed by Priem (1990), but also present several avenues for future advancement of executive leadership research and the TMT perspective (Nielsen, 2013; Marimuthu & Kolandaisamy, 2009).

This study has attempted to address measurement challenge of TMT psychological characteristics and team processes, which has been identified as a major knowledge gap. In addition, the effect of institutional factors on the TMT psychological characteristics performance linkage is also an unresolved issue that this study has addressed. There has been a skewed bias towards use of financial measures in measurement of organizational performance, hence need to employ contemporary performance measurement frameworks as represented by the SBSC. The literature review has detailed the evolution of the upper echelon research through a comprehensive review of conceptual and empirical TMT research for over a three-decade period since the seminal article by Hambrick and Mason (1984). A summary of the literature is shown in Table 2.1. The summary of the studies reviewed shows for each study: the focus, methodology employed, research findings, identified knowledge gaps and the focus of the current study.

Table 2.1. Summary of Previous Studies and Knowledge Gaps

Study	Focus of the Study	Methodology	Findings	Gaps	Focus of Current Study
Smith et al (1994).	Team process – role of social integration and communication.	Cross sectional survey	Effects of Input-process model and process model found.	Additional process variables can be considered as potential moderators and mediators of TMT characteristics effects.	Study will examine intervening effect of team process.
Don et al. (1999)	TMT diversity and group processes.	Survey	Team processes influence organizational outcomes.	Need to integrate upper echelon and group processes theories	Study will integrate five theories.
Carpenter & Fredrickson (2001)	Moderating role of uncertainty in TMT global posture	Cross sectional survey	There are a number of theories that are gaining importance in management research, which may also inform future upper echelons research such as institutional theory.	Did not measure TMT behaviors but inferred them from the characteristics of the TMTs.	Study will measure both TMT characteristics and team process using valid constructs.
Kostova & Roth (2002)	Effects of institutional environment on performance.	Survey	Organizations adopt structures, processes, programmes, policies and or procedures because of the pressure that coexisting institutions exert on them.	Need for research on other forms of institutional environment.	Study will examine moderating effect of environment on TMT and firm outcomes.
Lawrie & Cobbold, (2004); Lusthaus et al. (2002);	Measuring organization performance	Conceptual	Measuring performance is problematic.	Reconcile measurement of organizational performance.	Study will use the contemporary SBSC to measure performance.
Carpenter et al. (2004)	Antecedents, elements and consequences of TMT composition.	Conceptual	Brought to fore the equivocal findings resident in TMT literature.	Reconsider universality of the TMT construct. Need to explore the practical and theoretical meaning	Not addressed in this study.

Table 2.1 continued…

				of TMT.	
Hiller & Hambrick (2005)	Conceptualizing executive hubris.	Conceptual	job performance is positively affected by CSE	Study was not empirical but conceptual.	Study will test CSE in TMT samples
Li & Hambrick (2005)	Factional groups	Cross sectional survey	Demographic fault-lines cause task and emotional conflict affecting performance	TMT samples not considered.	Study will examine effect of team processes in TMT.
Barrick et al. (2007)	Moderating role of TMT interdependence.	Cross sectional survey	Team processes are the linking variables between inputs and outcomes.	Constructs relied on member perceptions hence, no objective measures of team interdependence.	Study will use conceptually validated constructs of CSE and psychological capital.
Irungu (2007); Buyl et al. (2011).	TMT demographic characteristics.	Cross sectional survey	Effects of TMT characteristics differ in different sectors. Demographic characteristics do not affect decision-making process.	Study used demographic characteristics and financial measures of performance.	Study will examine effect of psychological characteristics using SBSC.
Hambrick (2007)	Evolution of upper echelon theory.	Conceptual	Glimpses of the trajectory of upper echelons theory, as well as some ideas about promising next steps.	Call to open up black box and to explore behavior integration and Social integration.	Study will examine black box and effect of team processes.
Ling et al. (2008)	Chief Executive Officer (CEO) characteristics in the TMT performance linkage.	Survey	Successful TMT performance jointly depends on team and leader dynamics and the independent interactions there-in.	Not paid adequate attention to the mechanisms underlying the relationships between CEO personality and organizational performance.	Not addressed in this study.
Ahn & York (2009)	Impact of forms of institutional environment on firm outcomes.	Survey	Institutional factors affect organization behavior.	Effects of institutional environment on influence of TMT on	Study will examine influence of environment TMT and firm outcomes.

Table 2.1 continued…

				firm outcomes not addressed.	
Walumbwa et al. (2009)	Role of positivity and trust in leading groups.	Survey	Trust is significant predictor of group citizenship behavior and team performance.	Study focused on non-executive groups only.	Study will test CSE and psychological capital in executives' samples.
Clark & Maggitti (2011)	Personalities profiles of TMT	Field study	Focus on TMT personality profiles	Study limited to examining effects of TMT personality profiles.	Study will examine TMT behavior.
Peterson & Zhang (2011)	TMT psychological characteristics.	Survey	CSE is positively related to organizational performance.	Intervening effects of team processes not investigated.	Study will examine intervening effect of team process.
Gomez et al. (2011)	Effects of institutional environment on corporate entrepreneurship.	Survey	Investigated effects of regulatory, normative and cognitive institutional environments.	Sample was for Spanish firms only.	Study will examine institutional environment in Kenyan context.
Mutuku (2012)	TMT diversity and organizational performance.	Cross sectional survey	Effect of TMT diversity on organizational performance is influenced by culture, diversity management strategies and quality of decisions.	Need to investigate on other moderating variables and use contemporary performance measures.	Study will examine moderating effect of environment and use of SBSC performance framework.
Nielsen & Nielsen (2013); Dezs & Ross (2012)	TMT demographic characteristics.	Survey	Mixed findings of effects of TMT demographic characteristics on various organizational outcomes.	Psychological constructs not addressed. Need to investigate role of context.	Study will examine effect of psychological characteristics in an institutional context.
Arregle et al. (2013); Chadee & Roxas (2013)	Region specific Institutional environment effects on organizational performance.	Survey	Institutional patterns strongly influence economic behavior and organizational behavior, affecting firm decision and strategy making.	Studies limited to using firms in specific regions over a specific period of time. Studies did not address the	Study will examine influence of environment TMT and firm outcomes in Kenyan context.

Table 2.1 continued…

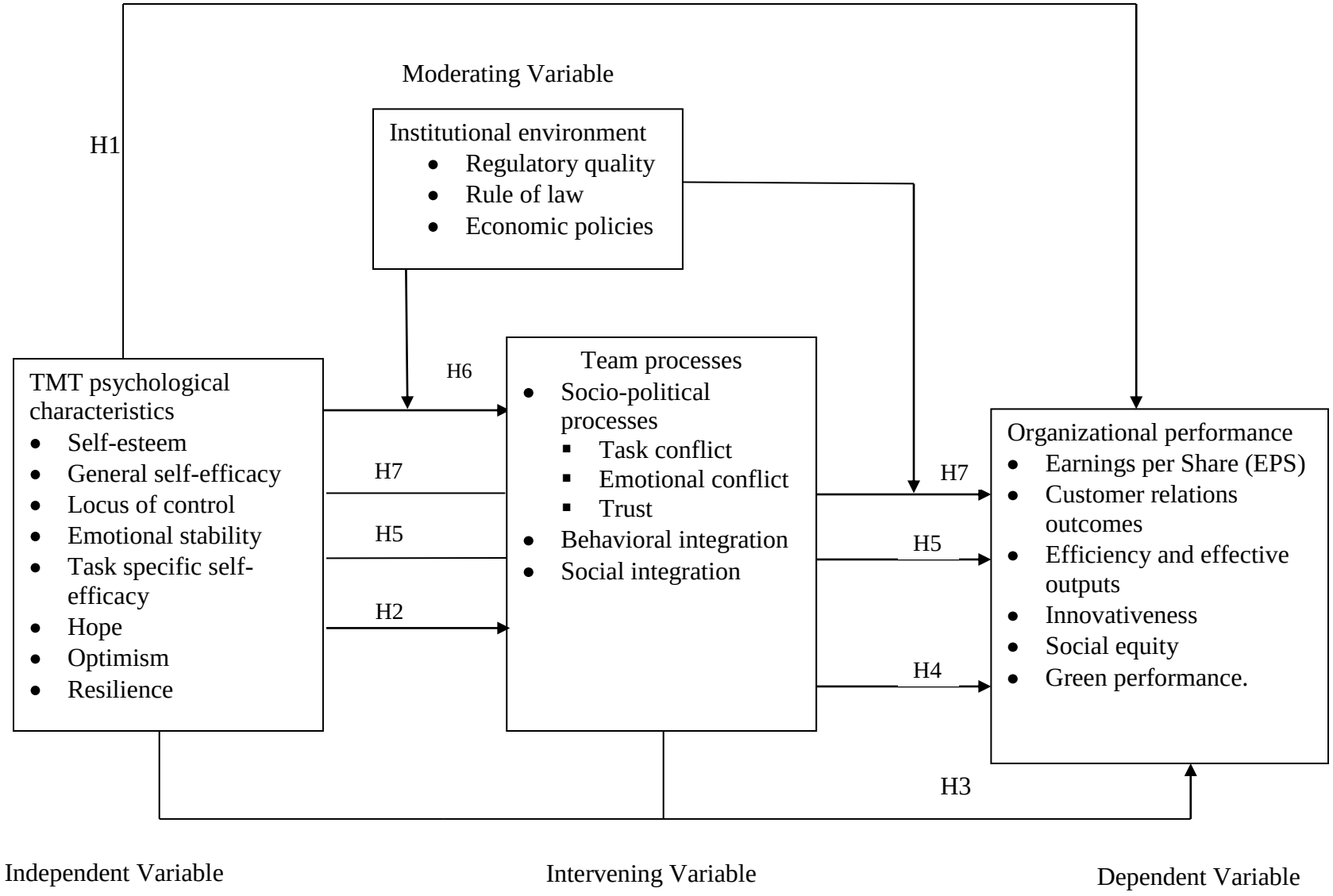
				moderating effects of institutional environment on TMT-performance linkage.	
Muchemi (2013)	TMT diversity and performance.	Cross sectional survey	Diversity had significant effects on executive behavior.	Investigate role of team process variables and context.	Study will examine team process.
Qian & Takeuchi (2013)	Moderating effect of environment on TMT characteristics	Cross sectional survey	Input-process outcome model is affected by environment	Study focused on demographic characteristics	Study will examine effect of psychological characteristics.
Newman et al. (2014)	A review and synthesis of psychological capital	Conceptual	Psychological capital linked to employees' attitude, behavior and performance	Psychological capital conceptualized at individual level and investigate mediation	Study will address psychological capital at team level and also investigate mediation.
Martin (2014)	A commentary on institutional advantage	Conceptual	Institutions matter.	Study is conceptual	Study will be empirical
Ferrero et al. (2014)	A critique on Milton Friedman view of shareholder theory	Conceptual	Whilst shareholders have limited liability in a firm, stakeholders have full liability.	Need to embrace stakeholder centric performance measures	Study will examine SBSC.
Hambrick et al. (2014)	Structural interdependence within TMTs	Cross sectional survey	Structural interdependence is a key moderator of upper echelons predictions.	Need to explore other moderating factors	Study will examine institutional environment as a moderator.

2.12 Conceptual Framework

The study presents a conceptual framework that integrates the knowledge gaps in the literature review. The conceptual model in Figure 2.1 shows the relationship of the four study variables. The variables are TMT psychological characteristics, institutional environment, team processes and organizational performance representing independent, moderating, intervening and dependent variables respectively. The framework involves six perspectives. The TMT psychological perspective, involves the direct effect of TMT psychological characteristics on organizational performance. These characteristics are self-esteem, general self-efficacy, locus of control, emotional stability, task specific self-efficacy, hope, optimism and resilience. Second, the framework examines the effects of TMT psychological characteristics on team processes namely social-politico, behavior integration and social integration.

Third, the joint effects of TMT psychological characteristics and team processes on organizational performance are investigated. Fourth, the framework investigates the moderating effects of selected institutional environment factors on the relationship between TMT psychological characteristics and team processes. Fifth, is the intervening effect of team processes on the TMT psychological perspective. Sixth, the framework investigates the moderating effects of institutional environment factors on the relationship between TMT psychological characteristics, team processes and organizational performance. The institutional environment factors are regulatory quality, rule of law and economic policies. Organizational performance is measured using the contemporary SBSC framework that encompasses financial, customer, internal business processes, learning and growth, social and environmental.

Figure 2.1: Conceptual Model



2.13 Research Hypotheses

This study was an attempt to answer one key research question namely what is the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance. This question was guided by six objectives as shown in Section 1.3 of the thesis. The objectives were supported by seven hypotheses, all stated in alternate, as shown below.

H1: The TMT psychological characteristics have significant effect on organizational performance.

H2: The TMT psychological characteristics have significant relationship with team processes.

H3: The TMT psychological characteristics and team processes have jointly significant effect on organizational performance.

H4: Team processes have significant effect on organizational performance.

H5: The relationship between TMT psychological characteristics and organizational performance is significantly intervened by team processes.

H6: The relationship between TMT psychological characteristics and team processes is significantly moderated by institutional environment.

H7: The relationship between TMT psychological characteristics and organizational performance as intervened by team processes, is significantly moderated by institutional environment.

2.14 Chapter Summary

This chapter covered the literature review in the fields of upper echelons research, institutional environment, group dynamics and organizational performance. The review of literature has established the theoretical foundations upon which this study is anchored on. Additionally, a number of knowledge gaps in the upper echelon research have been identified. In order to address some of the identified unresolved issues, a conceptual framework has been presented and the research hypotheses stated.

The next chapter describes the research methodology that was used in the study. The chapter discusses the philosophical orientation of the research and the research design. Thereafter, the chapter presents the population of the study, data collection and shows how the research variables were operationalized. Finally, data analysis and analytical methods are presented.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used in the study. In particular, the focus is on the research philosophy, research design, population of the study, data collection, operationalization of study variables and data analysis.

3.2 Research Philosophy

The strategic management research is dominated by two research paradigms of positivism and phenomenology. The paradigms represent alternative philosophical orientations to knowledge based on different assumptions about the world and how research should be conducted (Cooper & Schindler, 2008). Positivism philosophy is objective, deductive with an aim of falsifying the research hypothesis and is concerned with theory testing. Concisely, the epistemological assumptions of positivistic inquiry are that: what happens in one social environment being studied can be generalized to future social situations (Gupta, 2008). Science is the superior way of knowing, understanding and predicting human experiences and that the positivistic scientific method rules must be adhered to else the researchers and their findings will be disregarded (Cooper & Schindler, 2008).

Phenomenology approach on the other hand tries to understand social phenomena from the viewpoint of the object being studied. This paradigm focuses on interpretation, meaning and immediate experience with the researcher being open and relying on experience (Irungu, 2007). Therefore, the assumptions in phenomenology approach are that there is not a generalizable reality that is quantifiable for a larger

population than an individual case, and that research is influenced by the values held by the researcher as well as by the theories, hypotheses or the framework that the researcher is using in his or her particular situation (Cooper & Schindler, 2008). Phenomenology is concerned with theory development. This study was inclined to the positivism approach. The researcher and the components of the problem under investigation were perceived as independent and separate. The activity of investigating did not have any influence on what the researcher was investigating.

3.3 Research Design

Research design is the strategy or plan, which is used to acquire participants, and how to collect data from them, in order to arrive at conclusions about a research question (Zikmund et al. 2010). A cross-sectional descriptive survey was used in this study. The design was appropriate since it involves data collection at a point in time related to two or more variables in an effort to determine associations between the variables after the data was analysed.

The chosen design therefore, offered the researcher an opportunity to assess the effects of institutional environment and team processes on the relation between TMT psychological characteristics and performance of companies listed in NSE. The study was also a correlational research conducted in the natural environment of the organizations with no interference, manipulation or control of research variables by the researcher. Such a setting helps the research assess relationships between variables (Irungu, 2007).

3.4 Population of Study

The population of the study was all companies listed in NSE. As of February 2014, there were 61 listed companies in NSE (Appendix 1). These companies belong to 10 different industries (Table 3.1). A census survey was done due to the small size of the population. These companies are industry heterogeneous hence providing a within and without industry comparison. Additionally, there exists reliable performance data on these organizations in line with conformity to regulatory reporting requirements. As shown in Table 3.1, banking sector at NSE had the highest number of representation of 11 banks, while telecommunications and technology had the lowest representation of only two companies listed at NSE.

Table 3.1 Population Distribution Frequency

Sector	Number of Companies	Percent
Agricultural	7	11
Automobile and Accessories	4	7
Banking	11	18
Commercial and Services	9	15
Construction and Allied	5	8
Energy and Petroleum	5	8
Insurance	6	10
Investment	3	5
Manufacturing and Allied	9	15
Telecommunication and Technology	2	3
Total	61	100

3.5 Data Collection

Both primary and secondary data were used in the study to help in achieving the research objectives. Primary data covered TMT psychological characteristics, institutional environment, team processes and the non-financial organizational performance data. Data was collected using a semi-structured questionnaire as shown in Appendix 5. The questionnaire was divided into five parts namely organizational background, TMT psychological characteristics, team processes, institutional

environment and organizational performance. This study adopted research instruments from various researches carried out in social psychology, group dynamics, upper echelon and organizational behavior theories. The research instrument was enhanced from expert opinions received during the thesis-proposal presentations.

The section of TMT psychological characteristics, in the questionnaire, captured the TMT core self-evaluation and psychological capital data. Team processes section was designed to collect data on the socio-politico and behavior integration processes of the TMTs. The section of institutional environment captured the context that the organizations operated in as defined by regulatory quality, rule of law and economic policies. Organizational performance section was designed to capture the organizations' non-financial performance as enumerated in the SBSC capturing customer relation outcomes, efficient and effective outputs, innovativeness, social equity and green performance. Secondary data related to average EPS performance for a period of five years (2008 to 2012). Secondary data was obtained from the NSE annual handbook (2013). The study's target respondents were CEOs, their deputies and functional level managers. The TMT size of each of the companies is as shown in Appendix 4.

The researcher and a research assistant made an initial contact with the organizations using letters as shown in Appendix 2 and 3. However, the initial contact modalities differed across the population of the study. In some organization, the initial contact was through referrals from informal contacts. For example, certain TMT members who are known to the researcher offered invaluable avenue in accessing

organizations. In other instances, the researcher made contact with TMT members during golf tournaments. This is in line with suggestions offered by Baruch and Holtom (2008) on the use of informal contacts to increase survey response rates. In other cases, the researcher secured an appointment with personal assistants to CEOs to gain access to the CEOs and subsequently other members of TMT. In some cases, access to organizations was denied out rightly. Finally, the use of email to contact organizations was found to be non-responsive.

Once contact was established, the researcher explained the purpose of the research and assured the respondents that their confidentiality and anonymity would be preserved. By sharing the research proposal with the respondents, the researcher was able to gain the respondents' confidence as it clearly showed the questionnaire fully embedded in the proposal. The researcher was then advised on when to collect the filled questionnaire.

3.6 Operationalization of the Study Variables

The study constructs were based on concepts from upper echelon theory, psychology theory, institutional theory, group processes literature and business performance theory. Given that, the creation of measurement levels is a complex task; this study strived to follow the advice of Gomez-Haro et al. (2011) who suggested using constructs already tested in previous empirical studies to ensure their content validity. To test the study hypotheses different variables were measured using various approaches. The TMT psychological characteristics were measured using the CSE and psychological capital instruments. The organizational performance as captured by the SBSC measures of customer relation outcomes, efficient and effective outputs, innovativeness, social equity and green performance was measured using 20 questions on a five-point Likert type scale. Organizational financial indicator of earning per share was averaged for a five year period.

The TMT's self-esteem, self-efficacy, locus of control and emotional stability was measured using a 24-item psychological capital questionnaire whilst TMT's task specific self-efficacy, hope, optimism and resilience were measured using a 12-item CSE questionnaire. Regulatory-quality, rule of law and economic policies were identified in this study as the three main forces of institutional environment. The respondents were asked to state the extent, on a five-point Likert scale, to which the various factors of the three main forces affected the operations of their organizations. Team processes were social integration, behavior integration and socio political processes. Social integration was measured using four-item questions adapted from Smith et al. (1994). Behavior integration was measured using five-item questions on a five-point Likert scale adapted from group theory literature (Simsek et al., 2011). Task conflict was measured using four-item questions on a five-point Likert scale as

previously used by Jehn (1995). Relationship conflict was measured using four-item question on a five-point Likert scale adapted from group theory literature (Don et al., 1999; Jehn 1995). Trust was measured using five-item questions on a five-point Likert scale. A summary of the operationalization of the variables is shown in Table 3.2.

Table 3.2 Operationalization of the Study Variables

Variable	Indicators	Measure	Questions	Operationalization
TMT psychological characteristics	Self esteem	Rating scale	Q2 iv, vii, viii	Individual's evaluation of self-worth
	General self-efficacy	Rating scale	Q2 i, iii, iv	One's overall belief to perform well
	Locus of control	Rating scale	Q2 ii, ix, x	Belief one holds about control over life's events
	Emotional stability	Rating scale	Q2 vi, xi , xii	Ability to adapt to diverse situations, cope with stress
	Task specific self-efficacy	Rating scale	Q1 i, vi	One's belief to perform a specific task well
	Hope	Rating scale	Q1 vii - xii	Individual's positive motivational state
	Resilience	Rating scale	Q1 xiii - xviii	Capacity to rebound from failure and uncertainty
	Optimism	Rating scale	Q1 ixx-xxiv	One's expectation of good things to happen
Team processes	Social integration	Rating scale	Q3 i- iv	Satisfaction, attraction with other team members
	Relationship conflict	Rating scale	4 i – iv	Interpersonal incompatibility in teams
	Behavior integration	Rating scale	Q5 i-v	Degree of collective interaction within a team
	Task conflict	Rating scale	Q6 i – iv	Intellectual opposition among team members
	Trust	Rating scale	Q7 i- v	Group-wide expectations of truthfulness, integrity
Institutional environment	Regulatory quality	Rating scale	Q8 i- iv	Degree to which compliance with laws impose burdens on firms
	Rule of law	Rating scale	Q9 i –v	Statutes and policies that support market economy
	Economic policies	Rating scale	Q10 i –v	Laws on performance of market economic activities
Organizational performance	Financial perspective	Secondary data	N/A	Earnings per share

Table 3.2 continued…

	Customer perspective	Rating scale	Q11 i - iv	Customer relation outcomes
	Internal processes	Rating scale	Q11 v - viii	Efficient and effective outputs
	Learning and growth	Rating scale	Q11 ix - xii	Innovativeness
	Social perspective	Rating scale	Q11 xiii - xvi	Social equity performance
	Environmental perspective	Rating scale	Q11 xvii - xx	Green performance

The study's variables, shown in Table 3.2, were intermixed in the questionnaire and a number of research questions reverse coded to minimize consistency motive in responses.

3.7 Data Analysis

Data collected was first cleaned and assessed for completeness. Six questionnaires were expunged from the analysis owing to various reasons during data cleaning exercise. Data was then coded in readiness for entry into the statistical analysis software. For example, Items 2 iv, 2 vii and 2 viii in the questionnaire that define variable self-esteem were coded Pb4, Pb7 and Pb8 where 'P and b' represented psychological characteristics and question number two, respectively. A composite index for self-esteem was then obtained by aggregating the three scores and dividing with the highest score as advised by Gupta (2008).

Since the unit of analysis in this study was a single company, composite indices for psychological characteristics, team processes, institutional environment and organizational performance were obtained for team level analysis. For example, the organizational score on TMT psychological characteristics was obtained by aggregating the scores of self-esteem, general self-efficacy, locus of control, emotional stability, task specific self-efficacy, hope optimism and resilience. The Statistical Package for Social Sciences (SPSS) version 21 facilitated the data analysis.

Several tests, which have been discussed in detail in Chapter 4, were carried on the data prior to commencing any data analysis. These tests were reliability and validity tests, tests of normality, multicollinearity tests and homogeneity of variance tests. The data analysis gave both descriptive and inferential statistics in order to summarize data in an understandable way and infer characteristics of the population, respectively. Descriptive statistics entailed measures of central tendency and dispersion.

In line with other studies (Peterson & Zhang 2011; Smith et al., 1994), Confirmatory Factor Analysis (CFAs) was done to ascertain that the respondents' reported psychological characteristics and team processes were distinct constructs. Correlation analysis was done to determine the coefficient of correlation between variables and coefficient of determination to test for goodness of fit of the models. Simple and multiple linear regression analyses were performed with the organization performance as the dependent variable and TMT psychological characteristics, TMT processes and institutional environment being the independent variables.

The t-test and p-values were used to determine individual significance of the study variables. Assessment of the overall robustness and significance of the regression models was done using the F-test and p-values. Pearson correlation coefficient, R^2, beta coefficients, and p values were computed. If p-value was less or equal to 0.05 (p-value $\leq$ 0.05) the null hypothesis was rejected otherwise it was not rejected. Additionally, for each hypothesis, a model equation of the variables relationship was computed showing the magnitude and relationships of the independent variable(s) and dependent variable.

The coefficients of the regression models indicated the degree of relationship between the dependent variable and each independent variable after the effects of all other variables had been accounted for. Structural Equation Modeling (SEM), incorporating path analysis, was used to enhance the regression analysis framework, as it is an appropriate analysis when both direct and indirect influences are hypothesized. A summary of the research objectives and analytical methods is as shown in Table 3.3.

Table 3.3: Summary of Research Objectives and Analytical Methods

Research Objectives	Data Collected	Question	Analytical Models
Determine the effect of TMT psychological characteristics on organizational performance	Primary data and secondary data	1, 2 and 11	Multiple regression analysis. $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \varepsilon$ where, Y = organizational performance β_0 = y intercept/constant $\beta_{1...}$ β_8 = regression coefficients $X_{1...}X_8$ = individual TMT psychological characteristics ε = error term/ random variation due to other unmeasured variables
Determine the relationship between TMT psychological characteristics and team processes	Primary data	1, 2, 3, 4, 5, 6 and 7	Correlation analysis
Examine the joint effect of TMT psychological characteristics and team processes on organizational performance	Primary data and secondary data	1, 2, 3, 4, 5, 6, 7 and 11	Simple regression analysis. $Y = \beta_0 + \beta_1 X_1 X_2 + \varepsilon$ where, Y = organizational performance β_0 = y intercept/constant β_1 = regression coefficient X_1 = TMT psychological characteristics X_2 = Team processes ε = error term/ random variation due to other unmeasured variables

Table 3.3 continued…

Assess the effect of team processes on organizational performance	Primary data and secondary data	3, 4, 5, 6, 7 and 11	Multiple regression analysis $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ where, Y = organizational performance β_0 = y intercept/constant $\beta_{1...} \beta_3$ = regression coefficients $X_{1...}X_3$ = individual team processes ε = error term/ random variation due to other unmeasured variables
Establish the mediating effect of team processes on the relationship between TMT psychological characteristics and organizational performance	Primary data and secondary data	1, 2, 3, 4, 5, 6, 7 and 11	Multiple regression analysis. $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ where Y = aggregate mean score of organizational performance β_0 = y intercept/constant β_1, β_2 = regression coefficients X_1 = Aggregate mean score of TMT psychological characteristics X_2 = aggregate mean score of team processes ε = error term/ random variation due to other unmeasured variables.
Establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance	Primary data and secondary data	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11	Multiple regression analysis. $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ where Y = team processes β_0 = y intercept/constant β_1, β_2 = regression coefficients X_1 = aggregate mean score of TMT psychological characteristics X_2 = aggregate mean score of institutional environment ε = error term/ random variation due to other unmeasured variables
			Multiple regression analysis and factor analysis $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ where Y = aggregate mean score of organizational performance β_0 = y intercept/constant $\beta_1, \beta_2, \beta_3$ = regression coefficients X_1 = aggregate mean score of TMT psychological characteristics X_2 = aggregate mean score of team processes X_3 = aggregate mean score of institutional environment ε = error term/ random variation due to other unmeasured variables

3.8 Chapter Summary

This chapter has discussed the research methodology that was used in the study. In particular, the chapter has presented the research philosophy, research design, population of the study, data collection, operationalization of research variables and data analysis methods. The chapter also presented a tabulated summary of the objectives, corresponding hypotheses, and analytical models.

The next chapter presents the results of various tests namely; reliability and validity tests, normality tests, multicollinearity tests and tests of homogeneity of variance. The profile of the organizations studied and that of respondents is presented thereafter. A presentation of descriptive statistical analyses as guided by the research's question, objectives and hypotheses is also presented in Chapter 4.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This study set out to establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and performance of companies listed in the NSE. In order to achieve the objectives of the study, primary data was captured using a questionnaire. The target respondents were CEOs, their deputies and functional level managers as they fit in the conventional meaning of TMT. Secondary data was obtained from published records of the companies listed in NSE. Data analysis was done using both descriptive and inferential statistics as guided by the study's objectives and hypotheses.

The research findings of the study are presented in chapters four and five. This chapter presents the results of various tests namely; reliability and validity tests, normality tests, multicollinearity tests and tests of homogeneity of variance. The profile of the organizations studied and that of respondents is presented thereafter. Finally, a presentation of descriptive statistical analyses as guided by the research's question, objectives and hypotheses is made.

4.2 Response Rate

Data analyzed was obtained from 46 out of the targeted 61 companies listed in the NSE. Although there were 61 companies listed in the NSE, one company was omitted from the targeted population as it was based in Uganda and was only cross-listed at both Uganda Securities Exchange and NSE. Data gathered from two other companies was not analyzed for various reasons as one of the companies was suspended from

NSE while the other was listed at NSE on June 2013. There was no available secondary data published in any NSE handbooks for the two organizations. In effect, this reduced the study's population to 58 organizations. The response rate was therefore 75 percent which compares well to other studies (Irungu, 2007) done in the same context.

Scholarly discourses have been advanced as to what response rate is acceptable in organizational research. However, clarity as to what rate of response should be considered is elusive (Rogelberg & Stanton, 2007). Based on a meta-analysis, Cook et al., (2000) argue that response representativeness is more important than response rate in survey research. Further, some scholars have argued that low response rate concerns can be mitigated in data analysis (Rogelberg & Stanton, 2007). In establishing the acceptable response rates, scholars have suggested minimum rates ranging from 30 percent to 80 percent. However, these suggestions have been based on assertions and they lack consistency across the literature (Baruch & Holtom, 2008).

Baruch (1999) conducted a study to explore what could be a reasonable response rate in academic studies. In doing so, the author reviewed 141 studies published in refereed journals for a period of 20 years from 1975. The author observed that the average response rate was 55.6 percent and 36.1 percent for TMTs. In 2008, Baruch and Holtom conducted a study to examine the response rate for surveys in organizations. They analysed 1,607 studies published from 2000 to 2005 in 17-refereed journals. The average response rate for data collected from individuals was 52.7 percent while data collected from organizations was 35.7 percent (Baruch &

Holtom, 2008). From the foregoing, this study's response rate of 74 percent of the population was considered adequate for data analysis for it was way above the average response rate realized in many studies published since 1975.

Table 4.1: Companies' Response by Investment Market Segment

Sector	Total Number	Response Frequency	Percentage
Agricultural	7	4	57
Automobile and Accessories	4	4	100
Banking	11	10	91
Commercial and Services	9	6	67
Construction and Allied	5	4	80
Energy and Petroleum	5	3	60
Insurance	6	5	83
Investment	3	3	100
Manufacturing and Allied	9	5	56
Telecommunication and Technology	2	2	100
Total	61	46	75

Source: Fieldwork

The response rate of the companies as per the investment sectors is as shown in Table 4.1. All the 10 industrial sectors of the companies listed in NSE responded to the study's questionnaire. Additionally, the response rate mirrored the NSE sectors' population distribution hence eliminating biases associated with any particular sector. Three sectors of the population namely automobile and accessories, investment and telecommunication and technology recorded a 100 percent response rate. Manufacturing and allied sector's response rate was the lowest at 56 percent followed by agricultural sector at 57 percent.

4.3 Reliability and Validity Test

Reliability and validity test are key indicators of the quality of the data collection instrument. A measure is reliable when different attempts at measuring something converge on the same result (Zikmund et al., 2010). Impliedly, reliability is therefore an indicator of an instrument's internal consistency. The Cronbach's alpha coefficient (α) is the most commonly applied estimate of a multiple-item scale's reliability. The Cronbach's alpha coefficient ranges from zero, meaning no consistency, to one meaning complete consistency.

There is consensus among researchers that for a scale to be valid and possess practical utility, it must be reliable (Peterson 1994). However, the author further observes that there is little guidance in the literature as to what constitutes acceptable reliability for research. Different research authorities use different cut-off points of the Cronbach's alpha coefficient. Davis (1964) recommends a minimum of cronbach coefficient of 0.5 for predictive research where the population group is between 25 and 50. Kaplan and Saccuzo (1982) on the other hand postulate that basic research and applied research should have minimum cronbach coefficients of 0.7 and 0.8, respectively.

Murphy and Davidshofer (1988) indicate that a Cronbach alpha below 0.6 is unacceptable. Of the recommendations discussed above, those of Nunnaly (1967, 1978) are the most widely referenced either in support or in criticism of an obtained reliability coefficient (Peterson, 1994). Nunnaly (1967) recommended that the minimum acceptable reliability coefficient should be in the range of 0.5 to 0.6, whereas in 1978 he increased the recommended range to between 0.6 and 0.7. This study adopted a cut off cronbach alpha coefficient of 0.6.

Validity, on the other hand, is the accuracy of a measure or the extent to which a score truthfully represents a concept (Zikmund et al., 2010). There are normally four ways of establishing validity namely; face validity, content validity, criterion validity and construct validity. This study adopted research instruments from various researches carried out in social psychology, group dynamics, upper echelon research and organizational behavior theory. The research instrument was further enhanced from expert opinions received during the thesis-proposal presentations.

Table 4.2 Results of Cronbach Alphas of the Study's Variables

Variable	Number of Items	Cronbach alpha	Interpretation
Core Self Evaluation	12	0.652	Reliable
Psychological Capital	24	0.722	Reliable
Psychological Characteristics	8	0.662	Reliable
Social Integration	4	0.665	Reliable
Relationship Conflict	4	0.880	Reliable
Behavior Integration	5	0.809	Reliable
Task Conflict	5	0.777	Reliable
Trust	5	0.710	Reliable
Regulatory Quality	4	0.878	Reliable
Rule of Law	5	0.666	Reliable
Economic Policies	5	0.791	Reliable
Customer Relations	4	0.588	Reliable
Internal Processes	4	0.597	Reliable
Innovation	4	0.511	Not Reliable
Social Equity	4	0.684	Reliable
Green	4	0.683	Reliable

The results of the Cronbach alphas of the study's variables are shown in Table 4.2. Relationship conflict variable had the highest reliability coefficient of 0.88 followed by regulatory quality with a coefficient of 0.87. Although the variable of innovation had a Cronbach alpha of 0.511, it was still included in the data analysis because the variable of performance had a Cronbach alpha of 0.743. The Cronbach alphas of the constructs in the study were considered to indicate a sufficient level of construct validity and reliability. The study constructs were not highly correlated to each other; the correlation matrix is as shown in Table 4.3.

Table 4.3: Correlation Matrix of Study's Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Self esteem	1.000																			
General efficacy	.278	1.000																		
Locus of control	.547	.402	1.000																	
Emotional stability	.367	.252	.349	1.000																
Specific efficacy	.011	.006	.023	.269	1.000															
Hope	.250	.018	.037	.531	.346	1.000														
Resilience	.190	.445	.272	.200	.191	.375	1.000													
Optimism	.703	.400	.610	.480	-.028	.251	.146	1.000												
Social integration	.672	.124	.330	.279	-.128	.236	-.036	.481	1.000											
Relationship conflict	.176	-.095	-.005	.269	-.276	.208	.109	.172	-.076	1.000										
Behavior integration	.601	.407	.529	.347	.041	.181	.252	.589	.349	.148	1.000									
Task conflict	.204	.295	.231	.341	-.034	.107	.152	.210	-.055	.482	.373	1.000								
Trust	.592	.189	.417	.328	.000	.226	.116	.616	.388	.138	.484	.328	1.000							
Regulatory	.053	.038	.267	.197	-.195	-.169	.013	.152	-.088	.353	.267	.437	.318	1.000						
Rule of law	.637	.151	.368	.387	.049	.368	.127	.499	.503	.156	.550	.376	.679	.045	1.000					
Economic policy	.263	.125	.044	.389	.279	.297	-.038	.326	.095	.107	.340	.492	.521	.145	.679	1.000				
Customer relations	.086	.171	.076	-.083	.159	.013	.278	.011	.019	-.120	.083	.208	.420	.246	.167	.147	1.000			
Effective output	.415	.051	.134	.324	.310	.481	.217	.409	.164	.357	.400	.358	.579	.177	.564	.450	.310	1.000		
Innovation	.468	-.008	.259	.318	.228	.452	.400	.338	.313	.104	.245	.163	.493	.089	.405	.282	.357	.477	1.000	
Green	.383	.173	.428	.036	-.009	.103	.354	.462	.107	.109	.503	.094	.260	.163	.160	.054	.076	.224	.433	1.000

Factor analysis attempts to identify underlying variables, or factors that explain the pattern of correlations within a set of observed variables (Williams et al., 2012). The correlation matrix showed that the variables correlated fairly well but not perfectly. The correlation matrix was scanned to check for pattern of relationships. All the correlation coefficients were less than 0.9 implying that the population data was free of singularity. The existence of clusters of correlation coefficients between constructs, suggested that those constructs were measuring aspects of the same underlying factor. For example, self-esteem had a cluster of correlation with locus of control, optimism, social integration, behavior integration, trust and rule of law.

It is important to assess the suitability of the population data for factor analysis in line with other researchers (Williams, Brown & Onsman, 2012). This study employed the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity to assess data for suitability for factor analysis. The KMO measure of population adequacy was 0.657 and the Bartlett's test of sphericity was significant (χ^2 = 558.965 at 190 degrees of freedom (df) with p-value = 0.000) as shown in Table 4.4. If the KMO index is greater than 0.5 and the Bartlett's test of sphericity is significant, that is $p \leq 0.05$, the data is considered suitable for factor analysis (Williams et al., 2012).

Table 4.4: Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.657
Bartlett's Test of Sphericity	Approx. Chi-Square	558.965
	df	190
	Sig.	.000

In conducting the factor analysis, the study variables were subjected to Principal Component Analysis (PCA) to extract initial factor solutions leading to total variance explained by the constructs as shown in Table 4.5. Kaiser (1960) recommended retaining all factors with eigenvalues greater than one. This criterion is based on the idea that the eigenvalues represent the amount of variation explained by a factor and that an eigenvalue of one represents a substantial amount of variation. Results in Table 4.5 show that six components had eigenvalues greater than one implying there were six underlying factors in this study. These six components explained 74.287 percent of the total variance in the study variables with the first component explaining 31.872 percent of the total variation.

In line with Kaiser (1960), the six components were extracted as displayed in Table 4.5 in the column labeled extraction sums of squared loadings. In the final part of Table 4.5, the eigenvalues of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence of these data is that relative importance of the six components is equalized (Field, 2009). Before rotation, factor one accounted for considerably more variance than the remaining five (31.872 percent compared to 10.405, 9.821, 8.564 and 7.166 percent), but after extraction it accounted for 22.18 percent of variance (compared to 13.174, 12.223, 9.064, 8.967 and 8.679 percent, respectively). However, the cumulative variance explained by the six factors remained at 74.287 percent before and after rotation of the factors.

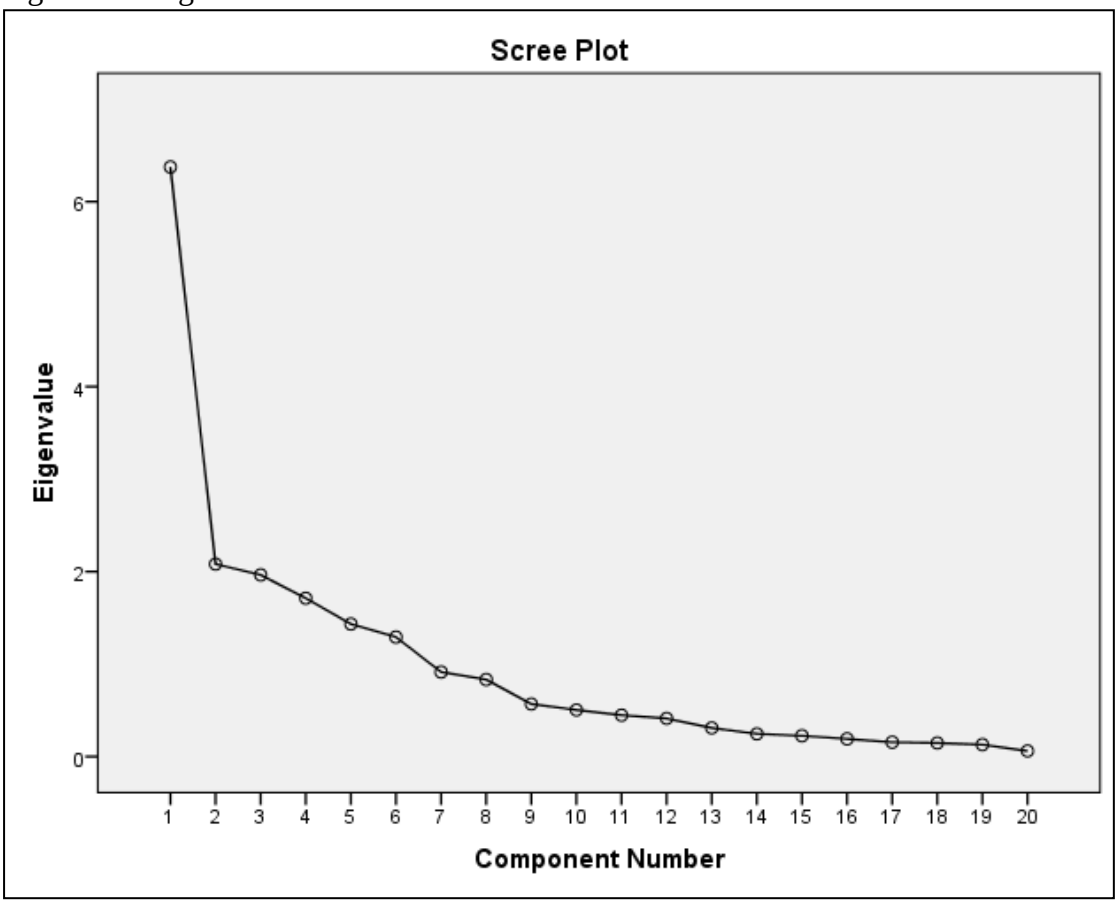
Table 4.5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Percentage of Variance	Cumulative Percentage	Total	Percentage of Variance	Cumulative Percentage	Total	Percentage of Variance	Cumulative Percentage
1	6.374	31.872	31.872	6.374	31.872	31.872	4.436	22.180	22.180
2	2.081	10.405	42.277	2.081	10.405	42.277	2.635	13.174	35.354
3	1.964	9.821	52.098	1.964	9.821	52.098	2.445	12.223	47.577
4	1.713	8.564	60.662	1.713	8.564	60.662	1.813	9.064	56.641
5	1.433	7.166	67.827	1.433	7.166	67.827	1.793	8.967	65.608
6	1.292	6.460	74.287	1.292	6.460	74.287	1.736	8.679	74.287
7	.914	4.572	78.859						
8	.833	4.163	83.022						
9	.569	2.844	85.866						
10	.504	2.521	88.387						
11	.448	2.238	90.625						
12	.412	2.061	92.685						
13	.310	1.548	94.233						
14	.246	1.230	95.463						
15	.225	1.125	96.588						
16	.191	.957	97.544						
17	.155	.776	98.320						
18	.147	.733	99.053						
19	.129	.644	99.697						
20	.061	.303	100.000						

Extraction Method: Principal Component Analysis

The scree plot for the eigenvalues against the factors is shown in Figure 4.1. Cattel (1966) has argued that the cut-off point for selecting factors should be at the point of inflexion of the scree curve. The point of inflexion is where the slope of the line changes dramatically. The scree plot in this study had an inflexion point at the sixth component implying that the six factors to the left of the inflexion point should be extracted. The scree plot methodology of factors extraction lends credence to the Kaiser (1960) methodology.

Figure 4.1: Eigenvalues Scree Plot



Source: Fieldwork

Scholars have advised that after extraction of initial eigenvalues, it is possible to see items with large loadings on several of the unrotated factors, which can make interpretation difficult (William et al., 2012). It is thus helpful to examine a rotated solution. There are various methods of rotation, which differ in how they rotate the factors. The six components that had been extracted were subjected to varimax and

Kaiser normalization test to obtain a rotated component matrix as shown in Table 4.6. Varimax method was chosen as it attempts to maximize the dispersion of loadings within factors (Field, 2009). Therefore, varimax method tries to load a smaller number of variables highly onto each factor resulting in more interpretable clusters of factors. Table 4.6 contains the loadings of each variable onto each factor, although all loadings less than 0.5 were suppressed. Researchers take a loading of an absolute value of more than 0.5 to be important (Field, 2009).

Table 4.6: Rotated Component Matrix

Items	Component					
	1	2	3	4	5	6
Self-esteem	.855					
Social integration	.813					
Optimism	.771					
Rule of law	.737					
Trust	.692					
Behavior integration	.602					
Locus of control	.550			.516		
Hope		.830				
Specific efficacy		.679				
Emotional stability		.594				
Effective output		.532				
Economic policy						
Relationship conflict			.806			
Task conflict			.759			
Regulatory quality			.717			
General efficacy				.855		
Customer relations					.875	
Green						.689
Resilience						.667
Innovativeness						

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Source: Fieldwork

Seven items loaded onto factor one; these constructs were self-esteem, social integration, optimism, rule of law, trust, behavior integration and locus of control. It is clear from Table 4.6 that these seven items all relate to TMT behavior as seen in three dimensions. First, the TMT behavior associated with personal conduct as represented by self-esteem, optimism and locus of control. The second dimension was TMT behavior associated with interactions with other members of the team as represented by social integration, trust and behavior integration. The third dimension was TMT behavior towards institutions as represented by rule of law. The importance of TMT behavior in the study of effect of TMT psychological characteristics on organizational performance is therefore critical. This finding is supported by Hambrick (2007), who found out that TMTs engage in behaviors that affect the health, wealth, and welfare of firms.

Four items loaded onto factor two; these constructs were hope, specific efficacy, emotional stability and effective output. It is clear from Table 4.6 that these four items all relate to TMT values associated with individuals' motivation to succeed, conviction about one's abilities to adapt to diverse situations and personal effectiveness. The importance of TMT values in the study of effect of TMT psychological characteristics on organizational performance is therefore critical. Scholars have postulated that to understand why organizations do the things they do, and why they perform the way they do, it is important to understand the experiences, values, motives, and biases of the TMTs (Hambrick, 2007).

Three items loaded onto factor three; these constructs were relationship conflict, task conflict and regulatory quality. It is clear from Table 4.6 that these three items all relate to both internal and external environmental dynamism. Hambrick (2007) has argued that TMTs provide an interface between the firm and its environment through promptness and quality of decision making, resource allocation and crafting of strategic responses. In so doing, TMTs will experience intellectual opposition and interpersonal incompatibility among group members about content of their decisions. Additionally, TMTs are also constrained by extraneous influences like regulatory compliances. As observed by March and Sutton (1997), organizational performance will be influenced by the ability of the TMT to monitor the environment and deftly navigate through the environmental forces.

Table 4.6 shows that general self-efficacy was factor four; general self-efficacy refers to one's overall belief in their capabilities to execute and perform well across situations (Gist & Mitchell, 1992). General self-efficacy has been shown to be positively related to job performance and has significant impact on individual motivation, behavior and performance (Clark & Maggitti, 2011).

Customer relations outcome was established as factor five; customer-relations is one of the six perspectives of SBSC, which is a stakeholder centric measure of organizational performance. The customer perspective shows how an organization is performing from its customers' view. The TMTs are responsible for executing an unending series of competitive moves meant to attract customers (Hughes-Morgan et al., 2011). The competitive moves taken by TMT are the overt manifestations of TMT's cognitive and experiential breadth.

Two items loaded onto factor six; these constructs were green performance and resilience. It is clear from Table 4.6 that these two items relate to organizational performance. This study was premised on the basis that TMT behavior influences organizational performance. Successful organizational performance is however fraught with challenges and hence the psychological capacity to rebound from failure, adversity, conflict and uncertainty (Luthans et al., 2008) is critical.

In summary, factor analysis conducted on the 20 items in the study yielded a number of key observations. Firstly, the 20 items were all correlated but not perfectly hence making the data suitable for factor analysis. The KMO measure of population adequacy also showed that there was correlation between the study's variables. The scree plot showed six factors were to be extracted using the varimax and Kaiser normalization method. These factors were TMT behavior, TMT values, environmental dynamism, general self-efficacy, customer relations and performance.

4.4 Test of Normality

Parametric statistics, by definition, assume that the data under test is normally distributed, hence the use of the mean as the measure of central tendency (Zikmund, 2010)**.** Many of the statistical procedures including correlation, regression, t-tests are based on the assumption that the data follows a normal distribution (Ghasemi & Zahediasl, 2012). However, data sets can often be skewed due to various reasons hence, the need to test data for assumption of normality. Normality tests are necessary for when these assumptions do not hold it is impossible to draw accurate and reliable conclusions (Ghasemi & Zahediasl, 2012).

The main test for the assessment of normality is the Shapiro-Wilk test. This test was used to test the data in this study. If Shapiro-Wilk test is less than 0.5 then the data significantly deviates from a normal distribution. The study's data set was subjected to a normality test and the results are as shown in Table 4.7 The Shapiro-Wilk results were all greater than 0.05 and hence the assumption of normality was not violated.

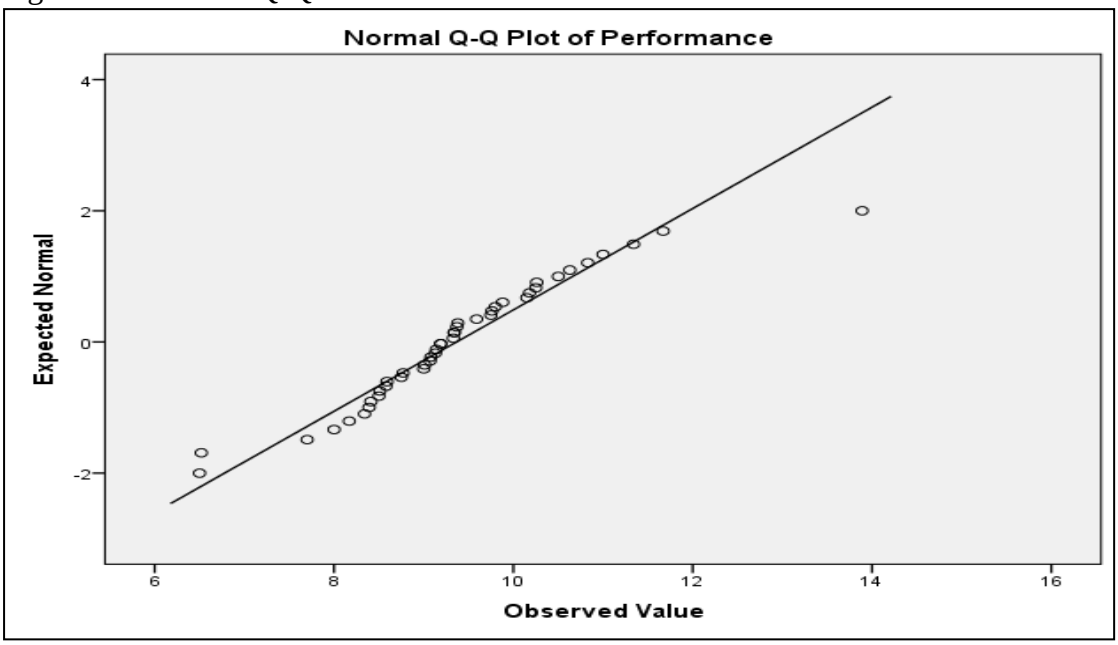
Table 4.7: Test of Normality

Item	Shapiro-Wilk		
	Statistic	df	Sig.
Performance	.941	43	.028
Psychological characteristics	.964	43	.201
Team processes	.875	43	.000
Institutional environment	.882	43	.000

Source: Fieldwork

A graphical representation of observed values against expected normal values of the study variables were plotted on a normal Q-Q plot of performance as shown in Figure 4.2. The observed values were found to coalesce along the line of best fit, which implies that the data was normally distributed.

Figure 4.2: Normal Q-Q Plot of Performance



Source: Fieldwork

4.5 Multicollinearity Test

Multicollinearity is an undesirable situation where correlations among independent variables are strong hence increasing the standard errors of the coefficients. Increased standard errors will in turn mean that coefficients for some independent variables may be found not to be significantly different whereas without multicollinearity the same coefficients might have been found to be significant (Hansen, 2013).

Table 4.8: Multicollinearity Coefficients

Model	Collinearity Statistics	
	Tolerance	Variance Inflation Factor
Self esteem	.243	4.120
General efficacy	.451	2.219
Locus of control	.449	2.229
Emotional stability	.429	2.328
Specific efficacy	.554	1.805
Hope	.408	2.452
Resilience	.527	1.899
Optimism	.286	3.492
Social integration	.368	2.720
Relationship conflict	.410	2.440
Behavior integration	.437	2.286
Task conflict	.439	2.278
Trust	.341	2.931
Regulatory	.478	2.091
Rule of law	.313	3.197

Source: Fieldwork

Multicollinearity was tested using Variance Inflation Factors (VIF) which measures how much of the variance of the estimated coefficients are increased over the case of no correlation among the variables. If no two variables are correlated, then all the VIFs will be equal to one (Hansen, 2013). Additionally, if VIF for one of the variables is equal or greater than five, then there exists collinearity. The study's multicollinearity test is shown in Table 4.8. Self-esteem variable had the highest VIF of 4.12 while specific self-efficacy had the lowest at 1.805. Since all the VIF results

were all less than five, then the assumption of nonexistence of multicollinearity was not violated. Computationally, VIF is the reciprocal of tolerance. Therefore, if tolerance of one of the variables is equal or less than 0.2 then there exists collinearity. Since all the tolerance results were all greater than 0.2 then the assumption of nonexistence of multicollinearity was not violated.

4.6 Homogeneity Test

Heteroscedasticity is a situation in which the variance of the dependent variable varies across the data (Ghasemi & Zahediasl, 2012). This complicates analysis because many methods in regression analysis are based on the assumption of equal variance (Hansen, 2013). On the other hand, homoscedasticity implies a situation in which the variance of the dependent variable is the same for all the data.

Table 4.9: Levene Test

Variables	Assumption	Levene's Test for Equality of Variances		T-test for Equality of Means		
		F-value	Sig.	t-value	df	Sig. (2-tailed)
Psychological characteristics	Equal variances	0.867	0.998	1.338	5	0.238
Team processes	Equal variances	1.642	0.256	1.275	5	0.258
Institutional environment	Equal variances	0.320	0.864	1.661	5	0.158
Performance	Equal variances	3.170	0.135	2.287	5	0.071

Source: Fieldwork

To test for the homogeneity, this study used the Levene test whereby if the Levene value was greater than 0.05 then the variability of conditions was determined to be about the same. The study's variables were subjected to a Levene test and the results are as shown in Table 4.9. For example, team process variable had a Levene F ratio of 1.642 and was not significant as p-value was greater than 0.05.

All the Levene tests for psychological characteristics, team processes, institutional environment and performance were all greater than 0.05 and not significant. In addition, the t-test for equality of means was not significant at 95 percent confidence level. Since all Levene test were greater than 0.05 the assumption of homogeneity of variances was not violated. The research data was subjected to four tests namely reliability and validity, normality, multicolllinearity and homogeneity. Since the research data did not violate any of the tests, inferences about the population were made.

4.7 Profiles of Companies Studied

The study sought to establish the period the organizations had been in operation and size of the same organizations. Age of an organization has been used in many studies as a measure of organizational maturity and is generally expected to influence managerial practices within the organizations (Muchemi, 2013). The difference in size of organizations was a good strength of the research design.

Table 4.10: Years of Incorporation of Companies

Age (Years)	Frequency	Percentage
100 and above	6	13
70 - 99	7	15
40 - 69	20	43
10 – 39	12	26
Less than 10	1	2
Total	46	100

Source: Fieldwork

Table 4.10 shows that majority of the organizations had been in existence for more than forty years. Specifically, 13 percent of the organizations were more than a century old, whereas 43 percent were between forty and sixty nine years old. Only one organization was eight years old. Therefore, the organizations presented a strong research design for an empirical study.

Table 4.11: Companies Size

Organization Size	Percentage
Less than 100 employees	4.9
Between 100 and Less than 500 employees	59.8
Between 500 and 1000 employees	26.2
More than 1000 employees	9.0
Total	100.0

Source: Fieldwork

The population of the study was made up of organizations of varying sizes as shown in Table 4.11. Slightly less than 10 percent of the organizations had more than one thousand employees while about 5 percent were on the other extreme end of less than one hundred employees. The study also found out that 60 percent of the organizations had between one hundred and five hundred employees whilst 26 percent had less than one thousand employees but greater than five hundred.

4.8 Overview of Top Management Team Demographics

Primary data for the TMT demographics of tenure and functional position was obtained from 43 companies, which had an average TMT size of six. Staw and Ross (1980) postulate that TMT tenure affects psychological commitment to the organizational status quo while Finkelstein and Hambrick (1990) reveal that TMT tenure and functional position influence the choice of strategies made by TMT.

The number of TMT member responses ranged from two to five, with a mean of 2.8 (S.D = 0.8) members per team. One hundred and twenty two responses were received from individual TMT members with 23 percent of the respondents being chief executive officers, 72 percent divisional managers and 5 percent being other managers. This study adopted the conventional definition of TMT, which highlights the importance of team leadership as opposed to individual leaders (Carpenter et al., 2004).

Table 4.12: Top Management Teams Previous Position Prior to Current Role

Description	Frequency	Percentage
Different role same organization	45	36.9
Different organization	73	59.8
Other	4	3.3
Total	122	100

Source: Fieldwork

Table 4.12 shows that 60 percent of the TMTs had been working for different organizations prior to their current appointment. This implies that only four out of ten TMT members had risen the ranks within the organization to become TMT members demonstrating low TMT tenure levels.

Table 4.13: Top Management Teams Tenure

Tenure	Frequency	Percentage
Between 1 and less than 3 years	20	16.7
Between 3 and 5 years	67	67
Greater than 5 years	35	28.6
Total	122	100

Source: Fieldwork

Table 4.13 shows that only 28.6 percent of TMTs had tenure of more than 5 years in all organizations listed at NSE. In the study, 55 percent of the TMTs had tenure of between three and five years. Beckman and Burton (2011) observe that TMT research implicitly treats TMT as a stable entity. This study finding is in stark contradiction of that observation. Over the last five years, companies listed in NSE have witnessed significant changes in TMT composition owing to appointment of TMTs members into public service (NSE Annual Handbook 2013). This study clearly points to a fluid tenure of TMTs of companies listed at NSE.

4.9 Overview of Top Management Team Psychological Characteristics

This study focused on eight TMT psychological characteristics that were grouped into two constructs of CSE and psychological capital. The CSE unifies four concepts of

self-esteem, self-efficacy, locus of control, and emotional stability related to the study. Psychological capital unifies four resources of task-specific self-efficacy, hope, optimism and resilience.

Table 4.14: Descriptive Statistics of Top Management Team Psychological Characteristics

Characteristic	Number	Mean	Standard Deviation	t-value	Sig. (2 tailed)	Coefficient of Variation (CV) - percent
Self esteem	43	2.4549	.61991	25.968	0.000	25.25
General efficacy	43	2.7749	.36924	49.280	0.000	13.31
Locus of control	43	2.3930	.45179	34.733	0.000	18.97
Emotional stability	43	2.3819	.50074	31.192	0.000	21.02
Specific efficacy	43	2.2953	.27223	55.289	0.000	11.86
Hope	43	2.1488	.35342	39.870	0.000	16.45
Optimism	43	2.2544	.39650	37.284	0.000	17.59
Resilience	43	2.2588	.45346	32.665	0.000	20.01

Source: Fieldwork

Table 4.14 indicates that all TMT psychological characteristics except self-esteem and general self-efficacy scored marginally below the mean of 2.5. General self -efficacy had a mean score of 2.8 indicating that most teams were collectively confident in their abilities to do any task. Hope had the lowest score of 2.1 indicating that the teams were not that highly motivated to achieve goals despite of any obstacles coming their way. The highest variability was evident in self-esteem with standard deviation of 0.61991 and the lowest variability was seen in specific efficacy with standard deviation of 0.27223. Hiller and Hambrick (2005) postulate that when it comes to self-esteem, self-efficacy, locus of control, and emotional stability, more is not necessarily better. On his part, Peterson and Zhang (2011) observe that perhaps the relationship between CSE and organizational performance may be curvilinear, suggesting that there may be an optimal level of TMT psychological characteristics.

Table 4.15: Correlation Analysis of Top Management Team Psychological Characteristics

Item		1	2	3	4	5	6	7	8
Self esteem	Pearson Correlation	1							
	Sig. (2-tailed)								
General efficacy	Pearson Correlation	.278	1						
	Sig. (2-tailed)	.071							
Locus of control	Pearson Correlation	.547**	.402**	1					
	Sig. (2-tailed)	.000	.008						
Emotional stability	Pearson Correlation	.367*	.252	.349*	1				
	Sig. (2-tailed)	.015	.102	.022					
Specific efficacy	Pearson Correlation	.011	.006	.023	.269	1			
	Sig. (2-tailed)	.946	.971	.885	.081				
Hope	Pearson Correlation	.250	.018	.037	.531**	.346*	1		
	Sig. (2-tailed)	.106	.907	.815	.000	.023			
Optimism	Pearson Correlation	.703**	.400**	.610**	.480**	-.028	.251	1	
	Sig. (2-tailed)	.000	.008	.000	.001	.859	.105		
Resilience	Pearson Correlation	.190	.445**	.272	.200	.191	.375*	.146	1
	Sig. (2-tailed)	.223	.003	.078	.199	.220	.013	.350	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Fieldwork

Correlation analysis was carried out on TMT psychological characteristics to determine magnitude and directions for the relationships between the eight psychological characteristics variables and the results are as shown in Table 4.15. For example, self-esteem characteristics had a low positive relationship (R = 0.278) with general efficacy and the relationship was not significant as the calculated p value of 0.071 was greater than 0.05. Additionally, self-esteem accounted for only 7.7 percent (R^2 = 0.077) variation in general self-efficacy implying that an individual's global evaluation of self-worth will not have a significant relationship with one's overall belief in their capabilities to execute and perform well across situations.

4.10 Overview of the Companies' Institutional Environment

This study focused on three selected factors namely regulatory quality, rule of law and economic policies whose effect on the TMT behavior and performance linkage is not known to have been interrogated. Scott (1995) identified these factors as three institutional pillars that structure and provide meaning to organizational behavior.

Table 4.16: Descriptive Statistics on Institutional Environment

Item	Number	Mean	Standard Deviation	t-value	Sig. (2 tailed)	CV-value
Regulatory quality	122	2.7963	.67554	27.143	0.000	24.16
Rule of law	122	2.6309	.67165	25.686	0.000	25.53
Economic policy	122	2.4033	.67371	23.392	0.000	28.03

Source: Fieldwork

The results in Table 4.16 indicate that economic policy variable was scored at 2.4 which is marginally below the mean of 2.5 (on a scale of one to five where 5 = strongly agrees and 1= strongly disagrees). Regulatory quality had a score of 2.8 which is beyond the mean of 2.0 (on a scale of one to four where 4 = very severe obstacle and 1= not an obstacle at all). Regulatory quality is therefore shown to present severe obstacles in the operations of organizations. There was a uniform

variability of all the institutional environment factors as shown by the standard deviation.

North (1992) observes that institutional forces influence environmental characteristics such as turbulence, hostility, dynamism, and munificence. The environmental characteristics in turn influence TMT behavior, which ultimately affects organizations' performance (Chadee & Roxas, 2013). In this study, TMTs were seen to recognize the importance of the institutional environment by scoring the study variables above the mean.

Table 4.17: Institutional Environment Correlation Analysis

Item		Regulatory	Rule of Law	Economic Policy
Regulatory	Pearson Correlation	1		
	Sig. (2-tailed)			
Rule of law	Pearson Correlation	0.045	1	
	Sig. (2-tailed)	0.776		
Economic policy	Pearson Correlation	0.145	0.679**	1
	Sig. (2-tailed)	0.353	0.000	

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Fieldwork

The institutional environment variables were subjected to correlation analysis to determine magnitude and directions for the relationships between the variables. The results are as shown in Table 4.17. All the relationships between the variables were positive. Rule of law and economic policy had a strong positive relationship (R= 0.679). This strong relationship between rule of law and economic policy was not surprising bearing in mind that rule of law collectively embraces laws, regulations, government policies and programs, and basic infrastructure and services that support the full functioning of a market-based economy (North, 1992). Regulatory quality and rule of law had the least positive relationship (R= 0.045).

4.11 Overview of Team Processes

Three categories of team processes namely socio political (consisting of task conflict, relationship conflict and trust), social integration and behavior integration were measured in this study.

Table 4.18: Team Processes Descriptive Statistics

Item	Number	Mean	Standard Deviation	t-value	Sig. (2-tailed)	CV-value
Task conflict	122	2.9447	.71424	27.035	0.000	24.26
Relationship conflict	122	3.3653	.70445	31.327	0.000	20.93
Trust	122	2.4349	.47850	33.368	0.000	19.65
Behavior integration	122	2.2637	.59663	24.880	0.000	26.36
Social integration	122	2.6402	.47812	36.211	0.000	18.1

Source: Fieldwork

Table 4.18 shows the results of the team processes descriptive statistics. Relationship conflict variable had a mean score of 3.3653 implying that relational incompatibility among TMTs members was high. Task conflict variable mean was 2.9. This shows that intellectual opposition among TMTs members about content of their decisions was to a small extent. Behaviour integration mean score was 2.3 implying that the degree to which mutual and collective interaction existed within TMTs members was less than to a small extent. Generally, team processes variables had very low scores across the TMTs studied.

The highest variability was evident in task conflict with a standard deviation of 0.71424. As observed by Parayitam et al. (2010), task conflict is appealing in the context of top management teams, since by its very nature, teams should bring to decision platform multiple perspectives, engender well thought out alternatives, and ultimately lead to better decisions.

Table 4.19: Team Processes Correlation Analysis

Item		1	2	3
Behavior integration	Pearson Correlation	1		
	Sig. (2-tailed)			
Social integration	Pearson Correlation	.349*	1	
	Sig. (2-tailed)	.022		
Sociopolitical	Pearson Correlation	.422**	.065	1
	Sig. (2-tailed)	.005	.678	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Fieldwork

The correlations analysis for team processes are shown in Table 4.19. For example, behavior integration had a positive relationship (R= 0.349) with social integration and the relationship was significant as the calculated p-value of 0.022 was less than 0.05. Additionally, behavior integration accounted for 12.1 percent ($R^2 = 0.121$) variation in social integration. As observed by Li and Hambrick (2005), a team that is behaviorally integrated has the capacity to synchronize the team's social and task processes.

4.12 Chapter Summary

This chapter started by presenting tests of reliability and validity measures, normality, multicollinearity and homogeneity. The chapter presented the profile of the organizations studied in terms of size, age, market segmentation and survey response rates. Thereafter, the profile of the TMT members was presented and finally, descriptive statistical analyses were done and interpretations provided.

The next chapter provides results of the tests of hypotheses. In particular, results of multivariate linear regression analysis are presented for every hypothesis. Additionally, structural equation modeling results for hypotheses H_5, H_6 and H_7 are presented.

CHAPTER FIVE

TESTS OF HYPOTHESES AND DISCUSSION

5.1 Introduction

This chapter presents the results of various tests carried out on the study's hypotheses. There were seven hypotheses in this study that had different relationships among the various independent, intervening, moderating and dependent variables. To test the hypotheses, organizational composite indices of TMT psychological characteristics, team processes, institutional environment and non-financial performance were computed. Composite indices for the organizational study variables were computed as advised by Gupta (2008). The financial organizational performance was measured using a five-year average of EPS.

Multiple linear regression analysis was used to carry out the tests of hypotheses. Additionally, SEM incorporating path analysis was used to enhance the regression analysis framework. This study was conceptualized on the basis that TMT behavior as measured through TMT psychological characteristics has an effect on organizational performance, but performance is also intervened by TMT processes and moderated by institutional environment. In total, 43 TMTs were identified and statistical analysis carried out. The hypotheses were tested at 95 percent confidence level ($\alpha = 0.05$). The t-test and p-values were used to determine individual significance of relationships. Assessment of the overall robustness and significance of the regression models was done using the F-test and p-values. In both cases above, if p-value ≤ 0.05 the null hypothesis was rejected, otherwise the null hypothesis was not rejected.

The correlations for the study variables and the regression models are presented in this chapter. The first objective sought to determine the effect of TMT psychological characteristics on organizational performance. The second objective sought to determine the relationship between TMT psychological characteristics and team processes with the third objective assessing the joint effect of TMT psychological characteristics and team processes on organizational performance. The fourth objective sought to examine the effect of team processes on organizational performance. The fifth objective sought to establish the mediating effect of team processes on the relationship between TMT psychological characteristics and organizational performance. Finally, the sixth objective sought to establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance.

5.2 Top Management Team Psychological Characteristics and Organizational Performance

The first objective of the study was to determine the effect of TMT psychological characteristics on organizational performance. Hypothesis (H_1) was stated as:

H1: The TMT psychological characteristics have significant effect on organizational performance

The study set out to establish the independent effect of TMT psychological characteristics on organizational performance. Psychological characteristics were measured using the CSE and psychological capital constructs. The CSE unifies four concepts of self-esteem, self-efficacy, locus of control, and emotional stability related to the study. Psychological capital unifies four resources of task-specific self-efficacy, hope, optimism and resilience.

The results of analysis done to establish the effect of TMT psychological characteristics on EPS are as shown in Table 5.1. The study found that TMT psychological characteristics explained 16.9 percent ($R^2 = 0.169$) of EPS performance with the remaining 83.1 percent explained by other variables implemented by organizations. The regression model was not significant at F ratio = 0.867 with a p-value of 0.553. Since the calculated p-value was greater than 0.05, this indicated that the model was not robust enough to explain the relationship between the explanatory and dependent variables. Additionally, the t-test values had p-values greater than 0.05 indicating that individual TMT psychological characteristics had no significant effect on EPS. The above two findings are significant in light of the TMT 'black box' dilemma. The findings bring to the fore the inadequacy of using traditional financial measures as a valid criterion of assessing TMT performance.

Table 5.1: Effect of Top Management Team Psychological Characteristics on Earnings per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.412[a]	.169	.026	7.77077

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	418.646	8	52.331	.867	.553[b]
	Residual	2053.086	34	60.385		
	Total	2471.732	42			

a. Dependent Variable: EPS

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Table 5.2 shows that TMT psychological characteristics explained 14 percent (R^2 = 0.140) of customer relation outcomes with the remaining 86 percent being explained by other variables implemented by organizations. The F value for the model was 0.691 and p-value of 0.697, which is greater than 0.05 implying that the model was not significant. Therefore, the model was not robust enough to predict the hypothesized relationship. The null hypothesis was not rejected implying that TMT psychological characteristics had no significant relationship with customer relation outcomes.

Table 5.2: Effect of Top Management Team Psychological Characteristics on Customer Relation Outcomes

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.374[a]	.140	.063	.49651

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	1.363	8	.170	.691	.697[b]
	Residual	8.382	34	.247		
	Total	9.744	42			

a. Dependent Variable: customer relation outcomes

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Table 5.3 shows the results of the analysis done to establish the effect of TMT psychological characteristics on efficient and effective output. The TMT psychological characteristics explained 41 percent (R^2 = 0.41) of efficient and effective outputs with the remaining 59 percent being explained by other variables implemented by organizations. The F value for the model was 2.954 and p-value was 0.013. Since the calculated p-value was less than 0.05, the null hypothesis was

rejected implying that TMT psychological characteristics had a significant effect on efficient and effective outputs.

Table 5.3: Effect of Top Management Team Psychological Characteristics on Efficient and Effective Outputs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.640[a]	.410	.271	.43062

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	4.383	8	.548	2.954	.013[b]
	Residual	6.305	34	.185		
	Total	10.687	42			

a. Dependent Variable: efficient and effective outputs

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	.134	.824		.162	.872
Self esteem	.189	.156	.232	1.207	.236
General self-efficacy	-.158	.230	-.116	-.687	.497
Locus of control	-.209	.207	-.187	-1.010	.319
Emotional stability	-.058	.181	-.058	-.322	.749
Task specific self-efficacy	.430	.268	.232	1.605	.118
Hope	.366	.267	.256	1.370	.180
Resilience	.104	.190	.093	.545	.589
Optimism	.461	.281	.363	1.639	.110

The analysis of the significance of TMT psychological characteristics on efficient and effective outputs showed statistically insignificant results for individual TMT psychological characteristics. Positive effects were observed for self-esteem, task specific self-efficacy, resilience, hope and optimism on efficient and effective outputs. On the other hand, negative effects were seen for general self-efficacy, locus of control and emotional stability.

The results of analysis done to establish the effect of TMT psychological characteristics on innovativeness are as shown in Table 5.4. The study found that TMT psychological characteristics explained 46.1 percent (R^2 = 0.461) of innovativeness performance with the remaining 53.9 percent explained by other variables implemented by organizations. The F value for the model was 3.632 and p-value was 0.004. Since the calculated p- value was less than 0.05, the model was significant to predict the relationship between TMT psychological characteristics and innovativeness. The null hypothesis was rejected implying that TMT psychological characteristics had a significant relationship with innovativeness.

The analysis of the significance of TMT psychological characteristics on innovativeness showed statistically insignificant results for individual TMT psychological characteristics except for general self-efficacy and resilience. Equation 5.1 explains the model of TMT psychological characteristics and efficient and effective outputs.

Innovativeness = – 0.37 General self-efficacy + 0.343 Resilience - Equation 5.1

The model shows that a unit change in general self-efficacy and resilience will result in innovativeness changing by factors of -0.37 and 0.343, respectively. General self-efficacy, which is one's overall belief in own capabilities is therefore counter-productive to innovation in an organization.

Table 5.4: Effect Top Management Team Psychological Characteristics on Innovativeness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.679[a]	.461	.334	.33049

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	3.174	8	.397	3.632	.004[b]
	Residual	3.714	34	.109		
	Total	6.887	42			

a. Dependent Variable: innovativeness

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	.874	.632		1.383	.176
Self esteem	.233	.120	.357	1.942	.060
General self-efficacy	-.370	.177	-.337	-2.090	.044
Locus of control	.007	.159	.008	.043	.966
Emotional stability	.030	.139	.037	.218	.829
Task specific self-efficacy	.142	.206	.096	.692	.494
Hope	.166	.205	.145	.807	.425
Resilience	.343	.146	.384	2.346	.025
Optimism	.112	.216	.110	.519	.607

The results of analysis done to establish the effect of TMT psychological characteristics on social equity are as shown in Table 5.5. The TMT psychological characteristics explained 25.1 percent ($R^2 = 0.251$) of social equity with the remaining 74.9 percent being explained by other variables implemented by organizations. The F value for the model was 1.426 and p-value was 0.221. Since the calculated p-value was greater than 0.05, the model was therefore not robust to explain the relationship between the explanatory and dependent variables. The null hypothesis was thus not rejected implying that TMT psychological characteristics had no significant relationship with social equity.

Table 5.5: Effect of Top Management Team Psychological Characteristics on Social Equity

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.501[a]	.251	.075	.40407

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	1.863	8	.233	1.426	.221[b]
	Residual	5.551	34	.163		
	Total	7.414	42			

a. Dependent Variable: social equity

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

The results of analysis done to establish the effect of TMT psychological characteristics on green performance are as shown in Table 5.6. The TMT psychological characteristics explained 41 percent ($R^2 = 0.410$) of green performance with the remaining 69 percent being explained by other variables implemented by organizations. The F value for the model was 2.955 and the p-value was 0.013. Since the calculated p-value was less than 0.05, then the null hypothesis was rejected meaning that TMT psychological characteristics had a significant relationship with green performance. The regression model was robust enough to explain the relationship between the explanatory and dependent variables.

The analysis of the significance of TMT psychological characteristics on green performance showed statistically significant results for resilience and optimism. Equation 5.2 explains the model of TMT psychological characteristics and efficient and effective outputs.

Green performance = 0.402 Resilience + 0.612 Optimism - Equation 5.2

The model shows that a unit change in resilience and optimism results to green performance changing by factors of 0.402 and 0.612, respectively. The model shows that optimistic teams will be motivated to set and achieve green performance goals. Additionally, in times of adversity or failure, such teams will be tenacious to bounce back and move on to achieve results.

Table 5.6: Effect of Top Management Team Psychological Characteristics on Green Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.640[a]	.410	.271	.40869

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	3.948	8	.493	2.955	.013[b]
	Residual	5.679	34	.167		
	Total	9.627	42			

a. Dependent Variable: green

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	.904	.782		1.157	.255
Self esteem	.018	.148	.023	.119	.906
General self-efficacy	-.267	.219	-.206	-1.220	.231
Locus of control	.201	.196	.190	1.025	.313
Emotional stability	-.285	.172	-.298	-1.657	.107
Task specific self-efficacy	.031	.254	.018	.122	.903
Hope	-.031	.254	-.023	-.123	.903
Resilience	.402	.181	.381	2.225	.033
Optimism	.612	.267	.506	2.289	.028

Table 5.7 shows that there was positive relationship between TMT psychological characteristics and various dimensions of performance as measured using SBSC. The results showed that there existed a relationship between TMT psychological characteristics and organizational performance dimensions. The TMT psychological characteristics accounted for 46.1 percent of innovativeness in an organization hence underscoring the importance of TMT behavior in ensuring organizational sustainability. In contrast, TMT psychological characteristics accounted for 14 percent of customer relation outcomes in an organization

Table 5.7: Summary of Effects of Top Management Team Psychological Characteristics on Organizational Performance Dimensions

Model	Number	R^2	F-value	Sig	Comments
Earnings per share = f(TMT psychological characteristics)	43	0.169	0.867	0.553	No overall significance
Customer relation outcomes = f(TMT psychological characteristics)	43	0.140	0.691	0.697	No overall significance
Efficient and effective outputs = f(TMT psychological characteristics)	43	0.410	2.954	0.013	Overall significance but no individual significance
Innovativeness = f(TMT psychological characteristics)	43	0.461	3.632	0.004	Overall significance and individual significance on two characteristics
Social equity = (TMT psychological characteristics)	43	0.251	1.426	0.221	No overall significance
Green performance = f(TMT psychological characteristics)	43	0.410	2.955	0.013	Overall significance and individual significance on two characteristics
TMT psychological characteristics: self-esteem, general self-efficacy, locus of control, emotional stability, task specific self-efficacy, hope, resilience, optimism					

The multiple regression results showed that TMT psychological characteristics explained 46.1 percent ($R^2 = 0.461$) of organizational innovativeness but explained 14 percent ($R^2 = 0.14$) of customer relation outcomes. The F-values for the models predicting effective outputs, innovativeness and green performance were 2.954, 3.632 and 2.955, respectively at p value < 0.05, and the null hypotheses were rejected. This implied that TMT psychological characteristics had statistically significant relationship with effective outputs, innovativeness and green performance.

On the other hand, the null hypotheses were not rejected for the models predicting EPS, customer relation outcomes and social equity. This implied that TMT psychological characteristics had statistically non-significant relationship with EPS, customer relation outcomes and social equity.

The assessment of the overall robustness and significance of the regression models showed that the models of EPS, customer relation outcomes and social equity were not significant and hence not robust enough to predict the hypothesized relationships. On the other hand, the model predicting efficient and effective outputs as a function of TMT psychological characteristics was significant although there was no individual significance of any of the TMT psychological characteristics. In addition, models of innovativeness and green performance were found to have overall significance and individual significance of two TMT psychological characteristics.

The study indicated mixed findings on the effects of TMT psychological characteristics on various performance dimensions. The study found out that TMT psychological characteristics had a positive relationship with each of the six perspectives of the SBSC and statistical significance with efficient and effective

outputs, innovativeness and green performance. This finding underscores the symbolic responsibility bestowed on TMT in line with the emerging stakeholder theory, which calls for assessment of organizations' performance against the expectations of a variety of stakeholder groups that have particular interests in the effects of the organizations' activities (Schaltegger et al., 2011). It also emerged that TMT behavior affects organization performance dimensions in varying degrees as indicated by other researchers. Hambrick (2007) found out that TMTs make decisions and engage in behaviors that affect the health, wealth, and welfare of firms - but they do so as flawed human beings.

While the effect of TMT psychological characteristics on green performance was expected to be positive and significant, research data did support this expectation. This finding may be explained by the contextual factors of the study's population. Firstly, Kenya aspires to be a nation that has a clean, secure and sustainable environment by year 2030 (Kenya Vision 2030). Berrone et al. (2013) have argued that greater regulatory and normative pressures concerning environmental issues positively influence companies' propensity to engage in green performance. The environmental regulatory framework in Kenya is weak and difficult to enforce which has made the government aspire to harmonize environment related laws for better environmental planning and governance (Kenya Vision 2030).

As regards innovation, the study found a positive and significant relationship with TMT psychological characteristics. Mihalache et al. (2012) also found out that TMT informational diversity and shared vision influenced a firm's innovativeness. Earlier on in 1986, Bantel and Jackson had found out that banks that were more innovative

were being managed by a more diverse TMT. Qian et al (2013) on their part found that a highly uncertain competitive environment is likely to make a TMT more capable of implementing any innovative ideas arising from cognitive conflict. Sustained organizational performance depends on top management teams effectively exploring and exploiting (Smith & Tushman, 2005). In doing so, TMTs balance short-term performance and long-term adaptability through resource allocation and trade-offs decisions (Hambrick, 1994). These strategic decisions require teams to negotiate between existing product and innovation, identifying outcomes that will ensure the performance of both agenda (Smith & Tushman, 2005). To make balanced strategic decisions, this study has shown that TMTs need to tap into psychological resources of members.

The research finding supported the hypothesis that TMT psychological characteristics will have a positive and significant effect on efficient and effective outputs. The TMT behaviour was found to explain 22 percent ($R^2 = 0.22$) of organizational efficient and effective outputs. Prior research has generally identified leadership and team processes as the main determinants of efficiency and effectiveness in an organization (Hambrick, 2005; Jehn 1995). Additionally, scholars have linked TMT behavior to various organizational outcomes, for example, innovation (Marimuthu & Kolandaisamy, 2009). While the effect of TMT psychological characteristics on customer relations outcome performance was expected to be positive and significant, data did not support this expectation. The TMT psychological characteristics explained only 14 percent ($R^2 = 0.140$) of customer relations outcomes but was not significant as p-value was greater than 0.05. This finding was surprising because TMTs of competing firms are responsible for executing an unending series of

competitive moves and counter-moves meant to attract customers, keep rivals off balance and make their firms profitable (Hughes-Morgan et al., 2011). The authors further explain that the competitive moves taken by TMT that include customer service improvements are the overt manifestations of TMT's cognitive and experiential breadth.

Paradoxically, research on organizational marketing has not yet examined the role of TMT involvement in marketing information processing (Harmancioglu et al., 2010). Looking further into research in competitive dynamics, an explanation of the insignificant findings on the effect of TMT psychological characteristics on customer relations outcomes can be given. Competitive dynamics research has found a robust empirical support for the link between TMT competitive behavior, market share, sales growth (Hughes-Morgan et al., 2011) and demonstrated that financial measures of performance are not proxies of customer relation outcomes. Research finding in this study, therefore supports the views from organizational marketing and competitive dynamics that TMTs are not active participants in processing of marketing information. Additionally, it could be that the relationship of TMT behavior and customer relation outcomes is mediated or moderated by factors such as organization characteristics, industry context and firm innovativeness among others. The findings of non-significant effects of EPS on TMT psychological characteristics are significant in light of the TMT 'black box' dilemma. The findings support Hiller and Hambrick (2005) postulation that whilst the upper echelons perspective gave rise to both a methodology and theory, the continued use of disconnected concepts to measure TMT behavior will at best lead to unequivocal research findings.

A composite index of the organizational non-financial performance comprising of green performance, innovativeness, efficient and effective outputs, customer relation outcomes and social equity variables was computed in order to establish the effect of TMT psychological characteristics on organizational non-financial performance. An analysis was done on hypothesis H_1 to test the effect of individual TMT psychological characteristics on composite index of organizational non-financial performance. The results of the effect of the psychological characteristics on organizational non-financial performance are presented in Table 5.8.

The study found that individual TMT psychological characteristics explained 47.3 percent (R^2 =0.473) of non-financial organizational performance. Impliedly, 52.7 percent of organizational performance was explained by other factors put in place by companies in order to enhance their performance. The F value for the model was 3.815 and p-value was 0.003. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological characteristics had a significant relationship with non-financial performance. Additionally, the regression model was significant and robust enough to predict the hypothesized relationship.

In addition, the results showed positive and significant results for resilience characteristic. Equation 5.3 explains the model of TMT psychological characteristics and organizational non-financial performance.

Organizational non-financial performance = 1.115 Resilience - Equation 5.3

The model shows that a unit change of resilience will result in a 1.115 change in non-financial performance. This shows that a greater output in non-financial performance

compared to a change in input associated to resilience hence underscoring the importance of resiliency in TMTs.

Table 5.8: Effect of Top Management Team Psychological Characteristics on Non-Financial Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688[a]	.473	.349	1.04439

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	33.290	8	4.161	3.815	.003[b]
	Residual	37.086	34	1.091		
	Total	70.376	42			

a. Dependent Variable: non-financial performance

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.027	1.997		1.515	.139
	Self - esteem	.537	.379	.257	1.418	.165
	General self-efficacy	-.678	.559	-.193	-1.212	.234
	Locus of control	-.017	.502	-.006	-.033	.974
	Emotional stability	-.506	.440	-.196	-1.151	.258
	Task specific self-efficacy	.931	.650	.196	1.432	.161
	Hope	.411	.648	.112	.635	.530
	Resilience	1.115	.462	.391	2.415	.021
	Optimism	1.157	.683	.354	1.695	.099

The research findings are supported by Peterson and Zhang (2011) who have postulated that teams marked by optimism will use positive language to express their outlook and resilience will allow teams to bounce back quickly when uncertainty strikes. The authors postulate further that efficacious teams will display a high level of confidence in the team's ability to achieve goals and finally hopeful teams will be highly motivated to set and achieve goals. The study's finding supports other earlier findings by researchers that psychological characteristics are better measures of behavior (Dezs & Ross 2012) compared to TMT demographic characteristics. While this study found that TMT psychological characteristics explained 47.3 percent (R^2 = 0.473) of organizational performance, Irungu (2007) observed that TMT demographics explain less than 20 percent of organizational performance.

The TMT psychological characteristics were shown in this study that they have a higher explanatory power as compared to demographic characteristics. Past research has pointed to the importance of studying psychological characteristics of executives to establish the effect on organizational performance. Previous research has attempted to examine TMT psychological characteristics using an array of disconnected concepts that lack rigorous conceptual and methodological grounding (Peterson & Zhang, 2011; Hiller & Hambrick, 2005). This study adopted a different approach of measuring TMT psychological characteristics using validated constructs borrowed from social psychology. Beckman and Burton (2011) have observed that TMT research has been plagued by contradictory findings, inconsistent methods and measures and poor theoretical underpinnings.

The significance of the finding that TMT psychological characteristics have a positive effect on organizational performance challenges future researchers to use conceptually grounded constructs and to continue to investigate TMT behavior on various organizational-level outcomes. When research on TMT behavior is discussed, there is always the mention of the 'black box' and how so much of what takes place is unknown (Ling et al., 2008). This study has offered insight into the 'black box' as regards measurement of TMT behavior using psychological characteristics that underlie behavior.

Finally, the upper echelons research in the last three decades has been equivocal in the light of the question "do top executives really matter as much to company outcomes as the theory seems to presume?" (Marimuthu & Kolandaisamy, 2009; Nielsen, 2010). This study's finding that TMT behavior explains almost 47 percent of organizational performance, therefore supports the upper echelons perspective that top executives really matter to organizational outcomes. In so doing, the study contradicts the population ecologists' views (Certo et al., 2006) who postulate that external environment shapes firm performance and that the influence of top executives on firm performance is tenuous.

In summary, this study's findings indicated that TMT psychological characteristics had statistical significant effect on non-financial performance, efficient and effective outputs, innovativeness and green performance. Conversely, TMT psychological characteristics had statistical non-significant effect on EPS, customer relation outcomes and social equity.

The construct of TMT psychological characteristics, in this study, was made up of CSE and psychological capital. The CSE is made of self-esteem, general self-efficacy, locus of control and emotional stability. Psychological capital combines task specific self-efficacy, hope, optimism and resilience. In order to gain an in-depth understanding of the effect of TMT behavior on organizational performance, the TMT psychological characteristics construct was disaggregated into CSE and psychological capital and statistical analysis done on the sub-constructs. The CSE and psychological capital were regressed on composite index of non-financial performance and EPS. The analysis of the significance of TMT collective CSE on non-financial performance is shown in Table 5.9

Results show that TMT collective CSE explained 17.9 percent ($R^2 = 0.179$) of non-financial performance with the remaining 82.1 percent being explained by other variables implemented by organizations. The F value for the model was 8.920 and p-value was 0.005. Since the calculated p-value was less than 0.05, the null hypothesis was rejected meaning that TMT collective CSE had a significant relationship with non-financial performance. The results for individual significance test showed positive and statistically significant results for TMT collective CSE and organizational non-financial performance. Equation 5.4 explains the model of TMT collective CSE and organizational non-financial performance.

$$\text{Non-financial performance} = 5.517 + 0.385\ \text{CSE} \qquad \text{- Equation 5.4}$$

The model shows that a unit change of TMT collective CSE will result to a 0.385 change in non-financial performance. Additionally, when TMT collective CSE is absent, the organization will still realize a constant performance of 5.517.

Table 5.9: Effect of Top Management Team Collective Core Self Evaluation on Composite Non-Financial Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.423[a]	.179	.159	1.18733

a. Predictors: (Constant), CSE

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	12.575	1	12.575	8.920	.005[b]
	Residual	57.800	41	1.410		
	Total	70.376	42			

a. Dependent Variable: non-financial performance

b. Predictors: (Constant), CSE

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.517	1.302		4.239	.000
	CSE	.385	.129	.423	2.987	.005

The results of analysis done to establish the effect of TMT collective CSE on EPS are as shown in Table 5.10. The study indicated that TMT collective CSE explained 4.6 percent (R^2 =0.046) of EPS with the remaining 95.4 percent explained by other variables implemented by organizations. The F value for the model was 1.991 and the p-value was 0.166. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that TMT collective CSE had no significant relationship with EPS.

Table 5.10: Effect of Top Management Team Collective Core Self Evaluation on Earnings per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.215[a]	.046	.023	7.58249

a. Predictors: (Constant), CSE

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	114.469	1	114.469	1.991	.166[b]
	Residual	2357.263	41	57.494		
	Total	2471.732	42			

a. Dependent Variable: EPS

b. Predictors: (Constant), CSE

The finding that CSE had a significant relationship with composite non-financial performance is consistent with an earlier finding in this study where TMT psychological characteristics were found to have significant effect on organizational non-financial performance. However, this finding is contradicted by Peterson and Zhang (2011) who found that collective CSE was not significantly related to business unit performance in the only known study that has ever investigated CSE effects at TMT level. Hiller and Hambrick (2005) have explained that teams with high CSE may think highly of themselves that they fail to conduct adequate data analysis before making strategic choices. Judge and Bono (2001) have indicated that CSE is positively related to job performance. Additionally, Judge et al. (1998) argue that individuals with high CSE are motivated to perform their jobs.

The study set out also to establish the effect of TMT psychological capital on both financial and non-financial measures of organizational performance dimensions. The analysis of the significance of TMT psychological capital on non-financial

performance is shown in Table 5.11. Results show that TMT psychological capital explained 36.2 percent ($R^2 = 0.362$) of non-financial performance. The F value for the model was 23.270 and p-value was 0.000. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological capital had a significant relationship with non-financial performance. Equation 5.5 explains the model of TMT psychological capital and organizational non-financial performance.

Non-financial performance = 0.815 Psychological capital - Equation 5.5

A unit change in psychological capital will result in a 0.815 change in performance.

Table 5.11: Effect of Top Management Team Psychological Capital on Composite Non-Financial Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	.362	.347	1.04642

a. Predictors: (Constant), psychological capital

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	25.481	1	25.481	23.270	.000[b]
	Residual	44.895	41	1.095		
	Total	70.376	42			

a. Dependent Variable: non-financial performance

c. Predictors: (Constant), psychological capital

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.063	1.523		1.355	.183
	Psychological Capital	.815	.169	.602	4.824	.000

The results of analysis done to establish the effect of TMT psychological capital on EPS are as shown in Table 5.12. The study found that TMT psychological capital

explained less than 1 percent (R^2 =0.007) of EPS with the remaining 99.3 percent explained by other variables implemented by organizations. The F value for the model was 0.271 and the p-value was 0.605. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that TMT psychological capital had no significant relationship with EPS. The regression model was also not robust enough to predict results of the hypothesized relationship.

Table 5.12: Effect of Top Management Team Psychological Capital on Earnings per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.081[a]	.007	.018	7.73884

a. Predictors: (Constant), psychological capital

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	16.258	1	16.258	.271	.605[b]
	Residual	2455.474	41	59.890		
	Total	2471.732	42			

a. Dependent Variable: EPS

b. Predictors: (Constant), psychological capital

The TMT psychological capital is a team's shared positive appraisal of team members' circumstances and the probability of success under those circumstances based on their combined motivated effort and perseverance (Walumbwa et al., 2009). The finding that psychological capital had a significant effect on non-financial performance is supported by other empirical research that has been done in the past. Colbert et al. (2008) have postulated that psychological capital should play an important role in performance especially when members have to rely on each other to accomplish goals, as is typically the case in TMTs.

Walumbwa et al. (2009) found significant group-level variation in psychological capital, which was positively related to group performance. Peterson and Zhang (2011) found that psychological capital of managers was significantly related to business unit performance. Crook et al. (2012) postulates that psychological capital is a strategic resource that may contribute to sustainable competitive advantage of organizations. This study reinforces the importance of TMT psychological capital by demonstrating that this resource explains a third of organizational performance.

While some researchers claim that the differences in how top management teams are measured may account for inconsistent findings in the current literature, perhaps a more striking observation is that studies using a variety of measures have reported significant associations between TMT characteristics and important firm outcomes (Certo et al., 2006). TMT have the responsibility of managing complexities associated with various stakeholders in an organization. TMT psychological characteristics are therefore seen as a key strategic resource that provide the team with an assorted stock of knowledge and capabilities that the team can draw upon when making complex decisions (Rau, 2008).

5.3 Top Management Team Psychological Characteristics and Team Processes

The study's second objective was to examine the relationship of TMT psychological characteristics and team processes. Hypothesis (H_2) was used to assess this objective.

H_2: TMT psychological characteristics have significant relationship with team processes

The study set out to establish the correlation of TMT psychological characteristics and team processes. The TMT psychological characteristics were measured using self-esteem, general self-efficacy, locus of control, emotional stability, task specific self-efficacy, hope, optimism and resilience. Team processes were measured using socio political, social integration and behavior integration constructs. The results of analysis done to establish the correlation of TMT psychological characteristics and team processes are as shown in Table 5.13.

Table 5.13: Correlation Matrix Between Top Management Team Psychological Characteristics and Team Processes

Variable		Socio-Political Processes	Behavior Integration	Social Integration
Self-esteem	Pearson Correlation	.387*	.601**	.672**
	Sig. (2-tailed)	.010	.000	.000
General-efficacy	Pearson Correlation	.164	.407**	.124
	Sig. (2-tailed)	.293	.007	.427
Locus of control	Pearson Correlation	.252	.529**	.330*
	Sig. (2-tailed)	.102	.000	.031
Emotional stability	Pearson Correlation	.414**	.347*	.279
	Sig. (2-tailed)	.006	.023	.070
Specific self efficacy	Pearson Correlation	-.153	.041	-.128
	Sig. (2-tailed)	.326	.793	.412
Hope	Pearson Correlation	.232	.181	.236
	Sig. (2-tailed)	.134	.246	.127
Optimism	Pearson Correlation	.396**	.589**	.481**
	Sig. (2-tailed)	.008	.000	.001
Resilience	Pearson Correlation	.169	.252	-.036
	Sig. (2-tailed)	.280	.102	.820

** Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

The study found that self-esteem was positively related to socio-political processes with a Pearson correlation coefficient of R = 0.387 and the p-value was 0.01. Since the calculated p-value was less than 0.05, the relationship was significant at 95 percent confidence level. A coefficient of determination, R^2 was obtained by squaring the coefficient of correlation to obtain the variability of self-esteem and socio-political processes. Therefore, self-esteem accounted for 14.9 percent ($R^2 = 0.149$) variation of socio-political processes with the remaining 85.1 percent explained for by other variables. The study also indicated that self-esteem was positively related to behavior integration and social integration with correlation coefficients of 0.601 and 0.672, respectively. The p-values in both cases were 0.00 and since they were less than 0.05, the two relationships were significant at 95 percent confidence level. Self-esteem accounted for 36.1 percent ($R^2 = 0.361$) and 45.1 percent ($R^2 = 0.451$) variation in behavior integration and social integration, respectively.

The results in Table 5.13 also show that general efficacy was positively related to behavior integration with a correlation coefficient of R = 0.407 and the p-value was 0.007. Since the calculated p-value was less than 0.05, the relationship was significant at 95 percent confidence level. General efficacy accounted for 16.5 percent ($R^2 = 0.165$) variation of behavior integration with the remaining 83.5 percent explained for by other variables. The results indicated that general efficacy did not have significant relationship with socio-political processes and social integration.

Locus of control was positively related to social integration with a correlation coefficient of R = 0.330 and the p-value was 0.031. Since the calculated p-value was less than 0.05, the relationship was significant at 95 percent confidence level. Locus

of control accounted for 10.8 percent (R^2 = 0.108) variation of social integration with the remaining 89.2 percent explained for by other variables. The results indicated that locus of control did not have significant relationship with socio-political processes.

Emotional stability was positively related to behavior integration with a correlation coefficient of R = 0.347 and the p-value was 0.023. Since the calculated p-value was less than 0.05, the relationship was significant at 95 percent confidence level. Emotional stability accounted for 12.0 percent (R^2 = 0.120) variation of behavior integration with the remaining 88 percent explained for by other variables. The results indicated that emotional stability did not have significant relationship with socio-political processes and social integration.

The results in Table 5.13 also show that optimism was positively related to socio-political processes, behavior integration and social integration with correlation coefficients of 0.396, 0.589 and 0.481, respectively. The calculated p-values were all less than 0.01 implying that the relationships were significant at 95 percent confidence level. Optimism accounted for 15.6, 34 and 23.1 percent variation of socio-political processes, behavior integration and social integration, respectively.

The TMT psychological characteristics of specific self-efficacy, hope and resilience did not have significant relationships with any of the team processes variables. Specific-self efficacy had weak negative relationship with socio-political processes and social integration. In addition, resilience had also a weak negative relationship with social integration.

The study's findings that psychological characteristics of self-esteem, general efficacy, locus of control, emotional stability and optimism had positive and significant relationships with team processes provide more insight into TMT research. First, it contradicts Hambrick et al. (2014) who has emphasized the use of demographics to represent team processes as measured mainly using TMT composition and structure. Within this stream, the prevailing idea has been that TMT composition, especially TMT heterogeneity (or diversity of member attributes), influences proximal team processes, such as conflict (Carpenter, 2002). Secondly, the finding supports the observation by Parayitam et al. (2010) that team processes variables will lay within the behavior black box unlike previous research that has taken for granted that team demography is a critical determinant of organizational outcomes because of its effects on more fine-grained team process variables (Smith et al., 1999).

Thirdly, the findings support postulations made by Peterson and Zhang (2011) and Walumbwa (2009). The authors observe that teams with a high combination of self-esteem (the team generally feels good about who they are and believe they deserve success), generalized efficacy (the team is collectively confident of their abilities to do anything put in front of them), emotional stability (the team stays cool under pressure), locus of control (team has a shared belief that they control their own outcomes and make their own success) and optimism (team will tend to focus on their likelihood of success rather than potential for failure) will find their team interactions beneficial in decision making. Such a team will be more socially integrated and behaviorally integrated.

Fourthly, Barrick et al. (2007) has also noted that one troubling aspect of TMT research is its relative independence of the broader work teams' literature. This study has successfully integrated established findings from small groups' research into TMT research. In so doing, the study has offered insights into the relationships between TMT psychological characteristics and team processes and challenged past claims (Nielsen, 2010; Barrick et al., 2007) that the direct assessment of TMT processes is unnecessary.

The finding of no significant relationship between TMT psychological characteristics of specific self-efficacy, hope and resilience and team process indicates that the three characteristics are more inherently effective at individual level. Such individual qualities promote heterogeneity in a team. The study's findings therefore contradict Carpenter et al. (2004) who observed that TMT heterogeneity would affect team processes to the extent that members deal with or affect each other. Hambrick et al. (2014) postulates that heterogeneity could only be expected to affect social processes to the extent that members have periodic and significant dealings with each other, a finding that is not supported by this study.

In order to gain an in-depth understanding of the effect of TMT psychological characteristics on team processes, the TMT psychological characteristics construct was disaggregated into CSE and psychological capital and a correlation analysis done on team processes. The results of analysis done to establish the correlation of TMT collective CSE and psychological capital on team processes are as shown in Table 5.14.

Table 5.14: Correlation Matrix Between Top Management Team Core Self Evaluation, Psychological Capital and Team Processes

Variable		Socio-Political Processes	Behavior Integration	Social Integration
Core self evaluation	Pearson Correlation	.437**	.658**	.528**
	Sig. (2-tailed)	.003	.000	.000
Psychological capital	Pearson Correlation	.287	.443**	.233
	Sig. (2-tailed)	.062	.003	.132

** Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

The results in Table 5.14 show that CSE was positively related to socio-political processes, behavior integration and social integration with correlation coefficients of 0.437, 0.658 and 0.528, respectively. The calculated p-values were all less than 0.05 implying that the relationships were significant at 95 percent confidence level. The CSE accounted for 19, 43.2 and 27.8 percent variation of socio-political processes, behavior integration and social integration, respectively.

Psychological capital was found positively related to behavior integration with a correlation coefficient of R = 0.443 and the p-value was 0.003. Since the calculated p-value was less than 0.05, the relationship was significant at 95 percent confidence level. Psychological capital accounted for 19.6 percent (R^2 = 0.196) variation of behavior integration with the remaining 80.4 percent explained for by other variables. The results indicated that psychological capital did not have significant relationship with socio-political processes and social integration.

The study's findings that TMT collective CSE had positive and significant relationships with team processes gives some insight in to the TMT research. This

finding answers the concerns made by Peterson & Zhang (2011) to have an examination done on the effect of underlying team processes on the relationship of TMT behavior and performance. The research finding present empirical evidence that a team which is collectively confident will create positive interactions that are beneficial to the team's performance.

The finding that psychological capital did not have significant relationship with socio-political processes and social integration contradicts the observations of Martin (2014). The author found a significant relationship between socially inclined team processes and social capital. Psychological capital captures an individual's psychological capacities that can be measured, developed and harnessed for performance (Luthans, 2008). Human capital refers to an individual's stock of knowledge, skills and abilities that can be increased by experience and/or investment in education and training (Martin, 2014). The concept of social capital emerged from sociology and relates to the aggregate of the actual or potential resources that are linked to the possession of a durable network of relationships of mutual acquaintance and recognition (Foss, 2011).

Additionally, the finding that psychological capital did not have significant relationship with socio-political processes and social integration provides a roadmap to scholars to investigate the underlying mechanisms by which psychological capital affects various TMT-level outcomes. As of April 2014, there were only 67 known studies on psychological capital (Martin, 2014). This study has therefore offered insights that will guide further investigations on the TMT behaviour interactions with team processes.

This study has shown that a TMT's self-esteem, generalized self-efficacy, locus of control and emotional stability significantly affects interactions within the team by enhancing social integration and behaviour integration. This evidence is demonstrated by the positive and significant relationships observed between TMT, CSE and social integration, and TMT, CSE and behaviour integration. The TMTs that work well together react faster, are more flexible, use superior problem solving techniques and are more productive and efficient than less integrative teams. In part, this can be explained by Hambrick's (1994) observation that when TMTs lack behavioral integration, even though the individual members may possess all the information, insights, and energies needed to do their own jobs, they are unable, or disciplined to engage in internal information exchange, collaboration, and mutual adjustment.

5.4 Joint Effect of Top Management Team Psychological Characteristics and Team Processes on Organizational Performance

Objective number three of this study was to determine the joint effect of TMT psychological characteristics and team processes on organizational performance. Hypothesis (H_3) assessed this objective.

H_3: Top management team psychological characteristics and team processes have jointly a significant effect on organizational performance

This study sought to establish the significance of the joint effect of TMT psychological characteristics and team processes on organizational performance. Table 5.15 shows results of the combined effect of TMT psychological characteristics and team processes on EPS.

The combined effect of TMT psychological characteristics and team processes explained 29.6 percent (R^2 = 0.296) of EPS with the remainder 80.4 percent of EPS being accounted for by other factors. The regression model's F ratio was 1.186 and the p-value was 0.336. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that TMT psychological characteristics and team processes had jointly no significant relationship with EPS.

Table 5.15: Effect of Top Management Team Psychological Characteristics and Team Processes on Earnings per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.544[a]	.296	.046	7.49153

a. Predictors: (Constant), task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	731.916	11	66.538	1.186	.336[b]
	Residual	1739.816	31	56.123		
	Total	2471.732	42			

a. Dependent Variable: EPS

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

The results of analysis done to establish the effect of TMT psychological characteristics and team processes on customer relation outcomes are as shown in Table 5.16.

Table 5.16: Effect of Top Management Team Psychological Characteristics and Team Processes on Customer Relation Outcomes

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.499[a]	.249	.018	.48591

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	2.425	11	.220	.934	.522[b]
	Residual	7.320	31	.236		
	Total	9.744	42			

a. Dependent Variable: customer relation outcomes

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

The combined effect of TMT psychological characteristics and team processes explained 24.9 percent ($R^2 = 0.249$) of customer relation outcomes with the remainder of 75.1 percent of customer relation outcomes being accounted for by other factors. The regression model's F ratio was 0.934 and the p-value was 0.522. Since the calculated with p-value was greater than 0.05, the null hypothesis was not rejected implying that TMT psychological characteristics and team processes had a jointly statistically no significant relationship with customer relation outcomes. The regression model was therefore not significant to predict the hypothesized relationship between TMT psychological characteristics and team processes on one hand, and customer relation outcomes on the other.

The results of analysis done to establish the combined effect of TMT psychological characteristics and team processes on efficient and effective outputs are as shown in Table 5.17. The combined effect of TMT psychological characteristics and team processes explained 61.5 percent ($R^2 = 0.615$) of efficient and effective outputs with the remainder of 38.5 percent of efficient and effective outputs being accounted for by other factors.

The regression model's F ratio was 4.494 and the p-value was 0.000. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological characteristics and team processes had jointly a significant relationship with efficient and effective outputs. In addition, the results show positive and statistically significant results for task specific self-efficacy and socio-political processes.

Equation 5.6 therefore explains the model of TMT psychological characteristics and team processes on efficient and effective outputs.

Efficient and effective outputs = 0.716 Task specific self efficacy + 0.187 Socio political processes - Equation 5.6

The model shows that a unit change in task specific self-efficacy and socio-political processes will result in efficient and effective outputs changing by 0.716 and 0.187, respectively. The model indicates that teams that believe in their abilities to accomplish specific tasks will blend their socio-political processes and in so doing, affect the level of efficiency and effectiveness in an organization.

Table 5.17: Effect of Top Management Team Psychological Characteristics and Team Processes on Efficient and Effective Outputs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.784[a]	.615	.478	.36452

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	6.568	11	.597	4.494	.000[b]
	Residual	4.119	31	.133		
	Total	10.687	42			

a. Dependent Variable: efficient and effective output

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	-1.340	.956		-1.402	.171
Self esteem	.044	.174	.054	.252	.802
General self efficacy	-.140	.199	-.102	-.704	.487
Locus of control	-.198	.178	-.177	-1.112	.275
Emotional stability	-.258	.163	-.256	-1.579	.124
Task specific self efficacy	.716	.254	.386	2.814	.008
Hope	.341	.233	.239	1.462	.154
Optimism	.364	.241	.286	1.508	.142
Resilience	.033	.167	.030	.197	.845
Socio-political	.187	.053	.530	3.500	.001
Behavior integration	.098	.133	.116	.734	.468
Social integration	.056	.187	.053	.297	.768

a. Dependent Variable: efficient and effective output

The results of analysis done to establish the combined effect of TMT psychological characteristics and team processes on innovativeness are as shown in Table 5.18. The combined effect of TMT psychological characteristics and team processes explained 48.5 percent (R^2 = 0.485) of innovativeness with the remainder of 51.5 percent of innovativeness being accounted for by other factors.

The regression model's F ratio was 2.658 and the p-value was 0.016. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological characteristics and team processes had a jointly a significant relationship with innovativeness. The regression model was therefore robust enough to explain results of the hypothesized relationship. In addition, the results show individual positive and statistically significant results for resilience.

Equation 5.7 therefore explains the model of TMT psychological characteristics and team processes on innovativeness.

Innovativeness = 0.361 Resilience - Equation 5.7

The model shows that a change in resilience by a factor of one will result in innovativeness changing by a factor of 0.361. The model indicates that teams that have ability to rebound from failure and adversity will foster a climate of innovation in an organization.

Table 5.18: Effect of Top Management Team Psychological Characteristics and Team Processes on Innovativeness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697[a]	.485	.303	.33814

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	3.343	11	.304	2.658	.016[b]
	Residual	3.545	31	.114		
	Total	6.887	42			

a. Dependent Variable: innovativeness

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	.160	.887		.180	.858
Self esteem	.160	.162	.245	.989	.330
General self efficacy	-.346	.185	-.316	-1.875	.070
Locus of control	.026	.165	.029	.158	.875
Emotional stability	-.023	.152	-.029	-.154	.879
Task specific self efficacy	.265	.236	.178	1.125	.269
Hope	.121	.217	.106	.560	.579
Optimism	.124	.224	.121	.553	.584
Resilience	.361	.155	.404	2.329	.027
Socio-political	.052	.050	.183	1.049	.302
Behavior integration	-.078	.124	-.114	-.627	.535
Social integration	.142	.173	.168	.822	.417

a. Dependent Variable: innovativeness

The results of analysis done to establish the combined effect of TMT psychological characteristics and team processes on social equity are as shown in Table 5.19. The combined effect of TMT psychological characteristics and team processes explained 37.5 percent ($R^2 = 0.375$) of social equity with the remainder of 62.5 percent of social equity being accounted for by other factors. The regression model's F ratio was 1.692 and the p-value was 0.122. Since the calculated p-value greater than 0.05 the null hypothesis was not rejected implying that, TMT psychological characteristics and team processes had jointly no significant relationship with social equity. The regression model was thus not robust enough to predict the results of the hypothesized relationship.

Table 5.19: Effect of Top Management Team Psychological Characteristics and Team Processes on Social Equity

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.375	.153	.38659

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	2.781	11	.253	1.692	.122[b]
	Residual	4.633	31	.149		
	Total	7.414	42			

a. Dependent Variable: social equity

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

The results of analysis done to establish the combined effect of TMT psychological characteristics and team processes on green performance are as shown in Table 5.20. The combined effect of TMT psychological characteristics and team processes explained 49.1 percent ($R^2 = 0.491$) of green performance with the remainder of 50.9 percent of green performance being accounted for by other factors.

The regression model's F ratio was 2.716 and the p-value was 0.014. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological characteristics and team processes had jointly a significant relationship with green performance. The regression model was thus robust enough to predict the results of the hypothesized relationship.

Table 5.20: Effect of Top Management Team Psychological Characteristics and Team Processes on Green Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.491	.310	.39766

a. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	4.725	11	.430	2.716	.014[b]
	Residual	4.902	31	.158		
	Total	9.627	42			

a. Dependent Variable: green performance

b. Predictors: (Constant), optimism, task specific self-efficacy, resilience, hope, general self-efficacy, emotional stability, locus of control, self-esteem, socio-political, behavior integration, social integration

Table 5.20 continued…

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	1.706	1.043	1.636	.112
Self esteem	.044	.190	.229	.820
General self efficacy	-.336	.217	-1.548	.132
Locus of control	.144	.194	.740	.465
Emotional stability	-.259	.178	-1.453	.156
Task specific self efficacy	-.089	.277	-.321	.750
Hope	.026	.255	.102	.919
Optimism	.529	.263	2.010	.053
Resilience	.351	.182	1.926	.063
Socio-political	-.032	.058	-.550	.587
Behavior integration	.291	.146	2.000	.054
Social integration	-.198	.204	-.969	.340

The results of analysis done to establish the effect of TMT psychological characteristics and team processes on composite non-financial performance are as shown in Table 5.21. The study indicated that TMT psychological characteristics and team processes explained 58.1 percent (R^2 = 0.581) of composite non-financial performance. The F value for the model was 3.916 and the p-value was 0.001. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that TMT psychological characteristics and team processes had jointly a significant relationship with non-financial performance. In addition, the results showed positive and statistically significant results for task specific self-efficacy, resilience and socio-political processes. Equation 5.8 therefore explains the model of TMT psychological characteristics and team processes on non-financial performance.

Non-financial performance = -0.89 Emotional stability + 1.532 Task specific efficacy + 1.027 Resilience + 0.355 Socio-political - Equation 5.8

The model shows that a unit change in emotional stability, task specific efficacy, resilience and socio-political processes will cause a change in non-financial performance by –0.89, 1.532, 1.027, and 0.355, respectively.

Table 5.21: Effect of Top Management Team Psychological Characteristics and Team Processes on Non-Financial Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.763[a]	.581	.433	.97472

a. Predictors: (Constant), TMT psychological characteristics

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	40.923	11	3.720	3.916	.001[b]
	Residual	29.452	31	.950		
	Total	70.376	42			

a. Dependent Variable: non-financial performance

b. Predictors: (Constant), TMT psychological characteristics

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	-.105	2.557		-.041	.967
Self esteem	.146	.466	.070	.313	.756
General self efficacy	-.668	.532	-.191	-1.255	.219
Locus of control	-.014	.476	-.005	-.030	.977
Emotional stability	-.890	.437	-.344	-2.036	.050
Task specific self efficacy	1.532	.680	.322	2.252	.032
Hope	.304	.624	.083	.487	.630
Optimism	.974	.645	.298	1.510	.141
Resilience	1.027	.446	.360	2.302	.028
Socio-political	.355	.143	.392	2.486	.018
Behavior integration	.236	.357	.109	.661	.514
Social integration	.301	.500	.111	.602	.551

a. Dependent Variable: non-financial performance

Table 5.22 shows a summary of the joint effect of TMT psychological characteristics and team processes on organizational performance dimensions. The multiple regression results showed that TMT psychological characteristics and team processes jointly explained 78.4 percent (R^2 = 0.784) of efficient and effective outputs but explained 49.9 percent (R^2 = 0.499) of customer relation outcomes.

The F-values for the models predicting EPS, customer relation outcomes and social equity were 1.186, 0.934 and 1.692 respectively at p-value > 0.05, and the null hypotheses were not rejected. This implied that TMT psychological characteristics and team processes had no significant relationship with EPS, customer relation outcomes and social equity. On the other hand, the null hypotheses were rejected for the models predicting efficient and effective outputs, innovativeness, green performance and non-financial performance. This implied that TMT psychological characteristics had significant relationship with efficient and effective outputs, innovativeness, green performance and non-financial performance.

The assessment of the overall robustness and significance of the regression models showed that the models of EPS, customer relation outcomes and social equity were not significant and hence not robust enough to predict the hypothesized relationships. On the other hand, the models predicting efficient and effective outputs, innovativeness, green performance and non-financial performance were significant with individual significance on two, one, two and four variables respectively.

Table 5.22: Summary of Effect of Top Management Team Psychological Characteristics and Team Processes on Organizational Performance

Model	Number	R^2	F-value	Sig	Comments
EPS = f(TMT psychological characteristics, team processes)	43	0.296	1.186	0.336	No overall significance
Customer relation outcomes = f(TMT psychological characteristics, team processes)	43	0.249	0.934	0.522	No overall significance
Effective outputs = f(TMT psychological characteristics, team processes)	43	0.615	4.494	0.000	Overall significance and individual significance on two variables
Innovativeness = f(TMT psychological characteristics, team processes)	43	0.485	2.658	0.016	Overall significance and individual significance on one variable
Social equity = f(TMT psychological characteristics, team processes)	43	0.375	1.692	0.122	No overall significance
Green performance = f(TMT psychological characteristics, team processes)	43	0.491	2.716	0.014	Overall significance and individual significance on two variables
Non-financial performance = f(TMT psychological characteristics, team processes)	43	0.581	3.916	0.001	Overall significance and individual significance on four variables
TMT psychological characteristics: self-esteem, general self-efficacy, locus of control, emotional stability, task specific self-efficacy, hope, resilience, optimism Team processes: socio-political, behavior integration and social integration					

The study's findings brought out insights that TMT behavior and the interactions within the team are jointly key determinants of organization performance. The joint effect of TMT psychological characteristics and team processes was much more compared to the independent effect on non-financial performance of either TMT psychological characteristics or team processes. The above finding confirms the study's third objective, which sought to establish whether the joint effect of TMT psychological characteristics and team processes on organizational performance was greater than the independent effects.

There is no known prior research that has examined the joint effects of TMT psychological characteristics and team processes on organizational performance. Smith et al. (1994) have, however observed that there exist TMT demographic studies that have been premised on the logic of input-process–output modeling. These studies posit that demographic characteristics and team processes will each contribute separately to performance, team demography characteristics will influence team processes and the team processes will in turn affect organizational outcome. This study has revealed the greater explanatory power of joint effect of TMT behavior and team process in predicting organizational performance.

5.5 Team Processes and Organizational Performance

The fourth objective of this study was to determine the effect of team processes on organizational performance. Hypothesis (H_4) was used to assess the objective.

H_4: Team processes have significant effect on organizational performance

The study set out to establish the effect of team processes on organizational performance dimensions. Team processes were measured using socio-political, behavior integration and social integration constructs. Organizational performance dimensions were made up of EPS, customer relation outcomes, efficient and effective outputs, innovativeness, social equity and green performance.

The results of analysis done to establish the effect of team processes on EPS are as shown in Table 5.23. The study indicated that team processes explained 13 percent (R^2 = 0.130) of EPS performance with the remaining 87 percent explained by other variables implemented by organizations. The F value for the model was 1.934 and the p-value was 0.140. Since the calculated p- value was greater than 0.05, the null hypothesis was not rejected implying that team processes had no significant relationship with EPS. The regression model was thus not robust enough to predict the results of the hypothesized relationship.

Table 5.23: Effect of Team Processes on Earnings per Share

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.360[a]	.130	.063	7.42758

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	320.145	3	106.715	1.934	.140[b]
	Residual	2151.587	39	55.169		
	Total	2471.732	42			

a. Dependent Variable: EPS

b. Predictors: (Constant), socio-political, behavior integration, social integration

The results of analysis done to establish the effect of team processes on customer relation outcomes are as shown in Table 5.24. The study indicated that team processes explained 3.4 percent (R^2 = 0.034) of customer relation outcomes with the remaining 96.6 percent explained by other variables implemented by organizations. The F value for the model was 0.464 and p-value was 0.709. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that team processes had no significant relationship with customer relation outcomes. The regression model was thus not robust enough to predict the results of the hypothesized relationship.

Table 5.24: Effect of Team Processes on Customer Relation Outcomes

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.186[a]	.034	.004	.49116

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	.336	3	.112	.464	.709[b]
	Residual	9.408	39	.241		
	Total	9.744	42			

a. Dependent Variable: customer relations

b. Predictors: (Constant), socio-political, behavior integration, social integration

Table 5.25 shows the results of analysis done to establish the effect of team processes on efficient and effective outputs. The study found that team processes explained 34.1 percent (R^2 = 0.341) of efficient and effective outputs with the remaining 65.9 percent explained by other variables implemented by organizations.

The F value for the model was 6.735 and p-value was 0.001. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that team processes had significant effect on efficient and effective outputs. In addition, the results show statistically significant individual effects for socio-political processes. Equation 5.9 explains the model of team processes and efficient and effective outputs

Efficient and effective outputs = 0.166 Socio-political - Equation 5.9

The model shows that a unit change in socio-political processes results into a change of efficient and effective outputs of 0.166. The model indicates teams that are socially aligned together will promote and foster organizational efficiency and effectiveness.

Table 5.25: Effect of Team Processes on Efficient and Effective Outputs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584[a]	.341	.291	.42487

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	3.647	3	1.216	6.735	.001[b]
	Residual	7.040	39	.181		
	Total	10.687	42			

a. Dependent Variable: efficient and effective outputs

b. Predictors: (Constant), socio-political, behavior integration, social integration

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	.573	.529		1.083	.285
Sociopolitical	.166	.051	.470	3.267	.002
Behavioral integration	.150	.130	.177	1.154	.256
Social integration	.076	.147	.072	.517	.608

The results of analysis done to establish the effect of team processes on organizational innovativeness are shown in Table 5.26. The study indicated that team processes explained 17.6 percent ($R^2 = 0.176$) of innovativeness with the remaining 82.4 percent explained by other variables implemented by organizations.

The F value for the model was 2.781 and the p-value equal to 0.054. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that team processes had no significant effects on organizational innovativeness. The model was therefore not robust enough to predict results of the hypothesized relationship.

Table 5.26: Effect of Team Processes on Innovativeness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.420[a]	.176	.113	.38141

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	1.214	3	.405	2.781	.054[b]
	Residual	5.673	39	.145		
	Total	6.887	42			

a. Dependent Variable: innovativeness

b. Predictors: (Constant), socio-political, behavior integration, social integration

The results of analysis done to establish the effect of team processes on organizational social equity are shown in Table 5.27. The study found that team processes explained 16.7 percent (R^2 = 0.167) of social equity with the remaining 83.3 percent explained by other variables implemented by organizations. The F value for the model was 2.610 and the p-value was 0.065. Since the calculated p-value was greater than 0.05, the null hypothesis was not rejected implying that team processes had no significant effects on social equity.

Table 5.27: Effect of Team Processes on Social Equity

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409[a]	.167	.103	.39790

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	1.240	3	.413	2.610	.065[b]
	Residual	6.175	39	.158		
	Total	7.414	42			

a. Dependent Variable: social equity

b. Predictors: (Constant), socio-political, behavior integration, social integration

The results of analysis done to establish the effect of team processes on green performance are shown in Table 5.28. The study indicated that team processes explained 25.9 percent (R^2 = 0.259) of green performance with the remaining 74.1 percent explained by other variables implemented by organizations. The F value for the model was 4.550 and p-value was 0.008. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that team processes had a significant relationship with green performance.

In addition, the results show positive and statistically significant effect for behavioral integration. Equation 5.10 explains the model of team processes and green performance.

Green performance = 1.63 + 0.439 Behaviour integration - Equation 5.10

The model shows that a unit change of behaviour integration results into a 0.439 change in green performance. In addition, an organization will realize a constant green performance of 1.63 in the absence of any team processes

Table 5.28: Effect of Team Processes on Green Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	.259	.202	.42761

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	2.496	3	.832	4.550	.008[b]
	Residual	7.131	39	.183		
	Total	9.627	42			

a. Dependent Variable: green performance

b. Predictors: (Constant), socio-political, behavior integration, social integration

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	1.630	.532		3.062	.004
Socio-political	-.013	.051	-.037	-.244	.808
Behavioral integration	.439	.130	.547	3.363	.002
Social integration	-.081	.148	-.081	-.546	.588

A composite index of the organizational non-financial performance comprising of green performance, innovativeness, efficient and effective outputs, customer relation outcomes and social equity variables was computed in order to establish the effect of team processes on organizational non-financial performance. An analysis was done on hypothesis H_3 to test the effect of team processes on organizational non-financial performance. The results of the effects of the team processes on organizational non-financial performance are shown in Table 5.29.

Table 5.29: Effect of Team Processes on Non-Financial Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.538[a]	.289	.234	1.13264

a. Predictors: (Constant), socio-political, behavior integration, social integration

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	20.343	3	6.781	5.286	.004[b]
	Residual	50.032	39	1.283		
	Total	70.376	42			

a. Dependent Variable: non-financial performance

b. Predictors: (Constant), socio-political, behavior integration, social integration

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	4.795	1.410		3.399	.002
Socio-political	.291	.136	.321	2.144	.038
Behavioral integration	.615	.346	.283	1.779	.083
Social integration	.241	.392	.089	.616	.541

The study found that team processes explained 28.9 percent (R^2 = 0.289) of non-financial organizational performance. Impliedly, 71.1 percent of organizational

performance was explained by other factors put in place by companies in order to enhance their performance. The F value for the model was 5.286 and the p-value was 0.004. Since the calculated p-value was less than 0.05, the null hypothesis was rejected implying that team processes had a significant relationship with non-financial performance. In addition, the results show positive and statistically significant effect for socio-political processes. Equation 5.11 explains the model of team processes and green performance.

Non-financial performance = 4.795 + 0.291 socio-political - Equation 5.11

The model shows that a unit change of social political processes results into a change in organizational non-financial performance by a factor of 0.291 implying that socio-political processes are beneficial to organizational non-financial performance. In addition, an organization will realize a constant non-financial performance of 4.795 in the absence of any team processes.

Table 5.30 shows a summary of the effect of team processes on various organizational performance dimensions. The F-values for the models predicting EPS, customer relation outcomes and social equity were 1.934, 0.464 and 2.610 respectively, at p value greater than 0.05, and the null hypotheses were not rejected. This implied that team processes had statistically non-significant relationship with EPS, customer relation outcomes and social equity. On the other hand, the null hypotheses were rejected for the models predicting efficient and effective outputs, innovativeness, green performance and non-financial performance. This implied that team processes had statistically significant relationship with efficient and effective outputs, innovativeness, green performance and non-financial performance.

The assessment of the overall robustness and significance of the regression models showed that the models of EPS, customer relation outcomes and social equity were not significant and hence not robust enough to predict the hypothesized relationships. On the other hand, the models predicting efficient and effective outputs, innovativeness, green performance and non-financial performance were significant.

Table 5.30: Summary of Effects of Team Processes on Organizational Performance Dimensions

Model	Number	R^2	F-value	Sig	Comments
EPS = f(Team Processes)	43	0.130	1.934	0.140	No overall significance
Customer relation outcomes = f(Team Processes)	43	0.034	0.464	0.709	No overall significance
Efficient and effective outputs = f(Team Processes)	43	0.341	6.735	0.001	Overall significance and individual significance of one variable
Innovativeness = f(Team Processes)	43	0.176	2.781	0.054	Overall significance no individual significance
Social equity = f(Team Processes)	43	0.167	2.610	0.065	No overall significance
Green performance = f(Team Processes)	43	0.259	4.550	0.008	Overall significance and individual significance of one variable
Non-financial performance = f(Team Processes)	43	0.289	5.286	0.004	Overall significance and individual significance of one variable
Team processes: socio-political, behavior integration, social integration					

The study's finding that team processes had a statistically non-significant relationship with EPS is consistent with other TMT demography research findings. Irungu (2007) found out that TMT demographic characteristics had no significant effect on organization's EPS. Research has investigated the linkage between TMT characteristics and firm financial performance and findings across the studies have not been consistent (Beckman & Burton, 2011). The study's finding supports Certo et al. (2006) who in their meta-analytic work found that several TMT indicators and firm financial performance provide modest support for direct relationships. Finally, the study's findings brings to the fore the inadequacy of using financial measures to gauge organizational performance when juxtaposed with an earlier finding where team processes had significant relationship with organizational non –financial performance.

The successful measurement of team processes contradicts Pfeffer (1983) who asserts that team processes measurement is an infinite regress of reductionism from which there is no escape. The author further observes that team processes have negligible effect on performance. Parayitam et al. (2010) have observed that team processes variables lay within the behavior black box, and it is important to study the variables in this black box to understand strategic decision-making process.

This study has established that team processes are important as they influence organizational performance. Don et al., (1999) have postulated that team processes influence various team and/or organizational outcomes by providing greater efficiency and effectiveness. Anat and Anit (2001) found out that team processes were positively related to team innovation.

TMT behavioral integration has been found to be positively associated with both human resource performance and economic performance (Carmeli, 2008). A team that is behaviorally integrated has the capacity to synchronize the team's social and task processes, such as the quality of information exchange, collaborative behavior, and joint decision-making (Li & Hambrick 2005; Hambrick, 1994).

Leung et al. (2013) postulates that trust across joint venture's factional subgroups is influenced by the behavioural integration of top managers and that trust mediates the relationship between the behavioural integration of top managers overall venture performance. Consistent with other past empirical findings (Dreu & Weingart, 2003), the study's results revealed negative correlations between socio-political processes and financial performance.

In this study, team processes explained 34.1 percent of organizational efficiency and effectiveness hence underscoring the importance of team processes. This study has addressed the concerns by many scholars to investigate the role of team process in TMT diversity research (Muchemi, 2013; Nielsen, 2010; Barrick et al., 2007). In so doing, the findings have provided insight for scholars to examine further the effect of team processes in the TMT research.

5.6 Top Management Team Psychological Characteristics and Organizational Performance as Intervened by Team Processes

The fifth objective of this study was to determine the mediating effect of team processes on the relationship between TMT psychological characteristics and organizational performance. Hypothesis (H_5) was used to assess the objective.

H_5: The relationship between TMT psychological characteristics and organizational performance is significantly intervened by team processes.

The study set out to establish if the effect of TMT psychological characteristics on organizational performance is intervened by team processes. To test for the intervening effects, hierarchical regression analysis was used to establish the quantum change of statistical parameters and the significance of the models. Additionally, SEM was employed to enhance the findings of the multivariate statistics.

Table 5.31 presents the results of the Pearson product – moment coefficient of correlation of TMT psychological characteristics, team processes and organizational performance. Table 5.32 shows the regression results of the intervening model with non-financial performance as the dependent variable. Table 5.33 presents the results of the Pearson product – moment coefficient of correlation of TMT psychological characteristics, team processes and EPS. Table 5.34 shows the regression results of the intervening model, with EPS as the dependent variable.

Table 5.31: Top Management Team Psychological Characteristics, Team Processes and Organizational Performance Correlations

Item		Performance	Psychological characteristics	Team processes
Pearson Correlation	Performance	1.000		
	Psychological characteristics	.545	1.000	
	Team processes	.527	.621	1.000
Sig. (1-tailed)	Performance	.	.000	.000
	Psychological characteristics	.000	.	.000
	Team processes	.000	.000	

As shown in Table 5.31, TMT psychological characteristics were positively correlated to performance (Pearson correlation coefficient = 0.545) and team processes were positively correlated to organizational performance (Pearson correlation = 0.527). All the correlations were significant

Table 5.32 shows that team processes had an intervening effect on the relationship between TMT psychological characteristics and non-financial performance. Team processes incrementally explained performance by 5.8 percent ($R^2 \Delta = 0.058$, $F \Delta = 3.613$) beyond the effect of TMT psychological characteristics. The intervening effect change in F ratio had a p-value of 0.065. Since the calculated p-value for the change was greater than 0.05 the null hypothesis was not rejected implying that there is no significant change on the relationship between TMT psychological characteristics and performance due to team processes.

Table 5.32: Effect of Top Management Team Psychological Characteristics on Organizational Performance as Intervened by Team Processes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.545[a]	.297	.279	1.09882	.297	17.287	1	41	.000
2	.596[b]	.355	.323	1.06540	.058	3.613	1	40	.065

Predictors: (Constant), psychological characteristics
Predictors: (Constant), psychological characteristics, team processes
Dependent Variable: non-financial performance

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	20.872	1	20.872	17.287	.000[b]
	Residual	49.504	41	1.207		
	Total	70.376	42			
2	Regression	24.973	2	12.486	11.000	.000[c]
	Residual	45.403	40	1.135		
	Total	70.376	42			

a. Dependent Variable: performance
b. Predictors: (Constant), psychological characteristics
c. Predictors: (Constant), psychological characteristics, team processes

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	3.176	1.498		2.120	.040			
	Psychological characteristics	.326	.079	.545	4.158	.000	.545	.545	.545
2	(Constant)	2.495	1.496		1.667	.103			
	Psychological characteristics	.212	.097	.353	2.179	.035	.545	.326	.277
	Team processes	.209	.110	.308	1.901	.065	.527	.288	.241

a. Dependent Variable: non-financial performance

The F tests for both direct model and the intervening model were 17.287 and 11.0, respectively and the p-values were both 0.000. Since the calculated p-values were less than 0.05, this was an indication that the models were significant at predicting the results. The TMT psychological characteristics individual effects were positive and significant whilst team processes individual effect was statistically not significant.

Equation 5.12 explains the intervening model

Non-financial performance = 0.212 TMT psychological characteristics - Equation 5.12

The model shows that a change in psychological characteristics by a factor of one will cause a 0.212 change in non-financial performance. This shows that TMT behavior will directly influence organizational non-financial performance.

The finding in this research is significant in a number of ways. First, it brings to light that team processes will incrementally and directly contribute to organizational performance over and above TMTs psychological characteristics. The study findings therefore empirically support the conceptual propositions by various researchers (Muchemi, 2013; Peterson & Zhang, 2011; Sangster, 2011; Nielsen 2010) that team processes may add significant explanatory power and help shed light on the link between TMT psychological characteristics and performance. Secondly, the finding of this study contradicts Pfeffer (1983) who has criticized the process research as an embarkment of an infinite regress of reductionism from which there is no logical purpose. Thirdly, the findings support Smith et al. (1994) who found that team processes intervene the effect of TMT demography and organizational performance and Don et al. (1999) findings for a non-TMT sample.

Fourthly, this research conducted a direct assessment of team processes unlike other studies that have inferred team process relationship. This approach and the findings herein contradict other studies (Barrick et al., 2007) claims that direct assessment of executives' processes is unnecessary. Finally, the study findings support the group dynamics scholars (Martin, 2014; Parayitam et al., 2010) who have postulated that group processes matter to organizational outcomes.

As shown in Table 5.33, TMT psychological characteristics were negatively correlated to EPS (Pearson correlation coefficient = -0.178) and the relationship was not significant. Team processes was also negatively correlated to EPS (Pearson correlation = -0.263) but the association was significant at $p < 0.05$.

Table 5.33: Top Management Team Psychological Characteristics, Team Processes and Earnings per Share Correlations

Item		EPS	Psychological characteristics	Team processes
Pearson Correlation	EPS	1.000		
	Psychological characteristics	-.178	1.000	
	Team processes	-.263	.621	1.000
Sig. (1-tailed)	EPS	.	.127	.044
	Psychological characteristics	.127	.	.000
	Team processes	.044	.000	.

The results of the analysis of the effect of team processes on the relationship between TMT psychological characteristics and EPS are shown in Table 5.34. Team processes were found to have a negligible intervening effect on the relationship between TMT psychological characteristics and earnings per share. Team processes incrementally explained performance by 3.8 percent ($R^2 \Delta = 0.038$, $F \Delta = 1.640$) beyond the effect of TMT psychological characteristics. The change, however, was not significant since

the calculated p-value of 0.208 was greater than 0.05. The F tests for both direct and the intervening models were 1.335 and 1.498, respectively. The p-values for both direct and the intervening models were 0.255 and 0.236, respectively. Since the calculated p-values for both models were greater than 0.05, the null hypothesis was not rejected implying that the relationship between TMT psychological characteristics and EPS was not significantly intervened by team processes.

Table 5.34: Effect of Top Management Team Psychological Characteristics on Earnings per Share as Intervened by Team Processes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.178[a]	.032	.008	7.64097	.032	1.335	1	41	.255
2	.264[b]	.070	.023	7.58204	.038	1.640	1	40	.208

a. Predictors: (Constant), psychological characteristics
b. Predictors: (Constant), psychological characteristics, team processes
c. Dependent Variable: EPS

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	77.972	1	77.972	1.335	.255[b]
	Residual	2393.760	41	58.384		
	Total	2471.732	42			
2	Regression	172.236	2	86.118	1.498	.236[c]
	Residual	2299.495	40	57.487		
	Total	2471.732	42			

a. Dependent Variable: EPS
b. Predictors: (Constant), psychological characteristics
c. Predictors: (Constant), psychological characteristics, team processes

In 1983, Pfeffer asserted that team processes have negligible effect on performance. The findings of this study support Pfeffer (1983) as far as organizational financial performance is concerned but contradicts the author on two issues of organizational non-financial performance and importance of measuring team processes.

5.7 Top Management Team Psychological Characteristics and Team Processes as Intervened by Institutional Environment

The sixth objective of this study was to establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance. Hypothesis (H_6) was used to assess if the effect of TMT psychological characteristics on team processes was moderated by institutional environment.

H_6: The relationship between top management team psychological characteristics and team processes is significantly moderated by institutional environment

To test for the moderating effects, hierarchical regression analysis was used to establish the quantum change of statistical parameters and the significance of the models. Additionally, SEM was employed to enhance the findings of the multivariate statistics. The findings are presented in the following order. Table 5.35 presents the results of the Pearson product – moment coefficient of correlation of TMT psychological characteristics, team processes and institutional environment. Table 5.36 shows the regression results of the moderating model with institutional environment as the dependent variable.

As shown in Table 5.35, the relationship between team processes and institutional environment was highly positive (R = 0.73). All the three variables were positively but not perfectly correlated. All the relationships were significant at 95 percent confidence level.

Table 5.35: Top Management Team Psychological Characteristics, Team Processes and Institutional Environment Correlations

Item		Team Processes	Psychological Characteristics	Institutional Environment
Pearson Correlation	Team processes	1.000		
	Psychological characteristics	.621	1.000	
	Institutional environment	.730	.456	1.000
Sig. (1-tailed)	Team processes	.	.000	.000
	Psychological characteristics	.000	.	.001
	Institutional environment	.000	.001	.

Table 5.36 shows the regression results of TMT psychological characteristics on team processes as moderated by institutional environment. The results showed that institutional environment had a moderating effect on the relationship between TMT psychological characteristics and team processes. Institutional environment introduced a variation of 25.2 percent ($R^2 \Delta = 0.252$, $F \Delta = 27.829$) on the relationship between TMT psychological characteristics and team processes. The intervening effect change in F ratio had a p-value of 0.065. Since the calculated p-value for the moderating change was 0.000, which is less than 0.05, the null hypothesis was rejected implying that there was a significant change on the relationship between TMT psychological characteristics and team processes due to institutional environment.

The F tests for both direct model and the moderating model were 25.774 and 35.234, respectively. The p-values for both models were 0.000 and since the calculated p-values were less than 0.05, then the models were significant at predicting results of the hypothesized relationship.

Table 5.36: Effect of Top Management Team Psychological Characteristics on Team Processes as Moderated by Institutional Environment

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.621[a]	.386	.371	1.51065	.386	25.774	1	41	.000
2	.799[b]	.638	.620	1.17449	.252	27.829	1	40	.000

a. Predictors: (Constant), psychological characteristics
b. Predictors: (Constant), psychological characteristics, institutional environment
c. Dependent Variable: team processes

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	58.817	1	58.817	25.774	.000[b]
	Residual	93.564	41	2.282		
	Total	152.381	42			
2	Regression	97.204	2	48.602	35.234	.000[c]
	Residual	55.177	40	1.379		
	Total	152.381	42			

a. Dependent Variable: team processes
b. Predictors: (Constant), psychological characteristics
c. Predictors: (Constant), psychological characteristics, institutional environment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	3.257	2.060		1.581	.122			
	Psychological characteristics	.548	.108	.621	5.077	.000	.621	.621	.621
2	(Constant)	1.822	1.624		1.121	.269			
	Psychological characteristics	.321	.094	.364	3.404	.002	.621	.474	.324
	Institutional environment	.733	.139	.564	5.275	.000	.730	.641	.502

a. Dependent Variable: team processes

Equation 5.13 explains the moderating model.

Team processes = 0.321 TMT psychological characteristics + 0.733 Institutional environment - Equation 5.13

The model shows that a unit change in TMT psychological characteristics and institutional environment will result in a change of team processes by factors of 0.321 and 0.733, respectively.

The research finding that the strength of relationship between TMT psychological characteristics and team processes was significantly moderated by institutional environment is important in a number of ways. Firstly, it supports the observation of Hambrick (2007) that TMTs provide an interface between a firm and its environment. Secondly, as observed by Carpenter et al. (2004), the study finding demonstrates that institutional environment impose significant demands on TMT to collect, track, and analyze information influencing decision-making process. Thirdly, the findings reinforce the proposition by Peterson and Zhang (2011) that TMT decision making takes place in the context of an institutional environment.

Fourthly, the finding provide empirical evidence supporting the upper echelons perspective (Mason & Hambrick, 1984) that managers' bias to certain strategic choices is shaped by institutional forces. Other scholars (Qian et al., 2013; Dezs et al., 2012) have observed that institutional environment is critical in helping researchers draw conclusions on the influence of country-level institutional factors on TMT behavior. This study has demonstrated the importance of institutional environment.

Arregle et al. (2013) observes that institutional patterns strongly influence economic behavior and organizational behavior, affecting firm decision and strategic choices. In Kenya, Machuki et al. (2012) observed a very strong positive relationship between firm-level institutions and various indicators of performance. The patterns observed above, however, had not been established prior to this current study insofar as TMT behavior is concerned. Finally, for most research studies, institutional analysis tends to focus on countrywide settings (Chadee & Roxas, 2013) unlike this study that focused on macro and micro contextual settings of organizations.

5.8 Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Organizational Performance

The sixth objective of this study was to establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance. Hypothesis (H_7) was used to assess the moderation effect of the indirect relationship between TMT psychological characteristics and organizational performance.

H_7: The relationship between top management team psychological characteristics and organizational performance as intervened by team processes, is significantly moderated by institutional environment

Table 5.37 and Table 5.39 present the results of the Pearson product – moment coefficient of correlation of the study's variables with non-financial performance and EPS as the dependent variables, respectively. Table 5.38 shows the regression results of the intervening and moderating model with non-financial performance as the dependent variable. Table 5.40 shows the regression results of the intervening and moderating models with EPS as the dependent variable.

Table 5.37: Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Non-Financial Performance Correlations

Item		Performance	Psychological characteristics	Team processes	Institutional environment
Pearson Correlation	Performance	1.000			
	Psychological characteristics	.545	1.000		
	Team processes	.527	.621	1.000	
	Institutional environment	.484	.456	.730	1.000
Sig. (1-tailed)	Performance	.	.000	.000	.001
	Psychological characteristics	.000	.	.000	.001
	Team processes	.000	.000	.	.000
	Institutional environment	.001	.001	.000	.

As shown in Table 5.37, TMT psychological characteristics, team processes, institutional environment and non-financial performance were all found to be positively and significantly correlated to each other. Team processes and institutional environment were highly correlated at 0.730 followed by team processes and TMT psychological characteristics at 0.621.

Institutional environment introduced a variation of 2.1 percent ($R^2 \Delta = 0.021$, $F \Delta = 1.290$) on the relationship of TMT psychological characteristics, team processes and non-financial performance as shown in Table 5.38. The p-value for the variation was 0.263 and since it was greater than 0.05, the change was not significant implying that the effect of the moderating model was not significant as contrasted to the direct TMT psychological model whose effect on team processes was statistically significant and intervening team processes model that was statistically non-significant.

Table 5.38: Effect of Top Management Team Psychological Characteristics Institutional Environment, Team Processes and non-Financial Performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.545[a]	.297	.279	1.09882	.297	17.287	1	41	.000
2	.596[b]	.355	.323	1.06540	.058	3.613	1	40	.065
3	.613[c]	.375	.327	1.06156	.021	1.290	1	39	.263

a. Predictors: (Constant), psychological characteristics
b. Predictors: (Constant), psychological characteristics, team processes
c. Predictors: (Constant), psychological characteristics, team processes, institutional environment
d. Dependent Variable: non-financial performance

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	20.872	1	20.872	17.287	.000[b]
2	Regression	24.973	2	12.486	11.000	.000[c]
3	Regression	26.426	3	8.809	7.817	.000[d]

a. Dependent Variable: non-financial performance
b. Predictors: (Constant), psychological characteristics
c. Predictors: (Constant), psychological characteristics, team processes
d. Predictors:(Constant),psychological characteristics, team processes, institutional environment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	3.176	1.498		2.120	.040			
	Psychological characteristics	.326	.079	.545	4.158	.000	.545	.545	.545
2	(Constant)	2.495	1.496		1.667	.103			
	Psychological characteristics	.212	.097	.353	2.179	.035	.545	.326	.277
	Team processes	.209	.110	.308	1.901	.065	.527	.288	.241
3	(Constant)	2.469	1.491		1.656	.106			
	Psychological characteristics	.211	.097	.352	2.182	.035	.545	.330	.276
	Team processes	.105	.143	.155	.737	.465	.527	.117	.093
	Institutional environment	.186	.164	.210	1.136	.263	.484	.179	.144

a. Dependent Variable: non-financial performance

The F tests for direct model, intervening model and moderating model were 17.287, 11.000 and 7.817, respectively. The p-values for the three models were 0.000. Since the calculated p-values were less than 0.05, then the models were significant and robust at predicting the results. Equation 5.14 explains the test model.

Non-financial performance = 0.211 TMT psychological characteristics

- Equation 5.14

The model shows that a change in TMT psychological characteristics by a factor of one will cause a 0.211 change in organizational non-financial performance.

This study found out that institutional environment positively influences the relationship between TMT psychological characteristics, team processes and performance. The study supports Lu et al. (2009) observation that institutional environments provide institutional contexts in which organizations thrive or strive in. Institutional environment is, therefore important as it may influence organizational outcomes. The level of the institutional environment may affect firm strategic decisions not only directly, but also indirectly through moderating effects (Young, 2008). This study is the only known study that has established a positive but statistically insignificant effect of institutional environments on TMT behavior, team processes and firm performance. The study's findings support a number of studies that have investigated the moderating effect of institutional environment on various organizational variables.

Lin and Wang (2014) provide empirical insights about how heterogeneity of TMT age, gender, functional experience, and the differences between TMT and board chairperson significantly and positively impact entrepreneurial strategic orientation as well as how institutional environment moderate the relationship between TMT characteristics and entrepreneurial strategic orientation. Lu et al. (2009) found out that the level of institutional development positively moderates the impact of outside directors on export behavior although the interaction was statistically insignificant.

In a study of the moderating effect of home-country institutional environments, Wan and Hoskisson (2003) found that the common negative effect of over-diversification on firm performance was more serious for firms with weaker home-country institutional environments. In a study that examined the moderating role of institutional forces on the managers' capabilities performance link, Shou et al. (2014) found out that institutional environment strengthened the performance advantage of domestic firms.

This study also sought to examine the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and EPS. As shown in Table 5.39, TMT psychological characteristics, team processes, and institutional environment were all negatively correlated to EPS. However, the relationship between EPS, team processes and institutional environment was significant.

Table 5.39 Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Earning per Share Correlations

Item		EPS	Psychological characteristics	Team processes	Institutional environment
Pearson Correlation	EPS	1.000			
	Psychological characteristics	-.178	1.000		
	Team processes	-.263	.621	1.000	
	Institutional environment	-.347	.456	.730	1.000
Sig. (1-tailed)	EPS	.	.127	.044	.011
	Psychological characteristics	.127	.	.000	.001
	Team processes	.044	.000	.	.000
	Institutional environment	.011	.001	.000	.

Table 5.40 shows that institutional environment introduced a variation of 5.1 percent ($R^2 \Delta = 0.051$, $F \Delta = 2.264$) on the relationship of TMT psychological characteristics, team processes and EPS and the p-value was 0.140. Since the calculated p-value was greater than 0.05 the variation introduced by institutional environment was not significant. The 5.1 percent change in R^2 was noted to have some important implications when compared to the change in R^2 of both direct model ($R^2 \Delta = 0.032$) and intervening model ($R^2 \Delta = 0.038$).

The F tests for direct model, intervening model and moderating model were 1.335, 1.498 and 1.785, respectively. None of the models was significant as the calculated p-values were greater than 0.05 indicating that the models were not robust enough at predicting the results. The null hypothesis was not rejected meaning that the relationship between TMT psychological characteristics and EPS was neither intervened significantly by team processes nor moderated significantly by institutional environment.

Table 5.40: Effect of Top Management Team Psychological Characteristics Institutional Environment, Team Processes and Earnings per Share

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.178[a]	.032	.008	7.64097	.032	1.335	1	41	.255
2	.264[b]	.070	.023	7.58204	.038	1.640	1	40	.208
3	.347[c]	.121	.053	7.46501	.051	2.264	1	39	.140

a. Predictors: (Constant), psychological characteristics

b. Predictors: (Constant), psychological characteristics, team processes

c. Predictors: (Constant),psychological characteristics, team processes, institutional environment

d. Dependent Variable: EPS

Analysis of Variance[a]

Model		Sum of Squares	df	Mean Square	F-value	Sig.
1	Regression	77.972	1	77.972	1.335	.255[b]
2	Regression	172.236	2	86.118	1.498	.236[c]
3	Regression	298.400	3	99.467	1.785	.166[d]

a. Dependent Variable: EPS

b. Predictors: (Constant), psychological characteristics

c. Predictors: (Constant), psychological characteristics, team processes

d. Predictors: (Constant), psychological characteristics, team processes, institutional environment

5.9 Tests of Mediation and Moderation Using Structural Equation Modeling

The SEM was used to enhance the regression analysis framework, as it is an appropriate analysis when both direct and indirect influences are hypothesized. Therefore, hypothesis H_5, H_6 and H_7 were subjected to additional analysis using SEM technique.

To test the three hypotheses, the study first estimated the models by SEM using the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). The AIC uses the log-likelihood of the model and corrects for the number of parameters being estimated. On the other hand, BIC is based on the Bayesian theory for posterior tests that does not rely on the assumption of the correct distribution of the data hence, more reliable (Stajkovic, 2011). Smaller values of AIC and BIC indicate superior fit (Bollen, 1989). Fit indexes are shown for each model; the indexes are Chi-squared statistic (χ^2), Root-Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Goodness Fit Index (GFI) and Normality Fit Index (NFI). Kline (1998) proposes values of these indexes as representing good fit to the data as RMSEA < 0.10, CFI >0.90, IFI >0.90 and χ^2/df < 2. To test for changes in the fit of nested models, the study followed the suggestions by Stajkovic (2011) of using both χ^2 and BIC.

5.9.1 Top Management Team Psychological Characteristics, Team Processes and Organizational Performance Mediation Model

Hypothesis (H_5), indicated below, was subjected to SEM to determine the intervening effect of team processes.

H_5: The relationship between TMT psychological characteristics and organizational performance is significantly intervened by team processes.

The first step was to estimate the goodness of fit of the direct path involving TMT psychological characteristics and organizational performance. At this point, the model is unconstrained. The model produced the following indexes: χ^2 = 0, GFI = 1, AIC = 10, BIC= -1.865e-14, Beta (β) = 0.2117, SE = 0.09484, R^2 = 0.3548. Since BIC was very small and goodness of fit index was unity, the model estimated fitted the research data. The second step was to constrain the direct path to be equal to zero and then test for the Modification Index (MI). The model produced the following indexes: χ^2 = 4.712, RMSEA = 0.2973, GFI = 0.9339, AIC = 12.71, BIC = 0.9512, NFI = 0.8788, IFI = 0.902, R^2 = 0.2782 and MI = 4.458.

A comparison of fit indexes of the unconstrained and constrained models was done. Since the MI for the direct path between performance and psychological characteristics was larger than two, the direct path could not be deleted since it results to an improved fit of the model. The superiority of the direct model over the indirect model is also seen in the change in BIC/AIC values. The model with the direct path had a smaller value of BIC = -1.865e-14 compared to BIC = 0.9511637 and AIC = 10 compared to AIC = 12.71236. Additionally, the direct model explain 35.48 percent (R^2 = 0.3548) of organizational performance compared to the indirect model that explains 27.82 percent (R^2 = 0.2782). Overall, the results showed that team process had a positive mediation on the relationship between TMT psychological characteristics and organization performance. The mediation was, however not dominant hence statistically not significant.

The above SEM process was repeated with organizational EPS as the endogenous variable. The first step was to estimate the goodness of fit of the direct path involving TMT psychological characteristics and organizational EPS for the unconstrained model. The model produced the following indexes: $\chi^2 = 0$, GFI = 1, AIC = 10, BIC = 0, $\beta = -0.08092$, SE = 0.6748, $R^2 = 0.0697$. The second step was to constrain the direct path to be equal to zero and then test for the MI. The model produced the following indexes: $\chi^2 = 0.01438$, RMSEA = 0, GFI = 0.9998, AIC = 1.067, BIC = -3.747, NFI = 0.9994, IFI = 1.044, $R^2 = 0.0694$ and MI = 0.01437.

A comparison of fit indexes of the unconstrained and constrained models was done. Since the MI for the direct path between EPS and psychological characteristics was less than two, the direct path was deleted. The indirect model had lesser BIC and AIC values compared to the direct model, hence showing a better fit of the estimated model. The TMT psychological characteristics were, therefore found not to affect EPS directly but through team processes. The intervening model explained 6.94 percent ($R^2 = 0.0694$). These findings explain why the F test of TMT psychological characteristics and EPS was found to be not robust enough.

5.9.2 Top Management Team Psychological Characteristics, Institutional Environment and Team Processes Moderation Model

Hypothesis (H_6), indicated below, was subjected to SEM to determine the moderating effect of institutional environment on the relationship between TMT psychological characteristics and team processes.

H_6: The relationship between TMT psychological characteristics and team processes is significantly moderated by institutional environment.

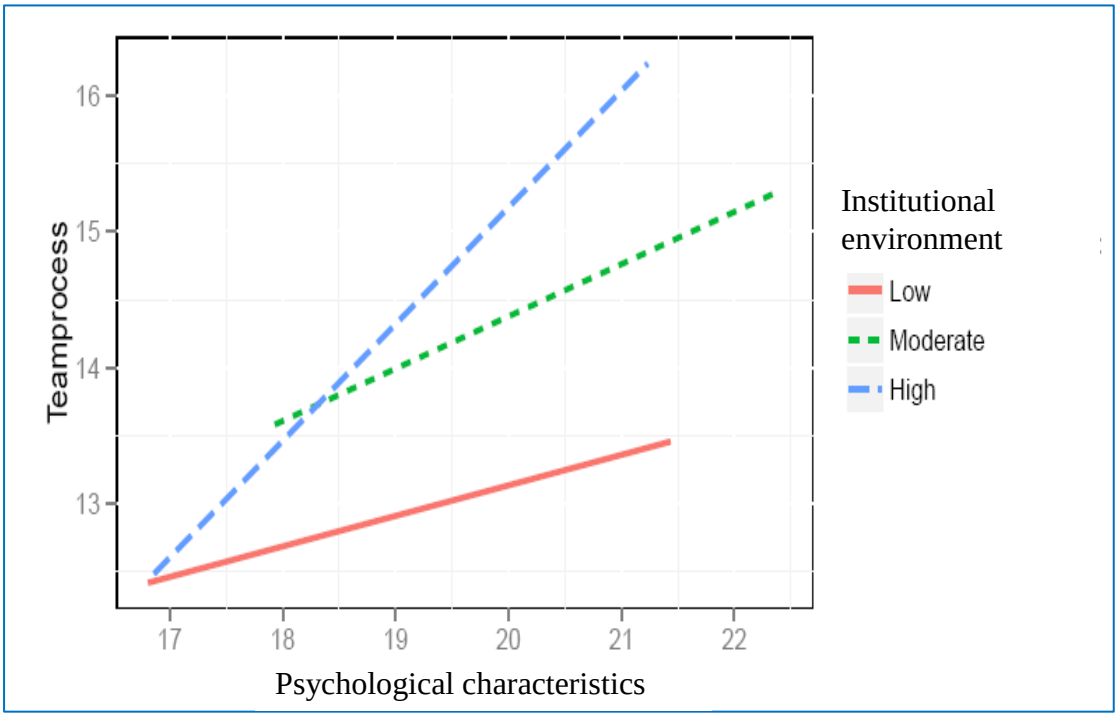
First, the fit of the estimated moderation model involving TMT psychological characteristics, institutional environment and team processes was established. The model indexes were $\chi^2 = 1.119e^{-13}$, AIC = 8, BIC = $1.119e^{-13}$, GFI = 1. Since BIC and AIC indexes had low values and GFI was unity, the estimated model was found to fit to predict results. Additionally, it was found out that TMT psychological characteristic as moderated by institutional environment explained 64.75 percent ($R^2 = 0.6475$) of team processes.

Second, the SEM coefficients for the three paths of the moderated model were calculated and their significance established. Unlike while testing for mediation where certain paths are constrained to zero, there is no constraining of any paths while testing for moderation. The path testing for the effect of institutional environment (the moderator variable) on TMT psychological characteristics (predictor variable) had a coefficient of 1.34053 and was significant at $p < 0.1$. The path testing for the effect of institutional environment (the moderator variable) on TMT psychological characteristics (predictor variable) and team processes (endogenous variable) had a negative coefficient of -0.03615 and was significant at $p < 0.1$ showing a strong moderation effect.

To better interpret the moderating effect of institutional environment, Figure 5.1 was done, showing TMT psychological characteristics and team processes relationship under high, medium and low levels of institutional environment. Non-parallel lines provide evidence of a significant interaction effect (Stajkovic, 2011). As Figure 5.1 shows, when institutional environment is high, TMT psychological characteristics are positively and very strongly related to team processes. When institutional

environment is medium, TMT psychological characteristics is positively and strongly related to team processes. It is clear that even at low levels of institutional environment, TMT psychological characteristics are positively related to team processes.

Figure 5.1: Moderating Effect of Institutional Environment on the Relationship Between Top Management Team Psychological Characteristics and Team Processes



There was agreement between the SEM and multivariate regression results of the moderating effect of the institutional environment on the relationship between TMT psychological characteristics and team processes. However, SEM analysis showed how the relationship reacts to various levels institutional environment.

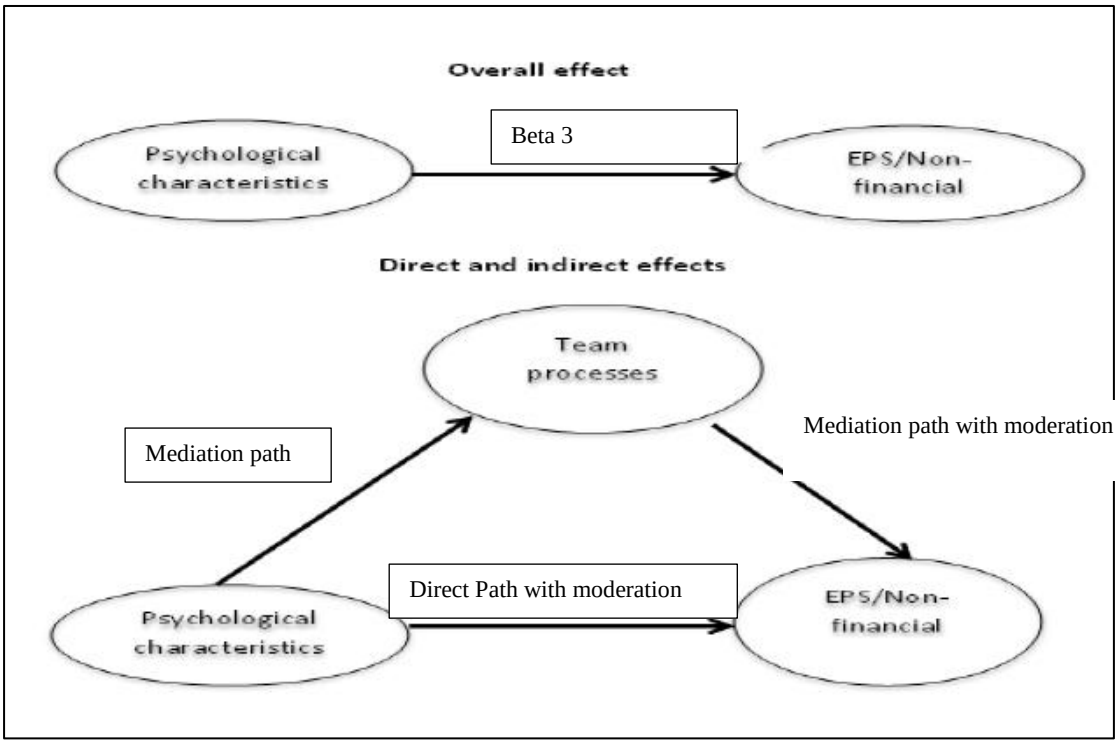
5.9.3 Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Organizational Performance

Hypothesis (H_7), indicated below, was subjected to SEM to determine the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance.

H_7: The relationship between TMT psychological characteristics and performance as intervened by team processes, is significantly moderated by institutional environment.

The mediated moderation path diagram is shown in Figure 5.2. The diagram shows the moderation effect on the direct path between TMT psychological characteristics and organizational performance and then the moderation effect on the mediated model.

Figure 5.2: Mediated Moderation Path Diagram

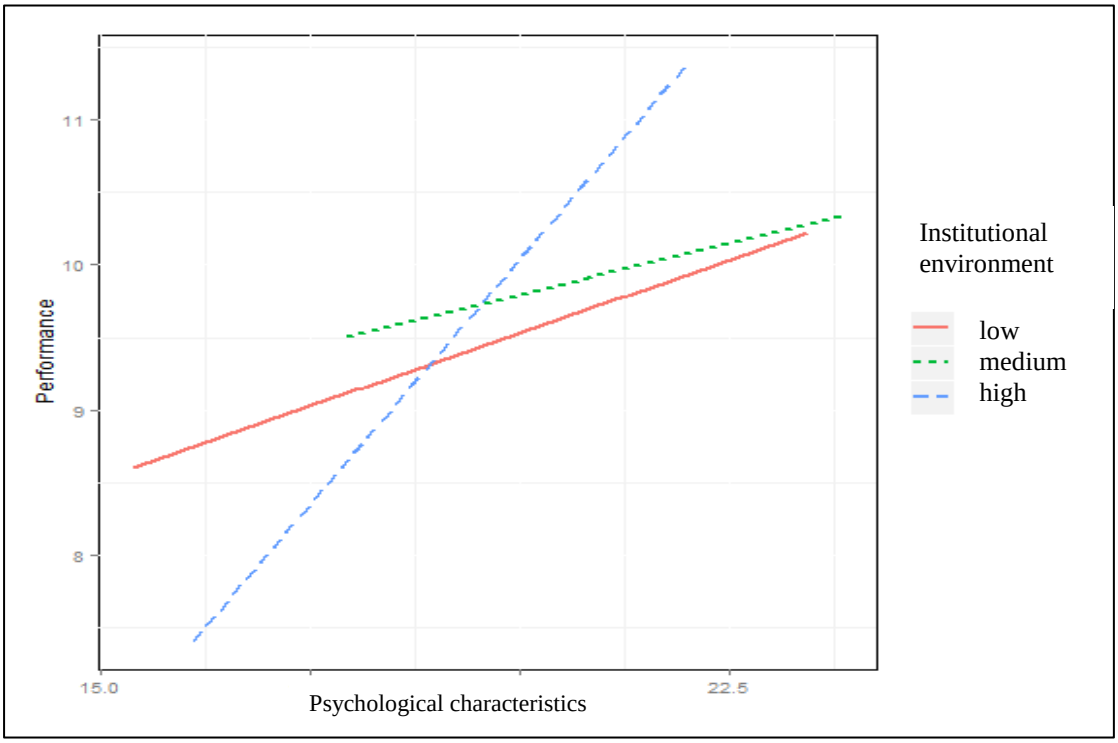


In order to test for the mediated moderation hypothesis, the following steps were followed. First, the study established if there was any moderating effect of institutional environment on the relationship between TMT psychological characteristics and organizational performance. Secondly, the study fitted the model with mediator as a dependent variable and moderator as a covariate. Finally, a model with both mediator and moderator was fitted.

The overall model indexes were established to be: χ^2 = 137 df 1, AIC = 157, BIC = 133, GFI = 0.7566, NFI = 0.7266, IFI = 0.728, CFI = 0.7202 and RMSEA = 1.824 at 90 percent confidence level. The various fit indexes were all less than 0.9 indicating that the model was not the best for the research data. However, Bollen (1989) advises that models with fit indexes greater than 0.75 represent relative good fit of data. Consequently, the study progressed to the next step of modeling the research data. In addition, it was found out that the influence of institutional environment and team processes on TMT psychological characteristics explained 63.18 percent (R^2 = 0.6318) of organizational performance.

The path coefficient (beta 3 in Figure 5.2) modeling the moderating effect of institutional environment on the relationship between TMT psychological characteristics and organizational performance was found to have SEM coefficient of 0.1758 and was significant at $p < 0.1$. Additionally, the SEM parameter estimates for the mediation path (eta 1, eta3, alpha4 and alpha 5 in Figure 5.2) were -1.30716, 0.19759, -0.60793 and 0.07895. All the mediation paths were significant at $p < 0.1$. These results indicate that the direct model of TMT psychological characteristics and organizational performance had a moderation effect.

Figure 5.3: Interaction Plot for the Mediated Moderation on Non-Financial Performance



The next step was to constrain the direct model to be equal to zero and check the MI. In this case, as defined in the study's conceptual framework, the effect of moderation of institutional environment comes in after TMT psychological characteristics have been intervened by team processes. The model indexes changed to χ^2 = 150 df 4, AIC = 164, BIC = 135, GFI = 0.7034, NFI = 0.7016, IFI = 0.7072, CFI = 0.7006 and RMSEA = 0.9435 at 90 percent confidence level. The AIC and BIC values of the constrained model increased compared to the unconstrained direct model implying that the direct path had a better fit of data than the constrained model. Additionally, the MI for the regression coefficients were all larger than two implying that, although there was a moderating effect, the direct path could not be deleted as there was no dominant moderation.

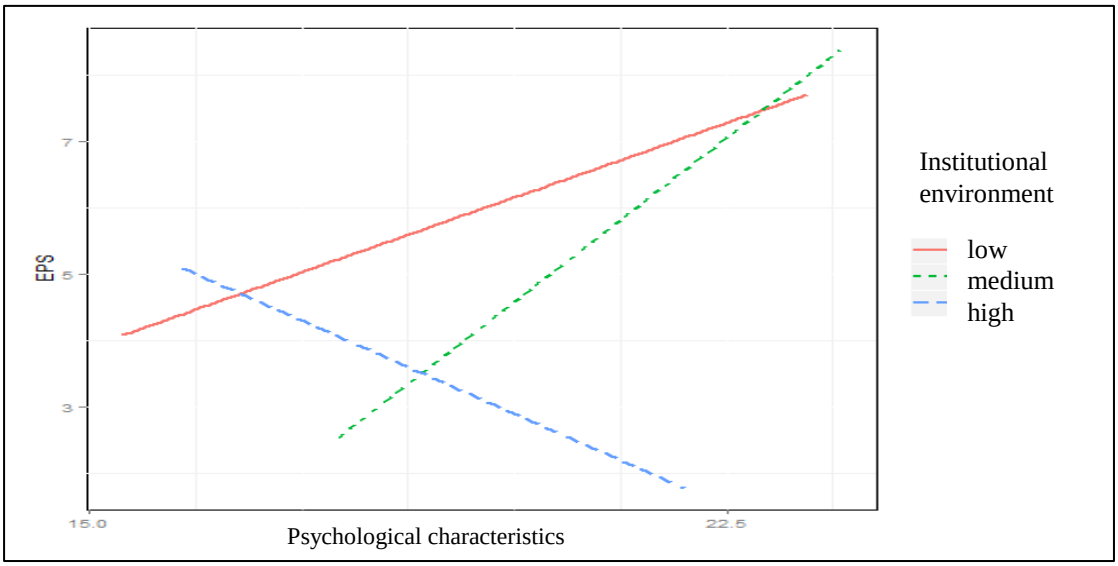
To better interpret the moderating effect of institutional environment, Figure 5.3 was done showing the relationship of TMT psychological characteristics as intervened by team processes and organizational performance under high, medium and low levels of institutional environment. As Figure 5.3 shows, when institutional environment was high, TMT psychological characteristics as intervened by team processes was positively and very strongly related to organizational performance. When institutional environment was medium, TMT psychological characteristics as intervened by team processes was positively and strongly related to organizational performance. It is clear that even at low levels of institutional environment, TMT psychological characteristics were positively related to organizational performance.

There was agreement between the SEM and multivariate regression results of the moderating effect of the institutional environment on the relationship between TMT psychological characteristics and organizational performance as intervened by team processes. However, SEM analysis showed how the relationship reacted to various levels of institutional environment.

In order to test for the influence of institutional environment and team processes on EPS, an identical process as the one discussed above was followed and the following results obtained. The overall model indexes were established to be: χ^2 = 137 df 1, AIC = 157, BIC = 133, GFI = 0.7566, NFI = 0.7143, IFI = 0.7158, CFI = 0.7073 and RMSEA = 1.824 at 90 percent confidence level. When the direct path was constrained to zero, the indirect model indexes changed to χ^2 = 138 df 4, AIC = 152, BIC = 123, GFI = 0.7542, NFI = 0.7132, IFI = 0.7192, CFI = 0.7125 and RMSEA = 0.9039 at 90 percent confidence level. The AIC and BIC values of the constrained model decreased compared to the unconstrained direct model implying that the indirect path had a

better fit of data than the unconstrained model. Additionally, the MI for the regression coefficients were all larger than two implying that, although there was a moderating effect, the direct path could not be deleted as there was no dominant moderation. To better interpret the moderating effect of institutional environment, Figure 5.4 was done showing the relationship of TMT psychological characteristics and EPS as intervened by team processes under high, medium and low levels of institutional environment.

Figure 5.4: Interaction Plot for the Mediated Moderation on Earning per Share



As Figure 5.4 shows, when institutional environment was high, TMT psychological characteristics as intervened by team processes was negatively related to EPS. When institutional environment was medium, TMT psychological characteristics as intervened by team processes was positive and strongly related to EPS. Finally, at low levels of institutional environment, TMT psychological characteristics were positively related to EPS.

5.10 Summary of Test of Hypotheses

Table 5.41 shows a summary of the test of hypotheses of TMT psychological characteristics, institutional environment, team processes and performance of companies listed in the NSE.

Table 5.41: Summary of Test of Hypotheses

Hypothesis	Empirical Evidence
TMT psychological characteristics have significant effect on EPS.	Not Supported
TMT psychological characteristics have significant effect on non-financial performance.	Supported
TMT psychological characteristics have significant effect on customer relation outcomes.	Not Supported
TMT psychological characteristics have significant effect on effective and efficient outputs.	Supported
TMT psychological characteristics have significant effect on innovativeness.	Supported
TMT psychological characteristics have significant effect on social equity.	Not Supported
TMT psychological characteristics have significant effect on green performance.	Supported
TMT psychological characteristics have significant effect on socio-political processes	Partially supported
TMT psychological characteristics have significant effect on behavior integration.	Partially supported
TMT psychological characteristics have significant effect on social integration.	Partially supported
TMT psychological characteristics and team processes have significant effect on EPS.	Not supported
TMT psychological characteristics and team processes have significant effect on non-financial performance.	Supported
TMT psychological characteristics and team processes have significant effect on customer relation outcomes.	Not supported
TMT psychological characteristics and team processes have significant effect on effective and efficient outputs.	Supported
TMT psychological characteristics and team	Supported

Table 5.41 continued…

processes have significant effect on innovativeness.	
TMT psychological characteristics and team processes have significant effect on social equity.	Not supported
TMT psychological characteristics and team processes have significant effect on green performance.	Supported
Team processes have significant effect on EPS.	Not supported
Team processes have significant effect on non-financial performance.	Supported
Team processes have significant effect on customer relation outcomes.	Not supported
Team processes have significant effect on effective and efficient outputs.	Supported
Team processes have significant effect on innovativeness.	Supported
Team processes have significant effect on social equity.	Not supported
Team processes have significant effect on green performance.	Supported

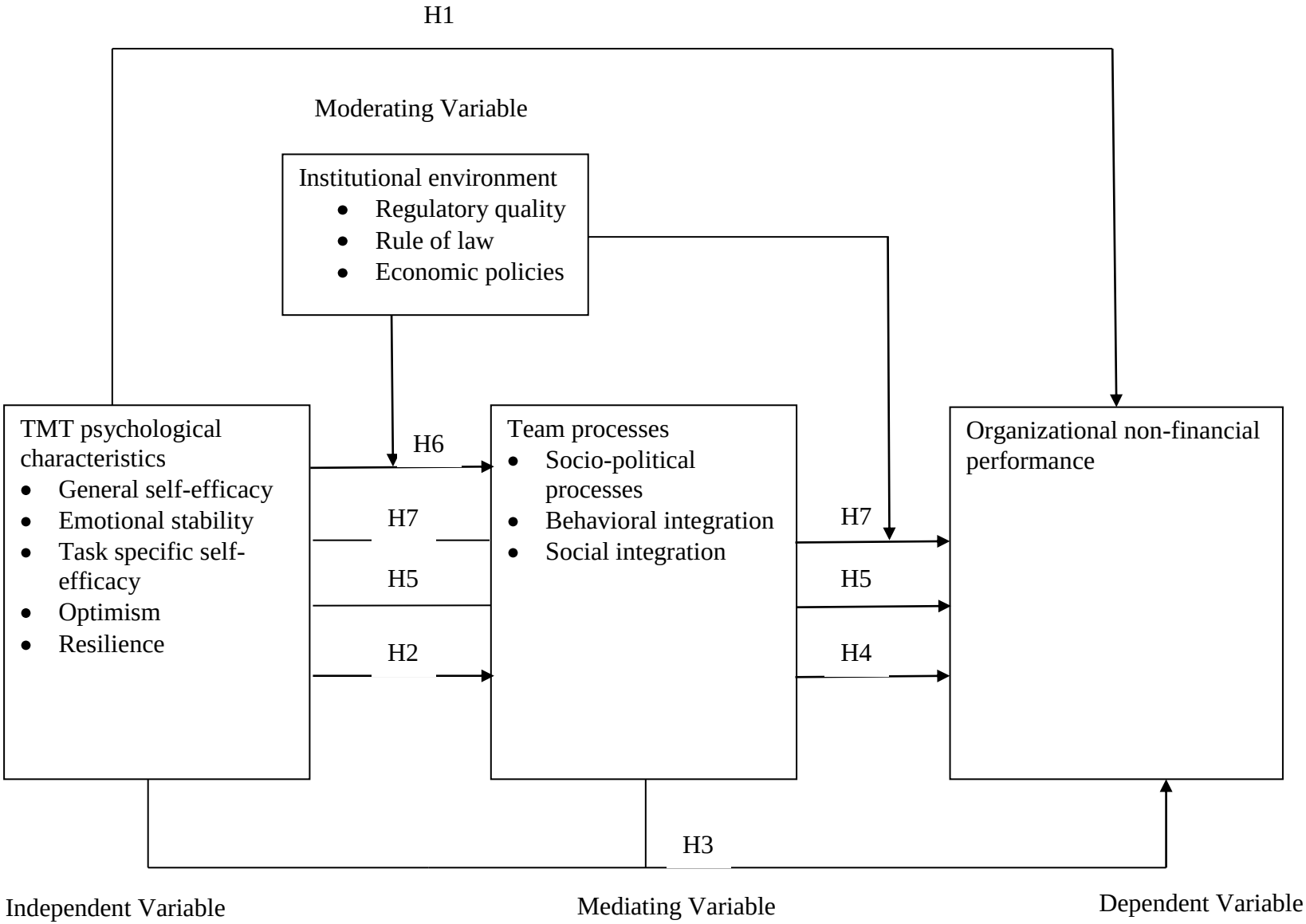
In this study, assessment of the overall robustness and significance of the regression models was done using the F-test and p-values. If the calculated p-value was less than 0.05, the test model was robust enough to predict the test results. On the other hand, if the calculated p-value was greater than 0.05, the model was not robust enough to predict the hypothesized relationships. As shown in Table 5.42, none of test models for financial performance was significant in analyzing the research hypotheses. In addition, test models involving customer relation outcomes and social equity were also not significant.

Table 5.42: Summary of Significance and Relationship Tests

Hypotheses	Non-financial Performance	EPS
H1: Top management team psychological characteristics have significant effect on organizational performance.	Significant	Not significant
H3: Top management team psychological characteristics and team processes have jointly a significant effect on organizational performance.	Significant	Not significant
H4: Team processes have significant effect on organizational performance.	Significant	Not significant
H5: The strength of the relationship between TMT psychological characteristics and organizational performance is significantly intervened by team processes	Significant	Not significant
H7: The strength of the relationship between TMT psychological characteristics and organizational performance as intervened by team processes is significantly moderated by institutional environment.	Significant	Not significant
H2: Top management team psychological characteristics have significant effect on team processes	Related	
H6: The strength of the relationship between TMT psychological characteristics and team processes is significantly moderated by institutional environment.	Related	

Figure 5.1 shows a summary of the current study's findings as depicted using a conceptual model of the relationship of the four study variables. In line with the findings shown in Table 5.42, test models for non-financial performance were significant in analyzing the research hypotheses. On the other hand, none of test models for financial performance were significant in analyzing the research hypotheses.

Figure 5.1: Study's Model



5.11 Chapter Summary

This chapter has presented the results of various tests carried out on the study's hypotheses and offered a discussion of those results. For each of the seven hypotheses, statistical modeling results were presented in both tabular and mathematical equation formats. In this chapter, data analysis results were also interpreted and a comparison made with other empirical studies' findings.

The next chapter presents a summary of the research findings, conclusion and recommendations. Implications of the study as seen in three perspectives of theory, practice and policy are discussed. Thereafter, the contribution of this research to the body of knowledge and limitations of the current study are presented. Finally, the chapter ends with a presentation of recommendations for further research.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter starts with a summary of the findings of the study's objectives as set out in chapter one. Thereafter, conclusion, limitations of the study and recommendations for further research are presented. Implications of the study as seen in three perspectives of theory, practice and policy are also discussed. Finally, the chapter ends with a discussion of the contribution this research has made to the body of knowledge.

6.2 Summary of Findings

This study is one of the theoretically grounded empirical investigations of the effects of TMT psychological characteristics on organizational performance as measured using SBSC. The study makes contribution by using previously validated constructs in social psychology to enrich strategic management in the areas of TMT behavior, team interactions and environment.

There were seven hypotheses that were tested in order to establish the six objectives of the study. The first objective of the study was to establish the effect of TMT psychological characteristics on organizational performance; hypothesis one was used to test the above objective. The research findings established that TMT psychological characteristics had significant effect on organizational non-financial performance, efficient and effective outputs, innovativeness, and green performance. On the other hand, TMT psychological characteristics had no significant relationship with EPS, customer relation outcomes and social equity.

The second objective of the study was to determine the relationship between TMT psychological characteristics and team processes; hypothesis two was used to establish the relationship. The research findings established that TMT psychological characteristics had separately both significant and no significant relationship on socio-political processes, behavior integration and social integration.

The third objective of the study was to examine the joint effects of TMT psychological characteristics and team processes on organizational performance; hypothesis three was used to test the objective. The research findings established that TMT psychological characteristics and team processes had significant joint effect on organizational non-financial performance and the effect was more than the individual effects of the two variables on non-financial performance. On organizational EPS, the findings were that the joint effect of TMT psychological characteristics and team processes was not significant but was more positive than the individual effects of TMT psychological characteristics and team processes.

The fourth objective of the study was to establish the effects of team processes on organizational performance; hypothesis four was used to test this objective. The research findings established that team processes had significant effect on organizational non-financial performance, efficient and effective outputs, innovativeness, and green performance. On the other hand, team processes had no significant relationship with EPS, customer relation outcomes and social equity.

The fifth objective of the study was to establish the mediating effect of team processes on the relationship between TMT psychological characteristics and organizational performance; hypothesis five was used to establish the above objective. The research

findings failed to support the hypothesized relationship implying that the relationship between TMT psychological characteristics on both EPS and non-financial performance was not significantly intervened by team processes.

The sixth objective of the study was to establish the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance. Hypothesis six was used to test the moderating effect of institutional environment on the relationship between TMT psychological characteristics and team processes. The research finding supported the hypothesized relationship implying that the relationship between TMT psychological characteristics and team processes was significantly moderated by institutional environment. The research findings of the final hypothesis seven established that the strength of the relationship between TMT psychological characteristics and performance (both non-financial and financial), as intervened by team processes was not significantly moderated by institutional environment.

6.3 Conclusion

The general objective of the study was to determine the influence of institutional environment and team processes on the relationship between TMT psychological characteristics and organizational performance. Over the last three decades, researchers have devoted significant attention in studying organizations as reflection of the top managers. Do TMTs matter in influencing organizational outcomes? The findings of this research give an affirmative answer as it has demonstrated that TMT behavior as measured using psychological characteristics, explain 30 percent and 3.2 percent of organizational non-financial and financial performances respectively.

Overtime, researchers and practitioners have questioned the use of demography as a measurement proxy for underlying individual and group behaviors (Marimuthu & Kolandaisamy, 2009). In response, studies have been done using an array of disconnected psychological concepts that have not addressed the challenge of operationalizing psychological characteristics beyond clinical settings (Hiller & Hambrick, 2005). The current study dealt with this challenge by using CSE and psychological capital constructs that have been found in psychology to be conceptually grounded to measure psychological characteristics. When subjected to reliability and validity tests, CSE and psychological capital constructs had Cronbach alpha results of 0.65 and 0.7 respectively, which was beyond the minimum threshold of 0.6. Further, the study revealed that CSE and psychological capital independently account for 17.9 percent and 36.2 percent, respectively of organizational performance.

A significant portion of TMT research stream assumes that successful TMT performance depends on team processes and the independent interactions in the team (Buyl et al. 2011). Carpenter et al. (2004) posits that curiously, one of the most informative pieces on TMT processes comes from outside the field of strategic management. Peterson et al. (2003) provide one of the most comprehensive studies to date showing how a CEO's personality can influence the dynamics of the top management team, and those dynamics, in turn, become reflected in performance differences among firms. This study has revealed that TMT psychological characteristics influence team processes and those team processes in turn affected organizational performance.

The inclusion of the intervening and moderating variables (team processes and institutional environment, respectively) gave a new appreciation to the relationship between TMT psychological characteristics and organizational performance. The study showed that institutional environment significantly moderated the relationship between TMT psychological characteristics and team process. Further, team processes had a positive mediating effect on the relationship between TMT psychological characteristics and organizational performance although the effect was not statistically significant. Additionally, the moderating effect of the mediated model of TMT psychological characteristics, team processes and organizational performance was positive but not statistically significant. It was evident from findings that the effect of mediating and moderating factors on the TMT psychological characteristics performance linkage cannot be ignored.

In the study, when TMT psychological characteristics and team processes were regressed against non-financial measures of performance, the results were statistically significant. On the other hand, when TMT psychological characteristics and team processes were regressed against financial measure of performance, the results were statistically not significant. The two findings contradict Muchemi (2013) who found out that when TMT demographics characteristics were regressed against non-financial measures of performance, the results were statistically not significant. The contradiction is not surprising for researchers have acknowledged that the findings in TMT research are partly due to over reliance on TMT demographics as surrogates for team behavior although they are known to be imprecise and noisy constructs (Dezs & Ross, 2012).

Finally, this study has anchored the use of SBSC in the TMT research. Most of strategic management studies have measured performance using traditional financial measures. The main issue associated with traditional performance measurement is failure to include non-financial and less tangible factors such as quality, customer satisfaction and employee morale (Kaplan & Norton, 1992). Researchers and practitioners agree that financial measures are still valid and relevant (Yip et al., 2009), but these need to be balanced with more contemporary, intangible and externally oriented measures. This study used an interdisciplinary approach incorporating theories of other disciplines such as stakeholder theory to measure organizational performance using a contemporary framework of SBSC.

6.4 Theoretical Implications

This study has implications firstly on the upper echelons research as it has attempted to provide more insight into the TMT behavior 'black box'. The 'black box' has been a major knowledge gap in TMT research with many studies attributing much of the unknown behavior effects to the black box (Ling et al., 2008). In opening up the 'black box', the study has provided an empirical methodological foundation for investigating the impact of TMT psychological characteristics on organizational performance. Additionally, this research work has gone beyond the examination of TMT demographic characteristics by making use of methodologies and constructs borrowed from various management disciplines. The study therefore makes a contribution to the academic literature arising from integration of upper echelon theory and social psychology theory. The study therefore adds to the growing body of TMTs research by testing the impact of two theoretically grounded constructs, CSE and psychological capital on organizational performance.

Secondly, this study has examined the mechanisms through which TMT psychological characteristics are able to influence organizational performance. In particular, the study focused on team processes as a mediator of the relationship between TMT psychological characteristics and performance. Unlike other studies that have either inferred team processes, this study measured team processes using conceptually grounded constructs from group theory. This research found that team processes intervened in the hypothesized relationship although not significantly in contradiction with Pfeffer (1983) assertion that team processes do not matter in TMT research. Researchers have therefore not gained a good understanding of the nature of TMT process (Simsek et al., 2011). There is, however ample research that has investigated the effect of team processes on individual and group performance. This study contributes to TMT research literature by bringing to light the effects of team processes at the executive level.

Thirdly, this study is perhaps the first one that has examined the conditions under which TMT psychological characteristics affect team processes. In particular, the study focussed on institutional environment as a moderator of the relationship. Although TMT research has flourished, there is limited research that has investigated the embeddedness of upper echelons in institutional environment (Dezs et al., 2012). The findings of this study that institutional environment significantly moderate the hypothesized relationship offers an empirical evidence of the conceptual argument of Carpenter et al (2004), that institutional forces in any environmental context impose significant demands on TMT to collect, track, and analyze information.

Another contribution to theory is drawn from the mixed findings obtained when TMT psychological characteristics were regressed separately on both financial and non-financial organizational performance. While the former relationship had non-significant effect, the latter had significant effect. Most of TMT research has used financial performance as the dependent variable (Irungu, 2007). Although performance has been measured from different perspectives, this study used SBSC as a performance measurement tool in recognition of the various stakeholders that exist in an organization.

6.5 Implications on Practice

This study has also implications to managerial practice as regards hiring, training, coaching and talent development of TMTs. Hiring firms might consider incorporating in the psychometric assessment tests the CSE and psychological capital constructs. This is important, as this study has demonstrated that TMT psychological characteristics significantly affect organizational performance. Firms that focus on TMT training and development may consider incorporating psychological capital into how they train executives. Psychological capital is a state-like trait that is malleable to development and intervention (Peterson & Zhang, 2011) and this study has shown that it matters to organizational performance. Executives' trainers may therefore leverage on this understanding to make interventions that can positively improve TMTs' task specific self-efficacy, hope, optimism and resilience.

A second managerial implication is on TMT compensation. Executive compensation is a complicated issue that has vexed researchers and practitioners for years (Ward et al., 2011). The TMTs compensation in most cases is tied to the financial performance of the organization. This research has, however found that TMT behavior has no

significant effect on financial performance but found significant effects on non-financial performance. This study has brought out that TMTs behavior affects organizations' stakeholders hence the need to compensate TMTs beyond the organizational financial performance considerations. Finally, this study has implications on managers working across country borders in that specific contextual institutional environment can affect TMT performance.

6.6 Implications on Policy

The study will also contribute to policy formulation and development in Kenya. Policy makers will benefit in understanding how institutional forces in the Kenyan context impact organizational performance and hence be guided in formulation of reforms in various political, judicial and economic institutions. Over the last decade, the country has undergone significant institutional changes namely such as, peaceful change of government in 2003, a referendum in 2005, violent general elections in 2007, promulgation of constitution in 2010, terrorism threat from 2013 and commencement to transitioning to devolved governance structure. This study brings out that institutional environment affects organizational performance through TMTs strategic choices that are shaped by environment.

Finally, firms will likely thrive in an environment characterized by the presence of rule of law, economic policies perceived as supportive, regulatory quality that does not impose unreasonable burden and business support programs that are available and accessible (Chadee & Roxas 2013; Gomez-Haro et al., 2011). Kenya has attempted to respond to the above institutional challenges by rolling out Vision 2030 strategy. The strategy is to undertake reforms in eight key sectors that form the foundation of

society for socio-political and economic growth (Kenya Vision, 2030). This study focused on NSE, which cuts across ten key sectors of the Kenyan economy. In the study, institutional environment and organizational performance was positively correlated and the relationship was significant. The Kenya Vision 2030 secretariat may want to use the study's empirical findings to validate and revise the Vision 2030 strategy as appropriate.

6.7 Contributions to Knowledge

This study has contributed to knowledge in the field of strategic management in a number of ways. First, it has provided insight in tackling the measurement challenge of TMT psychological characteristics and team processes. In so doing, the study has provided more information of the TMT behavior 'black box' with respect to mechanisms underlying behavior. In addition, the study has shown the effect of mediating and moderating factors on the TMT psychological characteristics and performance linkage. The study has introduced the intervening and moderating effects of team processes and institutional environment respectively in the TMT psychological characteristics performance relationship.

This study has provided more insights of performance measurement framework that has been largely biased to financial measures by using the SBSC framework. In recognition of the limitations of traditional approaches to performance measurement, in a stakeholder driven economy, this study presented measurement of organizational performance using a contemporary framework as defined by SBSC. The resultant literature from integration of upper echelon theory, psychology theory, institutional theory, group processes and business performance will go a long way in enriching the upper echelon research by way of theory building.

6.8 Limitations of the Study

Like any other research, this study had a number of limitations. First, the researcher experienced first-hand the challenge associated with gathering data from TMTs. The number of TMT member responses ranged from two to five, with a mean of 2.8 members per team. The 46 companies that responded had an average TMT size of six. Although some of the TMT members did not respond, the response rate was good enough and thus the quality of the research was not affected. Additionally, the research design was such that a team-level analysis was used in the study.

Secondly, all the study's data except organizational EPS were obtained through self-reporting measures. The reliance on primary data has the potential associated with common method variance and other sources of systematic measurement error (Stajkovic et al., 2011). It is not, however likely that a consistency motive was present for a number of measures were taken in the questionnaire design. For example, participants did not have an implicit theoretical knowledge of what the research was on. Additionally, the study's variables were intermingled in the questionnaire and a number of research questions were reverse coded to minimize consistency motive in responses as suggested by Podsakoff et al. (2003).

Thirdly, this study employed a cross sectional approach. A longitudinal approach would provide for a longer time of study to observe relationships among study's variables. Fourth, the statistical models used to predict relationships between independent variables and EPS were found to be statistically non-significant. This implies that the models were not robust enough to predict results and perhaps the relationships hypothesized were not linear but may have been curvilinear. There is a possibility that use of non-linear models could have led to different findings.

Fifth, the population was restricted to companies listed in the NSE. The fact that there are many privately owned firms, state corporations, large manufacturing companies and small medium enterprises not covered in this study is a limitation of the generalizability of the findings. However, the above limitations did not compromise the research rigour, quality of data, findings' interpretation, reporting and the value of the study.

6.9 Suggestions for Further Research

This research has given rise to several new research avenues and practical implications. First, there is need to replicate this study in different contexts bearing in mind that this study directly measured TMT psychological characteristics using conceptually validated constructs. Replicative studies will help the TMT research draw patterns showing effect of TMT behavior on various organizational outcomes. Researchers could focus on TMT psychological characteristics guided by the findings of this study.

Second, this study did not consider the effect of TMT psychological characteristics' heterogeneity and homogeneity on organizational performance. Relatedly, a study that compares the impact of TMTs demographics and psychographics would allow researchers to understand better the predictive power of the two areas of research. Third, researchers should consider exploring the use of a historically contextualized analyses and longitudinal research design as first suggested by Beckman and Burton (2011). Such a research design would, besides examining when TMT roles and the individuals occupying those roles change also attend to historical time and context.

Fourth, researchers should consider using a multiplicity of variables to measure organizational financial performance. These variables are return on investment, total organizational assets, profit before tax, free cash flows, earnings before interest depreciation tax and amortization, gearing ratios and dividend payout ratio. This may address any shortcomings resulting from use of EPS measure variable used in this study. In this study, the effect of TMT psychological characteristics on EPS was found to be statistically non-significant.

This study used primary data to measure five of the six perspectives of SBSC. Future research may contribute to knowledge by use of secondary data to measure organizational performance as relates to customer, internal business, learning, social and environmental perspectives. The current study employed a cross sectional approach whereas a longitudinal approach would provide for a longer time of study to observe relationships among study's variables. The population of the study was restricted to companies listed in the NSE. There is therefore need to replicate this study in different contexts in order for researchers to draw patterns showing effect of top management team behavior on various organizational outcomes Finally, future research should consider other moderating and intervening factors that could affect the TMT behavior and performance linkage.

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APPENDICES

Appendix 1: Nairobi Securities Exchange Listing

Agricultural Category`

1. Eaagads
2. Kakuzi
3. Kapchorua Tea Company
4. Limuru Tea Company
5. Rea Vipingo Plantations
6. Sasini Ltd
7. Williamson Tea Kenya

Automobiles and Accessories

8. Car and General
9. CMC Holdings
10. Marshalls East Africa
11. Sameer Africa

Banking

12. Barclays Bank
13. CFC Stanbic Kenya Holdings
14. Diamond Trust Bank
15. Equity Bank
16. Housing Finance
17. I&M Holdings
18. Kenya Commercial Bank
19. National Bank
20. NIC Bank
21. Standard Chartered
22. Co-op Bank of Kenya

Commercial and Services

23. Express
24. Hutchings Biemer
25. Kenya Airways
26. Longhorn Kenya
27. Nation Media Group
28. Scangroup
29. Standard Group
30. TPS EA (Serena)
31. Uchumi Supermarket

Construction and Allied

32. ARM Cement
33. Bamburi Cement
34. Crown Paints Kenya
35. E.A. Cables
36. E.A. Portland Cement

Energy and Petroleum

37. KenGen
38. KenolKobil Ltd
39. KP&LC
40. Total Kenya
41. Umeme Ltd

Insurance

42. British American Investments
43. CIC Insurance
44. Jubilee Holdings Group
45. Kenya Re Corporation
46. Liberty Kenya Holdings
47. Pan African Insurance

Investment

48. Centum Investment Company
49. Olympia Capital Holdings
50. Transcentury

Manufacturing and Allied

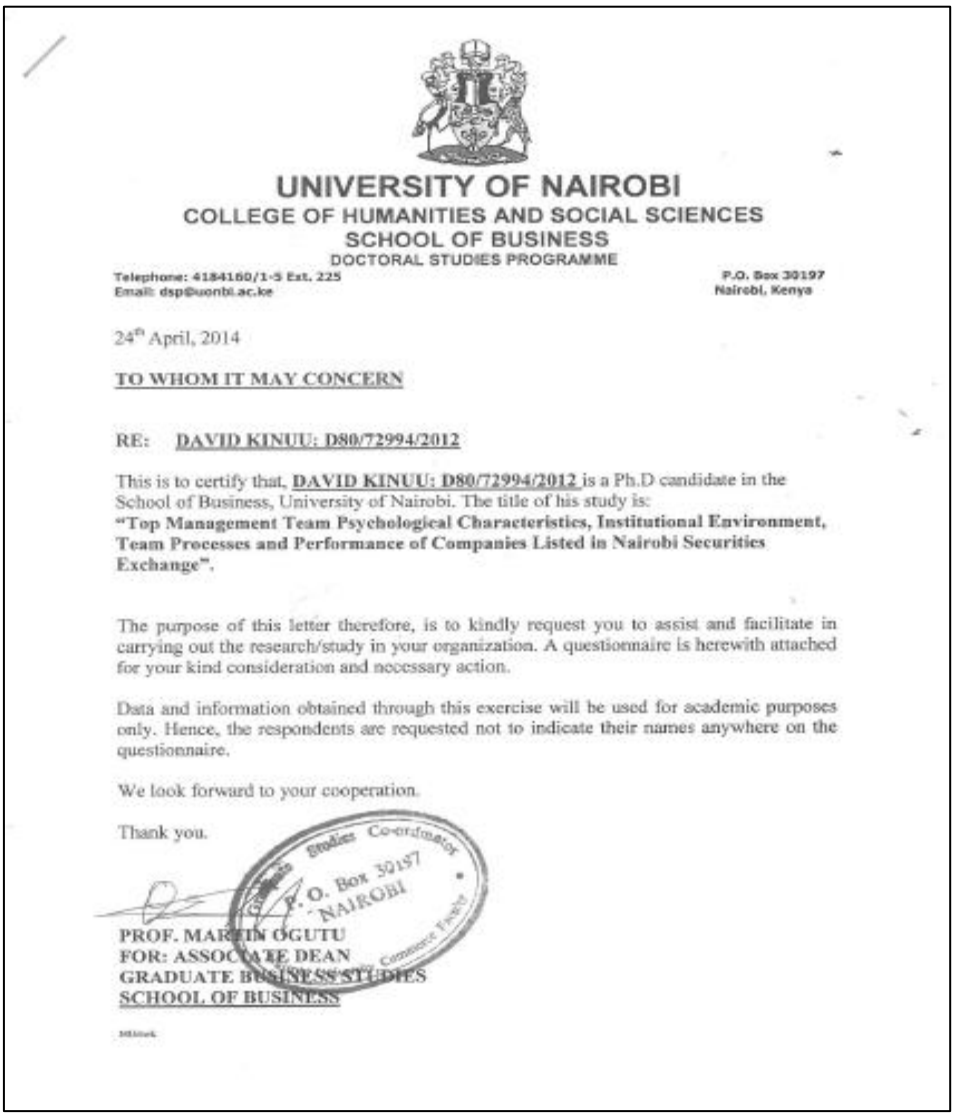
51. A Baumann & Company
52. BOC Kenya
53. BAT Kenya Ltd
54. Carbacid Investments
55. East African Breweries
56. Eveready EA
57. Kenya Orchards
58. Mumias Sugar Company
59. Unga Group

Telecommunication and Technology

60. Access Kenya Group
61. Safaricom Ltd

Source: www.nse.co.ke (2014)

Appendix 2: University's Introductory Letter



UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES
SCHOOL OF BUSINESS
DOCTORAL STUDIES PROGRAMME

Telephone: 4184160/1-5 Ext. 225
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P.O. Box 30197
Nairobi, Kenya

24th April, 2014

TO WHOM IT MAY CONCERN

RE: **DAVID KINUU: D80/72994/2012**

This is to certify that, **DAVID KINUU: D80/72994/2012** is a Ph.D candidate in the School of Business, University of Nairobi. The title of his study is:
"Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Performance of Companies Listed in Nairobi Securities Exchange".

The purpose of this letter therefore, is to kindly request you to assist and facilitate in carrying out the research/study in your organization. A questionnaire is herewith attached for your kind consideration and necessary action.

Data and information obtained through this exercise will be used for academic purposes only. Hence, the respondents are requested not to indicate their names anywhere on the questionnaire.

We look forward to your cooperation.

Thank you.

Studies Coordinator
P. O. Box 30197
NAIROBI

PROF. MARTIN OGUTU
FOR: ASSOCIATE DEAN
GRADUATE BUSINESS STUDIES
SCHOOL OF BUSINESS

Appendix 3: Researcher's Introduction Letter

David Kinuu
P.O. Box 14529- 00100 Nairobi
Email: davidkinuu@yahoo.co.uk
Cellphone: 0722698358
Ref: Kinuu/UoN/Phd/01/2014

Date: xx/xx/ 2014

Chief Executive Officer
Xxx Ltd
P.O. Box 14529 – 00100 Nairobi

Dear Sir,

RE: REQUEST FOR RESEARCH DATA

I am a doctoral candidate at the University of Nairobi, School of Business. I am currently conducting a research on ***Top Management Team Psychological Characteristics, Institutional Environment, Team Processes and Performance of Companies Listed in Nairobi Securities Exchange.***

I am pleased to let you know that your organization falls within the research population of interest. May I therefore request that you assist me with relevant information by filling the attached questionnaire and also allow your direct reports to also fill the questionnaire.

On behalf of the University and my supervisors, I covenant that the information gathered will be used for academic purposes only and that no information pertaining to your organization shall be shared with a third party whatsoever. If you so wish, I will gladly share with you the research findings as documented in the final report.

Thank you for your support.

Sincerely

David Kinuu

Cc
Dr. Vincent Machuki, PhD
Research Supervisor
School of Business, University of Nairobi

Dr. Zachary Bolo Awino, PhD
Research Supervisor
School of Business, University of Nairobi

Prof. Gituro Wainaina, PhD
Research Supervisor
School of Business, University of Nairobi

Appendix 4: Top Management Teams Sizes

Company	Top Management Team Size	Response
Williamson Tea Kenya	4	3
Kenya Commercial Bank	7	4
BAT Kenya Ltd	8	4
Standard Chartered	12	4
Standard Group	9	2
BOC Kenya	5	3
Car and General	8	3
Express	5	2
Barclays Bank	11	4
KP&LC	13	3
Unga Group	11	4
E.A. Portland Cement	8	3
Jubilee Holdings Group	9	2
Eaagads	4	2
Pan African Insurance	17	2
Marshalls East Africa	6	2
CMC Holdings	16	4
Bamburi Cement	9	2
CFC Stanbic Kenya Holdings	14	2
Crown Paints Kenya	5	3
NIC Bank	16	2
Liberty Kenya Holdings	8	4
Housing Finance	12	4
Co-op bank of Kenya	11	3
E.A. Cables	6	2
Centum Investment Company	6	3
Eveready EA	6	3
National Bank	7	2
Olympia Capital Holdings	3	2
Sameer Africa	9	5
Kenya Re Corporation	5	3
I&M Holdings	12	2
Carbacid Investments	4	3
Uchumi Supermarket	9	4
British American Investments	17	2
Equity Bank	16	3
Longhorn Kenya	6	4

Rea Vipingo Plantations	4	4
Transcentury	10	2
KenGen	7	2
Scangroup	10	3
Safaricom Ltd	12	2
Access Kenya Group	6	2
Hutchings Biemer	7	2
KenolKobil Ltd	11	2
A Baumann and Company	4	3
Total	401	128

Source: www.cma.or.ke (2014)

Appendix 5: Questionnaire

The purpose of this questionnaire is to collect data, for strictly research purposes, from companies listed in Nairobi Securities Exchange. The main purpose of the data will be to evaluate the influence of institutional environment and team processes on the relationship between top management team psychological characteristics and organizational performance. Your support in this regard is sincerely appreciated.

Section A: Organizational Background

i. Name of the organization_____

ii. How long has your organization been in operation in Kenya? Please circle your answer below.
    a. Less than 5 years
    b. Between 5 years and less than 10 years
    c. Between 10 and 15 years
    d. More than 15 years

iii. What is the size of your organization in terms of number of permanent employees
    a. Less than 100 employees
    b. Between 100 employees and less than 500 employees
    c. Between 500 and 1000 employees
    d. More than 1000 employees

iv. Please indicate your position in the organization by circling (a) or (b) below
    a. Chief Executive officer/Managing Director
    b. Divisional Manager reporting to the Chief Executive Officer

v. How long have you held your current position in the organization? Please circle your answer below.
    a. Less than one (1) year
    b. Between 1 year and less than 3 years
    c. Between 3 and 5 years
    d. Greater than 5 years

vi. Prior to your appointment to the current position, please indicate what your previous position was by circling one of the answers below
    a. I was doing a different role in the current organization or any of it's affiliate
    b. I was working for a different organization
    c. other (Please elaborate)_____

Section B: Psychological Characteristics

1. With respect to your performance in your current role in the organization, please indicate by marking a tick (√) the extent to which you agree with each of the following statements

Psychological Characteristics	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) I feel confident analyzing a long term problem to find a solution					
ii) I feel confident in representing my work area in meeting with other top managers					
iii) I confidently contribute to discussions about the company's strategy					
iv) I feel confident helping to set objectives/targets/goals in my work area					
v) I feel confident contacting people outside the company e.g., suppliers, customers to discuss problems					
vi) I feel confident presenting information to a group of colleagues					
vii) If I should find myself in a jam at work, I would think of ways to get out of it					
viii) At the present time, I am energetically pursuing my work goals					
ix) There are lots of ways around any problem					
x) Right now I see myself as being pretty successful at work					
xi) I can think of many ways to reach my current work goals					
xii) At this time, I am meeting the work goals that					

I have set for myself					
xiii) When I have a setback at work, I have trouble recovering from it and moving on					

Psychological Characteristics					
xiv) I usually manage difficulties one way or another at work					
xv) I can be "on my own" so to speak at work if I have to					
xvi) I usually take stressful things at work in stride					
xvii) I can get through difficult times at work because I have experienced difficulties before					
xviii) I feel I can handle many things at a time at this job.					
xix) When things are uncertain for me at work, I usually expect the best					
xx) If something can go wrong for me workwise, it will					
xxi) I always look at the bright side of things regarding my job					
xxii) I am optimistic about what will happen to me in the future as it pertains to work					
xxiii) In this job, things never work out the way I want them to					
xxiv) I approach this job as if "every cloud has a silver lining"					
xxv) Other (specify)					

2. As one of the members of the top management team in your organization, please indicate by marking a tick (√) the extent to which you agree with each of the following behavioral statements

Psychological Characteristics	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) I am confident I get the success I deserve in life.					
ii) Sometimes I feel depressed.					
iii) When I try, I generally succeed.					
iv) Sometimes when I fail I feel worthless.					
v) I complete tasks successfully.					
vi) Sometimes, I do not feel in control of my work.					
vii) Overall, I am satisfied with myself.					
viii) I am filled with doubts about my competence.					
ix) I determine what will happen in my life.					
x) I do not feel in control of my success in my career.					
xi) I am capable of coping with most of my problems.					
xii) There are times when things look pretty bleak and hopeless to me.					
xiii) Other (specify)					

Section C: Team Processes

3. By indicating a tick (√) in the appropriate box, Please indicate to what extent is the interaction among the top management team reflected in the statements below?

Team Processes	To a very great extent	To a great extent	To a small extent	Not at all	Not sure
i) The successes of other members of the top management team help me achieve my own objectives.					
ii) The members of the top management team get along together very well.					
iii) Relationships between top managers are best described as "win-lose"; If he/she wins, I lose					
iv) When final decisions are reached, it is common for at least one member to be unhappy with the decision reached					
v) Other (Specify)					

4. With respect to the working relationship among the top management team members, rate the following activities by indicating a tick (√) in the appropriate box.

Team Processes	Very high	High	Neutral	Low	Very Low
i) How much personal friction is there among your members?					
ii) How much are personality clashes evident in the top management team?					
iii) How much tension is there among members of the top management team?					
iv) How much emotional conflict is there among members of the top management team?					
v) Other (Specify)					

5. By indicating a tick (√) in the appropriate box, please rate the extent to which top managers in your organization demonstrate the following behavioral actions

Team Processes	To a very great extent	To a great extent	To a small extent	Not at all	Not sure
i) Let each other know when their actions affect another team member's work					
ii) Have a clear understanding of the job problems and needs of other team members					
iii) Discuss their expectations of each other					
iv) Are flexible about switching responsibilities to make things easier for each other					
v) Are willing to help each other complete jobs and meet deadlines					
vi) Other (specify)					

6. With respect to top managers' decision making, rate the following activities by indicating a tick (√) in the appropriate box.

Team Processes	To a very large extent	To a great extent	To a small extent	Not at all	Not sure
i) How often do top managers disagree about opinions regarding the work being done?					
ii) How frequently are there disagreements about ideas in the team?					
iii) How much do the top managers disagree about the content of the team's decisions?					
iv) To what extent are there differences of professional opinion in your team?					
v) Other (Specify)					

7. In terms of your own perception and the expectations you have of the other managers, rate the following activities by indicating a tick (√) in the appropriate box.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) All the team members have high integrity	[ ]	[ ]	[ ]	[ ]	[ ]
ii) The team members treat each other in a consistent and predictable fashion	[ ]	[ ]	[ ]	[ ]	[ ]
iii) The team members are not always honest and truthful.	[ ]	[ ]	[ ]	[ ]	[ ]
iv) In general the motives and intentions of the team members during our management meeting are not always good	[ ]	[ ]	[ ]	[ ]	[ ]
v) In a number of occasions, team members have not treated each other fairly	[ ]	[ ]	[ ]	[ ]	[ ]
vi) Other (specify)	[ ]	[ ]	[ ]	[ ]	[ ]

Section D: Institutional Environment

8. How do you perceive the effects of the following regulatory dimensions to your organization's operations

	Very severe obstacle	Severe obstacle	Weak obstacle	Not an obstacle
i) Information about laws and regulations	[ ]	[ ]	[ ]	[ ]
ii) Procedures in central/county government transactions	[ ]	[ ]	[ ]	[ ]
iii) Number of government offices to deal with	[ ]	[ ]	[ ]	[ ]

iv) Interpretations of laws and regulations [ ] [ ] [ ] [ ]

v) Other (specify) [ ] [ ] [ ] [ ]

9. With respect to effects of the dimensions of the rule of law to your organization's operations, rate the following statements by indicating a tick (√) in the appropriate box.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) Occurrence of crime does not impose business costs	[ ]	[ ]	[ ]	[ ]	[ ]
ii) There exists an efficient legal framework to challenge government actions	[ ]	[ ]	[ ]	[ ]	[ ]
iii) The judicial system is fair and impartial	[ ]	[ ]	[ ]	[ ]	[ ]
iv) Enforcement of commercial contracts is respected	[ ]	[ ]	[ ]	[ ]	[ ]
v) There is adequate protection of intellectual property rights	[ ]	[ ]	[ ]	[ ]	[ ]
vi) Other (specify)	[ ]	[ ]	[ ]	[ ]	[ ]

10. With respect to effects of government economic policies to your organization's operations, rate the following statements by indicating a tick (√) in the appropriate box.

Effects of Economic Policies	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) Taxation laws and policies promote investments					
ii) There is an effective implementation of government decisions					
iii) Economic policies adapt to changes in the economy					

iv) Government gives clear and consistent policy direction					
v) Laws and regulations are conducive for business					
vi) Other (specify)					

Section E: Organizational Performance

11. With respect to the overall performance of your organization, please rate the following statements by indicating a tick (√) in the appropriate box.

Organizational Performance	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i) Our organization's market share is ahead of our three close competitors					
ii) We always retain all our customers					
iii) We conduct formal research to monitor our product quality					
iv) Generally, our customers rate the quality of our products and services as poor					
v) The quality of procedures used in making key decisions is poor					
vi) The speed with which we develop products relative to our competitors is an important priority for this company.					
vii) Our company seeks advice from all the firm's functional areas when making important strategic decisions.					
viii) Our processes support speedy response to all customers' queries.					
ix) We conduct annual research to monitor our employees satisfaction and morale					
x) Relative to our competitors, our number one business priority is innovation.					

Organizational Performance	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
xi) In our organization, we do not constantly strive for a more highly trained workforce					
xii) Our company places strong emphasis on Research and Development and innovation.					
xiii) Community service and goodwill is an incompatible goal with our organization's business goals.					
xiv) We invest in community programs in which our expertise can provide a lasting impact					
xv) Diversity and inclusivity is a major consideration in our employment policy					
xvi) Every year, we publish a sustainability performance report.					
xvii) Protecting the diversity of the natural world is crucial when we consider new products/projects.					
xviii) In our organization we actively implement energy efficiency programs					
xix) In our organization we actively implement water usage efficiency programs					
xx) In our organization, we do not carry out annual environmental audits of all operations					
xxi) Other (Specify)					