EFFECT OF ORGANIZATIONAL LEARNING IN ACHIEVING COMPETITIVE ADVANTAGE OF STATE CORPORATIONS IN KENYA

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Effect of Organizational Learning in Achieving Competitive Advantage of State Corporations in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

I dedicate this thesis to the late grandmother Mrs. Teresina Mukara Makabila and late grandfather Mr. Joseph Karoli Makabila who championed education in their family and community against all odds.

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LIST OF ACRONYMS AND ABBREVIATIONS

BSC	Balance Scored Card
CEO	Chief Executive Officers
CLA	Collaborating Learning and Adapting
CSF	Critical Success Factors
DLOQ	Dimensions of Learning Organizations Questionnaire
HRD	Human Resource Development
IT	Information Technology
KCP	Knowledge Conversion Process
KENAO	Kenya National Audit Office
NACOSTI	National Commission for Science, Technology and Innovation
PRD	Pearl River Delta
SCAC	State Corporations Advisory Committee
SEM	Structural Equation Modeling
USAID	United States Agency for International Development

DEFINITION OF TERMS

State Corporation: A state corporation is a nationalized corporation, which is publicly owned by the state or government. It is a government created legal entity mandated to undertake commercial activities to develop and indigenize its economy. In Kenya, the provision of its establishment, control and regulations are set out in the state corporations Act chapter 446 laws of Kenya(Government of Kenya, 2012).

Competitive Advantage: Competitive advantage is the ability of a firm or industry to perform better than comparable firms in parameters such as sales, reduction in costs, market shares or profitability (Akhtar, Ahmed, & Mujtaba, 2013). Competitive advantage is gained by an organization over competitors as a result of offering consumers greater value, either using lower prices or by providing greater benefits and service that justifies higher prices.

Explicit Knowledge: Explicit knowledge refers to knowledge that is transmittable in formal, systematic language, while tacit knowledge is highly personal, context-specific, and therefore, hard to formalize or communicate (Virtanen, 2014).

Tacit Knowledge: It is a form of knowledge that is highly personal and context specific and deeply rooted in individual experiences, ideas, values, and emotions. Tacit knowledge constitutes a special category of human resources that must be uniquely managed (Gbenro & Agboola, 2015; Virtanen, 2014).

Knowledge Sharing: Knowledge sharing is the process of mutually exchanging knowledge and jointly creating new knowledge. It is the sharing of knowledge between and among individuals, and within and among teams, organizational units, and organizations. (Ali & Hawryszkiewycz, 2014; Garvin, Edmondson, & Gino, 2008).

Organizational learning: Is the process of organizations generating, acquiring, and transferring knowledge, and modifying their behavior to reflect new knowledge and insights (Boateng, 2011; Garvin et al., 2008)

Learning Organization: It is a place where people continually expand their capacity of creating results, where patterns of thinking are broadened and nurtured, where collective aspiration is free and where people are continually learning to learn (Boateng, 2011; Qawasmeh & Al-Omari, 2013). In essence, a learning organization is seen to be an organization, which is 'skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.

ABSTRACT

African governments have mandated state corporations as vehicles that drive economic growth and offer efficient and effective public services. The business environment within which these corporations are expected to deliver services to the public has drastically changed over the past decade. Customer demands have increased, and state corporations risk losing the main market base, stakeholder confidence and the resultant profits. State corporations have, therefore, adopted various strategies to survive and thrive in the future with the aim of challenging for the lion's share of profits, market and stakeholder confidence, as they strive to acquire and sustain a competitive advantage. Most authors opine that organizational learning is an essential strategy for state corporations to gain and maintain a competitive edge, and most governments agree with this proposition. Despite the theoretical underpinning that organizational learning is positively associated with competitive advantage, little evidence and tools exists for state corporations and chief to forge learning organizations. This study examined the role of organizational learning in achieving competitive advantage of state corporations in Kenya. The study focused on learning culture, learning processes, leadership practices and systems thinking as well as their role in achieving competitive advantage. Furthermore, the study examined the mediating role of rate of learning in the relationship between the independent variables and competitive advantage. The study employed a cross-sectional and correlational research design, utilizing both quantitative and qualitative approaches. A total of 198 staff from 35 state corporations, comprising senior managers, middle level managers and subordinate staff, responded to the semi-structured questionnaire. Additionally, in-depth interviews were done with 16 employees from eight purposively selected state corporations. Regression analysis using SPSS version 22, and structural equation modeling using Amos version 21, were used to make inference on the associations between dependent, mediating and independent variables. Qualitative data was analyzed using ATLAS.ti, and presented using text, summary tables, and *wordclouds*. Simple linear and multiple linear regression revealed that each independent variable was positively, and significantly, associated with competitive advantage. Rate of learning partially mediated the relationship between learning

process and competitive advantage, as well as between systems thinking and competitive advantage. The study also found that in line with theory, majority of state corporations performed better in single loop learning than in double loop learning. The study recommends that organizations could consider implementing strategies that increase the rate of learning within the organizations by focusing on concrete learning processes and systems thinking practices. Both formal and informal learning processes that maximize on utilization-focused knowledge acquisition, and sharing approach, are encouraged. To promote the use of learning processes, organizations need to establish an enabling learning environment by promoting and nurturing a culture that is flexible, that encourages innovation and resources learning opportunities. Managers need to design, institute and resource intentional mechanisms that encourage staff to pause and reflect on their actions when they have succeeded or failed at their work endeavors. To ensure staff are fully engaged in the learning process, organizations need to invest in building capacity of new and existing employees and partners to encourage reflective practices within the organization. More research is required to critically examine the role of leadership, particularly in state corporations, by examining different leadership types, how they impact the rate of learning, and their effectiveness in reinforcing learning within state corporations.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Some scholars view competitiveness as the ability of a firm to win consistently over the long term in a competitive period (Fulmer, Gibbs, & Keys, 2004). Other scholars have viewed competitiveness as the company's ability to provide products and services more effectively and efficiently than relevant competitors (Wang, 2014). Competitiveness, thus, is the ability of a firm or industry to outperform their rivals who are active in the same market consistently by creating better customer value. Competitiveness is a firm's ability to perform better than comparable firms on parameters such as sales, reduction in costs, market shares or profitability.

Competitive advantage is a multidimensional concept. It is gained through industry analysis, resource-based view, culture, technology, and through competencies (Porter, 2008). Competitive analysis provides information about the business forces operating in the external environment. On the other hand, resource-based view analyzes internal capabilities and strengths possessed by the firm. Therefore, environmental analysis is necessary but not sufficient for assuring a firm's competitive advantage (Wang, 2014). Internal resource analysis is inevitable as it provides unique internal organizational information, which is not available to competitors in the industry, and it also helps to design a unique strategy that is neither imitable nor substitutable.

Competitive advantage is attained by a firm that is implementing a value by creating a strategy that is not simultaneously implemented by current or potential competitors, and when other firms are unable to duplicate the benefits of this strategy (Khandekar & Sharma, 2005). A firm should possess internal resources that are valuable, rare, non-imitable and non-substitutable. Once a firm has identified resources that possess these evaluations, it should care for, and protect such resources. This is because doing that can improve organizational performance. Competitive advantage

manifests itself in various ways, including superior financial performance, cost reduction, better reputation, and better brand image.

Organizational learning is highly critical in today's dynamic and discontinuous environment of change. Organizational learning has gained prominence among researchers as a crucial determinant of performance as well as the only true sustained competitive advantage that an organization can have (CamisÉn and Villar-López 2011). Despite the understanding that a learning organization is founded on learning process of individuals, it is also evident that individual learning does not necessarily lead to organizational learning, according to Garvin et al., (2008).

The fact that organizational learning consists of individuals involved in learning activities, makes it easy to conclude that it is the aggregate of individual learning processes (Lin & Wu, 2014). However, there is more to a learning organization than simply a collection of individuals who are learning. For example, Senge(2006) , views organizational learning as "the changing of organizational behavior," which occurs through a collective learning process. Similar views are held by Al-adaileh, Dahou, & Hacini, (2012), who argue that the cornerstone of organizational learning is individual learning. An organization can only learn because its individual members learn. On the other hand, an organization has not automatically learned when individuals within it have learned something. Individual learning should be translated into organizational learning through socialization processes and routine diffusion, where social interaction is the convergent point between the two. Therefore, individual learning is a necessary but not a sufficient condition for organizational learning to occur.

According to Senge (2006), a learning organization uses a management philosophy based on knowledge and understanding, as opposed to fear, for the complexity of the real world. Senge opposes the management philosophy that rewards short-term decisions based on preconceived ideas, and instead suggests a need to understand that all elements within an organization are connected and that decisions impact different elements in a counter-intuitive fashion. Senge identified three levels of learning, including individual, team and organizational. These levels of learning are

seen as the building blocks of a learning organization. Individual level is not something that is taught, but rather, an innate ability that individuals get at birth. Herrera (2007) noted that moving from individual learning, to team learning, to organizational learning, is the basic essence of the dynamic theory of organizational knowledge creation.

Similarly, Wang and Ellinger (2008), notes that without the individual's focus and intention towards the new opportunity and innovative information, an organization would have difficulty achieving and initiating entrepreneurial activities. Considering these perspectives, organizational learning involves a "mind shift" that will lead to individuals recreating themselves, doing things they never thought they could do, perceiving the world in a different light, and extending their capacity to create.

Team learning is viewed as the alignment and development of a team's capacity to produce the desired results (Lin & Wu, 2014; Senge, 2006). The three critical dimensions to team learning include thinking insightfully about complex issues; adopting innovative ideas and coordinated action; and finally, the role played by team members on other teams. From the foregoing review, the concept of the a learning organization is seen to be an organization skillful at creating, acquiring, and transferring knowledge, and modifying its behavior to reflect new knowledge and insights (Garvin et al., 2008). Organizational learning emphasizes the development and application of new knowledge that has the potential to change employees' behavior, which is ultimately tipped to strengthen the organization's competitive position.

1.1.1 Global Perspective

Rapid and unpredictable changes in government services over the past three decades have pushed the attention of many researchers to the area of organizational learning as a factor to foster competitive advantage (Kim & Han, 2015). These changes have stimulated interests in evaluating and focusing on the need to improve government performance through different organizational development approaches. African governments are trying to discern the world of competitiveness. Competitiveness

frameworks in governments and governmental organizations, are increasingly linked with the ability to maintain high-quality level of services, manage risks and have a sense of accountability towards the future, (Kinuthia, Lakin, & Ph, 2015). Government organizations are, thus, required to exploit their full potential so as to attain, maintain and sustain their prosperity.

Organizational learning continues to receive attention of researchers and practitioners with some researchers having hinted that this attention will continue to grow (Easterby-Smith & Lyles, 2011). A key reason behind this growth is the contribution of knowledge workers in the growth of knowledge economy. As noted by Jain and Moreno (2015), knowledge workers' productivity is an enormous challenge of this century, and identifying it as the true competitive edge of a global economy. Literature on organizational learning has shown its significance in various sectors and industries (Hardeep & Bakshi, 2014; Hogan & Coote, 2014; Idowu, 2013; Kharabsheh, Jarrar, & Simeonova, 2014a; Lee & Lee, 2013; Mahajan & Chaturvedi, 2013; Salmador & Florín, 2013; Thoithi, 2013). These include public sector, non-governmental organizations, banking sector, small and medium-sized enterprises, manufacturing, human and professional service firms, and insurance businesses.

Some research from a global perspective has focused on the use of data and information. In the United States of America, Rabovsky, (2014) used data taken from a survey of presidents of public universities to advance understanding about the use of data and performance management strategies within public organizations. The central research question was: why do public administrators choose to employ performance management strategies? The findings suggest that public universities often use performance data to help manage their affairs. However, many of the causal factors that lead to data use vary across management functions.

Other studies have assessed the role of learning on firm performance. In the Asian continent, the organizational learning has gained prominence in various sectors. In India, Jain and Moreno, (2015) investigated the impact of organizational learning on the firm's performance and knowledge management practices in a heavy engineering

organization. Results showed that organizational learning factors were positive predictors of different dimensions of a firm's performance. Similarly, Choi and Chandler, (2015) used the concept of exploration and exploitation, commonly applied to the private sector, to analyze public sector innovation. The authors explained dynamics of government innovations in social welfare policy regarding a balance between the two modes of organizational learning and the challenge of balancing them.

Learning as a source of superior performance has also been sudied in Korea. For instance, Choi and Park, (2014) examined the relationship between learning transfer climates and organizational innovation. Their results revealed that private organizations had significantly higher mean scores compared to public organizations for learning transfer and perceived organizational innovation. The results also revealed that openness to change and performance coaching had significant effects on perceived innovation in private and public organizations. Camarena (2014), concurred with these results and notes that knowing what and whom you need to know to be successful may be the crux of learning, and provided evidence that merging these two disciplines into a learning curriculum can increase the return on each training dollar.

From the Middle East, Tajeddini (2016), examined effects of innovation and learning orientation on the performance of public organizations in Iran, establishing that learning orientation and innovativeness leads to better public organization performance, which should be encouraged. Their study was motivated by the little research into innovation and learning practices and their effects on enhancing competitive advantages in public organizations in transitional economies. The results showed that learning orientation and innovativeness had a role in assuring better performance or public organizations. Particularly, the results suggested that higher levels of learning orientation and innovativeness helped organizations to achieve higher levels of delivery, speed, cost efficiency, and quality in future firm performance.

Similar discussions on the role of organization learning have been noted in Norway where, Steinmo and Rasmussen (2016), assessed public research organizations as potentially valuable collaboration partners for firms in the development of innovations. Through a longitudinal study of 15 successful innovation projects involving businesses and public research organizations as collaboration partners, Steinmo and Rasmussen (2016), established that depending on a firm's characteristics, different proximity dimensions are essential for the establishment of new collaborations. Whereas engineering-based firms tend to rely on geographical and social proximity to public research organizations, science-based firms rely more on cognitive and organizational proximity. They also found that firms with initial social and geographical proximity to public research organizations, could sustain and expand their collaborations through the development of cognitive and organizational proximity over time.

Conversely, Carrim and Basson, (2013) conducted a study to establish if there were differences in how one public and private organizations created a learning climate. They conducted a survey and comparative analysis of particular departments in a chemical and gas company, an insurance firm, and a semi-private state-owned organization, to ascertain dimensions that foster the creation of a learning climate. Results showed that management support, autonomy, responsibility, time, opportunity to develop, and guidelines to access information, were crucial in the creation of a learning climate. The study illuminated the need to align strategy for creating a learning atmosphere with the organization's structure, culture, and goals.

Knowledge attrition is a worldwide challenge that can impact negatively on organizations' performance. Dewah, Dewah, and Peterson (2013), assessed how knowledge loss could affect public broadcasting corporations' performance of Botswana, South Africa, and Zimbabwe. They administered a survey questionnaire to 162 professionals and managers in the three public broadcasting organizations. Findings showed that even though the corporations had lost valuable knowledge to competitors, there were still no measures to harness this knowledge hemorrhage. Even though the study recommended establishment of a knowledge officer's post to oversee the management of the broadcasting corporations' knowledge, it is clear that

the issues associated with knowledge attrition need more in-depth analysis and resolution. As firms lose their knowledge workers to competitors, they are likely to lose their competitive edge.

1.1.2 Kenyan Perspective

Research and discussions on organizational learning have not been restricted to the Asian, America, Europe and Middle East. Thoithi (2013) notes that there have been efforts to assess the organizational learning in Africa, and particularly East Africa. The demand and need for learning among public sector organizations has also been echoed in Uganda. Kyohairwe (2014) examined impact of public accountability mechanisms in Uganda's decentralized local governments. They assessed and discussed some of the common tools used for evaluation of local government performance. Examples include village participatory democracy and score-cards. They found that the orthodox theories of local governance and concept of democracy were bases for assessing feasibility of public accountability in Uganda. Therefore, inefficiencies are the universal applicability of the concept of local democracy, and suggested new mechanisms of public accountability that emerge from organizational learning.

Other studies in Uganda focused on approaches to organizational learning. Bwegyeme and Munene (2015) demonstrated through their paper on how action learning principles were implemented to alleviate complex problems in universities. The paper focused on registrars and administrators under the academic registrar's department. Bwegyeme and Munene (2015) employed the Marquardt model of action learning in combination with the constructivist theories of learning, including the community of practice, experiential learning, discovery learning, problem-based learning and situated learning. Results affirmed the importance of culture and knowledge-sharing, and showed that action learning contributes to problem-solving.

Hartley (2014) recognized the challenge of co-operative revival in some African countries, especially, associated with youth co-operators, conducted a study with youth co-operatives in Lesotho and Uganda. Their study showed how co-operatives

promoted collective learning, and how members learn 'from' and 'with' each other, thus, leading to newer ways of thinking and action. These dynamics are influenced by trust and power relations, as well as specificities of different co-operatives and access to networks.

In another context, Issa (2010) suggested that implementation of public service reform programs in Tanzania had been a source of new ideas and innovations as a result of the continuous learning approach. They proposed that the reform history and its management, not only contribute to the learning achieved but also to associated incremental changes. In reforming public service, Tanzania had faced challenges from which remedies emerged. The government had developed a new approach to engaging public service entities that continuously fosters organization learning to improve ownership and increase the level of commitment to reforms. Issa explored this demand-led approach in the study and challenges to implementation, were unearthed as well as formidable solutions. The study demonstrated an increase in the use of continuous learning approaches to revitalize public sector organizations.

Focus on learning in Tanzania has not been restricted to public sector organizations. Kamoche and Newenham-Kahindi (2012) critically examined the processes of knowledge appropriation through the management of human resources and culture by multinational companies in Tanzania. The authors compared approaches of two global multi-national corporation banks, and examined how each aligns human resource policies and practices with its idea of corporate culture. Even though the banks claimed to follow a transnational model of best practices, the study established a complex set of approaches in the way each bank developed its organizational and human resource management.

In Kenya, Mwangi, Thuku, and Kangethe (2012) investigated the existence of formal knowledge management initiatives in the software industry. These included creation of virtual communities, expert localization, establishment of knowledge taxonomies, knowledge transfer, knowledge sharing, knowledge incubation, mentorship, collaborative software development, creation of entrepreneurship initiatives, as well as providing a building block towards knowledge economies. They found no formal

study or open initiative for knowledge management in software development in the region, and proposed a hybrid model for use in knowledge management initiatives, focusing on software development.

On the other hand, Ollows and Moro, (2015) investigated the process of loan manager knowledge formation about the borrower with emphasis on the role played by soft information. By relying on inter-organizational knowledge transfer framework, they investigated the interaction of loan managers' trust in the borrower, the social ties in which the lender-borrower relationship is embedded, and the bank structure within which the transfer of soft information occurs from the borrower to the lender. The results suggested that when dealing with SMEs, banks should make use of both soft and hard information to make a lending decision. An imperative role of soft information emerged, since in most cases, bank managers are interested in understanding the soft factors before they consider the hard information.

1.1.3 Nature of State Corporations in Kenya

Like other African governments, Kenya has mandated state corporations to be vehicles that drive economic growth and efficient public service. Over the years, these enterprises have been expected to correct market failures, exploit social and political objectives, as well as provide social services such as education, health and development to marginal areas (Kinuthia et al., 2015). To help state corporations deliver on their mandates, governments have given state corporations significant budget allocations and legal support. In Kenya, for example, the national treasury has allocated sizable, and growing share of resources, to help state corporations perform functions that span the national, regional and local levels.

These factors have significantly changed over the past two decades, and the business environment for state corporations is more dynamic and complex. State corporations are facing fierce competition from vibrant and innovation-minded private and civil society sectors. For example, the American Rating Agency, A.M. Best, has downgraded the financial strength rating of listed Kenya Reinsurance Corporation to B (Fair), from B+ (Good). The firm partially attributed this fall in rating to

increasingly sophisticated competition (Kinuthia et al., 2015). At the same time, public awareness and demand for high-quality standards have increased exponentially. The Kenyan public now requires the same if not better quality, more efficient and effective goods and services from state corporations, as they would get from the private sector (Government of Kenya, 2013). The legal environment is becoming less favorable to the state corporations, with changes in competition laws and the emergence of policies that favor the growth of the small and medium-enterprises.

These dynamics have left the state corporations sector with one important option - to compete for their market share, profits and stakeholder satisfaction. Most chief executives of these firms are seeking answers on how they can develop and sustain competitive advantage, despite the challenging business landscape (Tajeddini, 2016). Decades of research on competitive advantage suggest that the only sustained advantage that a business can have is to transform into a learning organization. The speed and quality of organizational learning are tipped to be the ultimate distinguishing factor between an average organization and an one that attains sustained competitive advantage (Yu, Dong, Shen, Khalifa, & Hao, 2013).

1.2 Statement of the Problem

State corporations have a heavy mandate. In Kenya, they exist to undertake specific strategic government objectives in delivering public service by partaking commercial activities on behalf of government (Government of Kenya, 2013). State corporations are expected to correct market failures, exploit social and political objectives, and provide education and health services, among other responsibilities. These institutions face a myriad of internal and external obstacles in delivering on their mandates, including inefficient staffing, lack of knowledge and skills by critical staff, limited financial recourse, conflicting and ambiguous regulatory policies, and corruption. Politicization, poor corporate governance, weak supervision, financial management and alleged abuse of office, have exacerbated the situation(Ethics & Anti-Corruption Commission, 2016) . Furthermore, state corporations compete with the private sector and with each other for markets, profits, and stakeholders.

Changes in the operating context have further complicated circumstances for state corporations. They are facing cut-throat competition from an innovative and vibrant private sector as well as a vigorous push for accountability alongside diminishing trust from citizens whose thirst for quality products and services seems unquenchable (Thoithi, 2013). The business environment is getting more complex as business laws continue to encourage growth private-sector enterprises and increase competition, which ultimately impacts on state corporations (Government of Kenya, 2013). Corruption continues to be a constant barrier in reclaiming the image of state corporations among their clientele.

The Report of the Presidential Taskforce on Parastatal Reforms pointed out the global financial crises, the rise of corruption scandals, waste and bankruptcy of companies, as drivers for better governance of state corporations (Government of Kenya, 2013). In the fiscal year 2016/2017, the Ethics and Anti-Corruption Commission Annual Report identified three priority unethical issues plaguing state corporations and eroding public trust. These included delays in service provision (32%), bribery (27.1%) as well as lateness and absenteeism (23.1%). The national level corruption perception showed a high level of corruption at 73.9 percent, which represents an increment of 6.2 percent from 2012 (Ethics and Anti-Corruption Commission, 2016). Corruption and unethical practices within state corporations further erodes trust from the citizens and other stakeholders, thus further complicating efforts to grow their market share (Cleveland, Favo, Frecka, & Owens, 2009; Muthuri & Gilbert, 2011).

Essential support for state corporations in delivering their mandates has reduced significantly. State corporations are now expected to operate as for-profit, self-financing, self-sustaining and accountable entities to key stakeholders and the public through the national Parliament, (Government of Kenya, 2013). These changes have forced state corporations to compete for profits, market share and stakeholder satisfaction for their survival and growth. For State corporations to conquer the challenges confronting them and thrive as organizations, there is a need to employ a measure that will assure them of sustained competitive advantage. To gain and sustain competitive advantage, state corporations need internal resources that are

valuable, rare, non-imitable and non-substitutable (Valmohammadi & Ahmadi, 2015).

Despite the consensus that organizational learning is crucial to success of enterprises, development of this capability in public organizations is still in its infancy among state corporations (Akhtar et al., 2013; Leonidou, Leonidou, Fotiadis, & Aykol, 2015; Peeters & Robinson, 2015). Various reasons have led to this situation. First, the evidence base linking organizational learning to competitive advantage for public sector organizations is either weak and, in some instances, non-existent. Secondly, Chief Executive Officers (CEOs) who have prioritized or seek to prioritize organizational learning for competitive advantage, have limited information and tools to help forge learning organizations (Thoithi, 2013). Therefore, efforts to forge learning are based on a trial and error processes.

These studies and discussions affirm that organizational learning is gaining prominence to foster performance and achieve competitive advantage for various sectors. Most of these studies demonstrate both the relevance and application of organizational learning as well as knowledge management practices. However, there are limited empirical studies, which explore the antecedents of organizational learning practices, especially in a public-sector organization, and state corporations. Additionally, with the focus being on evidence-based decision-making, it is essential to start gathering evidence of what works and how it works to allow CEOs to design and implement strategies that have greater chances of success based on evidence (Garvin, 2013). This study attempted to test the effect of organizational learning in achieving competitive advantage of state corporations in Kenya.

1.3 Objectives of the Study

The study was guided by both the general and specific objectives.

1.3.1 General Objective

The general objective of the study was to examine the effect of organizational learning in achieving competitive advantage of state corporations in Kenya.

1.3.2 Specific Objectives

1 To examine the effect of learning culture on the competitive advantage of state corporations in Kenya
2 To determine the effect of leadership on the competitive advantage of state corporations in Kenya.
3 To evaluate the effect of learning processes in fostering competitive advantage of state corporations in Kenya.
4 To examine the effect of systems thinking on the competitive advantage of state corporations in Kenya
5 To establish the mediating role of rate of learning on competitive advantage of state corporations in Kenya.

1.4 Hypotheses of the Study

H_{o1}: There is no effect of learning culture on competitive advantage of state corporations in Kenya

H_{o2}: There is no effect of leadership practices on competitive advantage of state corporations in Kenya

H_{o3}: There is no effect of learning processes on competitive advantage of state corporations in Kenya.

H_{o4}: There is no effect of systems thinking on competitive advantage of state corporations in Kenya.

H_{o5}: Rate of learning does not mediate the relationship between organizational learning and competitive advantage of state corporations in Kenya.

1.5 Significance of the Study

1.5.1 Leadership of State Corporations

State Corporations are the immediate beneficiaries of the study process and outcome since the study focused on state corporations as the sample population (Government of Kenya, 2013). Chief Executive Officers (CEOs) of state corporations can make decisions on whether and how to institute organizational learning. Government and

other policy makers will have access to valuable information for use in formulating and implementing policies associated with organizational learning and competitive advantage of state corporations. They will be able to take into consideration the effect of organizational learning in the attainment of competitive advantage in state corporations.

Some of the issues noted by Garvin et al. (2008), as reasons for weak adoption of learning within organizations included lack of concrete prescription to nurture a learning organization, and limited evidence on whether organizational learning influences organization performance and competitive advantage. This study provides managers with specific suggestions and tools that they can employ if they intend to nurture a learning organization. Additionally, the study builds on the evidence that test the theoretical underpinning that organizational learning is associated with competitive advantage of state corporations.

1.5.2 Research and Academic Community

Very few studies have in the past focused on measuring the rate of organizational learning, and none has assessed the mediating role of rate of learning in the relationship between determinants of learning and the competitive advantage of organizations (Clark, Huckman, & Staats, 2013; Voolaid, 2013). This type of evidence is weakest in African countries, particularly Kenya. This study adds to the body of knowledge of organizational learning, strategic management and knowledge management of state corporations. Researchers interested in these areas will get specific recommendations on research gaps in addition to knowing the effects of learning on performance of state corporations.

Additionally, information from the study provides literature for other researchers and academicians interested in undertaking research in a similar field. Investors, governments, academicians, and scholars will find these research findings an important source of knowledge for them to understand and appreciate. This study enriches the theory and practice of strategic management practices in helping

scholars to realize the need for organizational learning in the attainment of competitive advantage (Garvin et al., 2008).

1.5.3 Policy Makers

The Government of Kenya, through its *V*ision 2030, acknowledges that the country is a knowledge economy. In fact, Vision 2030 recognizes that in the emergence of the knowledge economy is always associated with an increase in science-related and technology-related activities (Government of Kenya, 2007). Policy makers in Government of Kenya and other Governments with similar aspirations, will find the results of this study useful as it provides evidence of how organizational learning affects competitiveness of state corporations – the Government vehicle for economic transformation. They will be able to develop evidence-informed policies associated with organizational learning, and how to improve rates of individual, team and organizational learning.

1.6 Scope of the Study

The subject scope of this study focused on the main roles played by organizational learning in the achievement of competitive advantage. The geographical scope was limited to Kenya, which is a developing nation located in East Africa. The focus scope is centred on state corporations as categorized by the State Corporations Advisory Committee. State corporations have been selected due to their significant contribution to economic growth in Kenya and the challenges they face, which give impetus to the need for them to transition into competitive organizations (Government of Kenya, 2013). The research was confined to the analysis of four independent variables, namely: learning culture, leadership, systems thinking, and learning processes. The study's dependent variable was competitive advantage. Rate of learning in state corporations was predicted to mediate the relationship between the independent variables and competitive advantage. Primary data collected on the study variables was confined to the fiscal year 2015/2016.

1.7 Limitations of the Study

As noted by Saunders et al. (2015), the challenge of access to information has been noted as a key limitation to various studies. Accessing financial data from state corporations was virtually impossible during the initial stages of the study. Using financial data in the regression analysis and structural equation modelling may have yielded varying results. Initially, the researcher intended to use the state corporations' performance report but was informed by the relevant authorities that the report had not been published since 2012 and advised to go to each firm and get their financial reports. This process only yielded a 15% response with only six reports received from the targeted 40 state corporations. The final solution was to request for audited financial reports from the office of the auditor general.

Numerous reports for all categories of state corporations were uploaded to the Kenya National Audit Office (KENAO) website. The researcher managed to access 16 reports out of the 35 organizations that returned their research questionnaires, accounting for 46% of the reports. The small sample of reports accessed limited the type and level of analysis that the study could conduct. To mitigate the effect of this challenge, the study opted for the perception based assessment of competitive advantage similar to what was used by other researchers (Kessler et al., 2000; Martinette & Obenchain-leeson, 2012). The financial data was used to triangulate results from descriptive statistics and qualitative interviews on competitive advantage of state corporations, as they could not be used to compute the variable for use in the regression equations and the structural equation modelling procedure.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of relevant and important theoretical and empirical literature. It comprises of the theoretical review, conceptual framework of the study and key empirical studies on organizational learning and competitive advantage.

2.2Theoretical Review

Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions (Saunders et al., 2015). The theoretical framework introduces and describes the theory that explains why the research problem under study exists. It is used to limit the scope of the relevant data by focusing on specific variables and defining the specific viewpoints that the researcher took in analyzing and interpreting data. It also facilitates the understanding of concepts and variables according to given definitions, while building new knowledge by validating or challenging theoretical assumptions.

2.2.1 Espoused Theory and Theory in Use

Argyris and Schon (2013) view organizational learning as a product of organizational inquiry. This implies that whenever expected outcomes differ from actual outcome, an individual or group will engage in an inquiry to understand, and if necessary, address the inconsistency. In the process of inquiry, the individual will interact with other members of the organization and learning will take place. They view learning as a direct product of this interaction. In the initial discussion, Argyris and Schön (1996) approached organizational learning theory based on their understanding of two modes of operation: espoused theory and theory in use. According to Argyris (1999) espoused theory represents people's descriptions of how they intend to act in a given situation, and the rationale behind the intended

actions, while theory-in-use reflects how people actually behave (Argyris & Schon, 1978). Espoused theory also refers to the formalized part of the organization while theory-in-use is the actual way in which individuals act.

Argyris and Schön (1996) suggest that individuals will rarely follow espoused theory and will rely on interaction and brainstorming to solve a problem. On the other hand, theory in use refers to the social way that employees solve problems and learn. According to the theorists, managers cannot accurately describe policies that underlie their decisions as expected in the espoused theory. Rather, one can only accurately identify policies used in decisions by observing managers' decisions, or the actual theory in use. The lack of coherence between espoused theory and theory-in-use acts as a major constraint to research on people's learning behavior and the translation of learning theory into practice (Ison, 2002).

Bulkley and Mccotter (2017) conducted a study to understand how espoused theories of action around data use in schools developed by prospective leaders, shift to theories-in-use as those individuals become practicing leaders. For all three leaders studied, working as practicing leaders raised challenges to their ideals about data use as reflected in their espoused theories. Despite these challenges, the leaders maintained a focus on data use. For these leaders, when data use did not unfold in the way that they anticipated, they were more likely to do more of the same while also shifting toward a more leader-driven and structured approach rather than challenge their own core beliefs.

Bulkley and Mccotter (2017) also evaluated the coherence between the leaders' espoused theories and theories-in-use. The leaders tended to value the role of shared leadership and decision making around data use when describing their espoused theories. However, when translating those espoused theories into theories-in-use, there was less evidence of collaboration and flexibility and more of a structured, leader-driven approach. This shows that there was a mismatch between the espoused theory and the theory in use which is a concern that Argyris and Schön (1996) raised. The focus of research has been trying to move from the espoused theory to theory in use.

The above two examples highlight the high potential of a mismatch between the espoused theory and the theory-in-use. The mismatch between the espoused theory and theory-in-use is potentially problematic if a company enforces its espoused theory Argyris (1999). Similar to the work of Bulkley and Mccotter, (2017), other studies have found that social workers who find that their strategies are ineffective or result in undesirable outcomes, often change their strategies. Argyris (1974), pointed out that most people do the same but further argued that changes which are restricted to strategies and do not include the values that drive them are rarely effective. According to Argyris (1974), the most effective way of making informed decisions is to examine and change one's governing values. It is when we touch on values and principles that we advance our learning to the higher levels.

The implication of the espoused theory and theory-in-use to this study, is based on its emphasis on enabling environment for learning. To create working environments that are conducive to learning, organizations need to encourage moving from espoused theory to theory in use and make it easy for the individual to interact with his or her working environment in an undefined and unstructured way (Argyris and Schön, 1996). Organizations need to provide the right environment for the organizational inquiry to take place, unconstrained by formal procedures. This perspective suggest that learning could be associated with an environment that is not constrained by formal procedures.

2.2.2 Senge's Five Disciplines

Peter Senge (1990) views a learning organization as a place where people continually expand their ability to create results; where patterns of thinking are broadened and nurtured; and where collective aspiration is free. It is also a place where people are continually learning to learn. In fact, organizational learning is too complex to be viewed as just a combination of individual experiences. It encompasses the process of communication, sharing, and broad-based integration of new knowledge into organizational routines and systems (Crossan, Lane, White, & Djurfeldt, 1995).

Senge (2006) points that despite organizations knowing the importance of learning, three barriers hinder them from learning. One barrier is the lever, by which he meant the inability of organizations to understand their complexities, thus, their inability to target specific points within their systems that would bring tremendous benefits. The second is the learning disability, which comprises of seven learning disabilities among individuals within organizations that hinder them from learning, which impacts the rate and quality of organizational learning. The third barrier is that due to lack of knowledge, we are prisoners of our own thinking.

To counter the barriers, Senge (2006) identified five key competencies or 'disciplines' that he suggests all leaders must have in order to build and lead a learning organization. These competencies are personal mastery, mental models, shared vision, team learning and systems thinking. According to Senge, personal mastery is about 'self-awareness,' and it is based on the premise that organizations grow because the people in the organizations are themselves growing. It assumes that individuals must learn for organizations to learn. Personal mastery is one's drive towards continuous improvement by learning. Personal mastery involves expanding individual capacity to create realities that they desire most. It also involves creating organizational environments that encourage members to develop themselves so as to achieve the goals and purposes they choose.

Mental models look at the process and outcome of surfacing deep-seated beliefs, values, and assumptions that determine the way people think and act (Senge, 2006). It involves continuous reflection, clarification, and improvement of our internal pictures of the world and trying to understand how these internal perceptions influence our actions and decisions. The lack of understanding of mental models is a main reason system's thinking projects fail. Senge used the ladder of inference to effectively explain the progression of information while employing mental models.

The ladder of inference was first developed by phycologist, Argyris (1970) and popularized by Senge (2006). The ladder of inference describes the thinking process that we go through, often without noticing it, to get from a fact to an action. These thinking stages have been summarized as rungs on a ladder. The ladder of inference

demonstrates how developing a habit of challenging our assumptions can help avoid poor judgments and decisions. According to Argyris (1970), the first level of the ladder is our observable data and experiences, which lead us to observable data that included the information that we gain access to. The second stage of the ladder is the data we select from what we observe. The third stage of the ladder if the process of adding meaning to the data that we select which is widely influenced by our cultural and personal beliefs. Based on the meaning we attach to selected data, we make assumptions. The fifth stage of the ladder is drawing conclusions based on the assumptions. The conclusions we draw lead us to adopt certain beliefs about the world and take actions based on our beliefs. Most importantly we need to be aware that we are making assumptions so that we can go back down the ladder and make necessary changes (Agyris, 1970, Senge, 2006).

Building a shared vision involves creating a sense of commitment to a group by establishing integrated images of the future that the organization wishes to create, as well as guiding principles and practices to use to get to the future. When people have something in common, they rally for it. Hence, it is essential for leaders to develop a vision that relates to people's ambition or helps people to rally behind a shared vision for the organization (Garvin et al., 2008). Boateng (2011), concurs by noting that team learning happens when teams start thinking together. This kind of team learning is most likely to occur when there is a shared vision among the team members hence the need for chief executives to prioritize development of a compelling vision for their teams. Furthermore, Senge (2006) describes team learning as a process that involves transforming dialogue and intellectual interaction so that the collective results are greater than the sum of individual members. Organizations are encouraged to implement tools and processes that support teams to grow and learn together.

All the factors essential for building a learning organization need to be looked at from the Systems Thinking Perspective. The systems thinking is a framework for seeing interrelationships that underlie complex situations and interactions, rather than simplistic and often inaccurate linear cause-effect chains (Senge, Art, & Roberts, 2001). The contribution of Senge (2006) through the concept of systems thinking, which is viewed as the ability to discover structural causes of behavior, is

instrumental to this study. Systems thinking is necessary for sustaining generative learning, which is a foundation for people's creativity. Systems thinking focuses on interrelationships between parts of an organization and emphasizes the importance of recognizing the effects of one level of learning on another. It shows the interrelated patterns within a business and enables people to see the whole organization instead of focusing only on the parts. Using a more holistic perspective, systems thinking helps people to solve problems with a context of a larger scenario instead of fixing the problem as a discrete activity. According to Prugsamatz (2010), systems thinking provides a means of understanding systems at a deeper level in order to see the paths available to bring about changes more effectively. A systems thinker is able to understand the interrelationship of activities happening inside the organization (Akhtar et al., 2013).

The work of Senge (2006), particularly, the five disciplines, are of great significance to the current study. Despite this high importance of systems thinking in nurturing learning organizations, there has been little effort to test its contribution to competitive advantage. Systems thinking is one of the independent variables for this study. This study will assess the effect of systems thinking in achieving competitive advantage of state corporations. The remaining four disciplines form important building blocks of the study model. Mental models form an integral part of systems thinking, shared vision is a crucial function of leadership, team learning thrives in certain organizational culture contexts, while personal mastery is weaved into the learning processes.

2.2.3 Building Blocks of a Learning Organization

Garvin, Edmondson, and Gino (2008) proposed three foundational blocks for building a learning organization. They acknowledged that tougher competition, technological advances, and shifting customer preferences, necessitate companies to become learning organizations. The authors concur with Senge (2006; 1990) that the ability to learn faster than competitors is the only sustainable competitive advantage for organizations. According to Garvin et al. (2008), a concrete conception of organizational learning must include change, such that an organization can be said to

learn only when its actions have been modified as a result of reflection on new knowledge or insight. Therefore, in measuring learning in organizations, it is important to look at the actions taken by an organization to in light of new knowledge and insights.

On the other hand, Garvin et al. (2008) acknowledge that even though there have been decades of debates on organizational learning and its importance, the rate at which organizations had adopted learning practices was not commensurate with the discussions on the matter. They identified what they considered if primary barriers to the adoption of learning in organizations. These barriers include the perception that managers do not know the steps for building a learning organization, they lack tools to assess whether their teams are learning or how that learning is benefiting the company.

To surmount the barriers and forge learning organizations, Garvin et al. (2008) proposed three building blocks that are required for creating a learning organization. These are a supportive learning environment, concrete learning processes, and leadership that reinforces learning. They encourage organizations to assess constantly how well their teams, units, or companies exhibit the defining characteristics of each building block. They suggest that this diagnostic process will help leaders to identify areas for improvement. Comparing the performance of different units within the organization or against industry benchmarks is a practice that companies should adopt since it reveals useful information that can be used to increase organizational success.

Garvin et al. (2008) note that a supportive learning environment ensures that employees feel safe to disagree with others; it is an environment that allows them to ask naive questions, own up to mistakes, and present minority viewpoints. Akhtar et al. (2013) concur and suggests that organizations should help to recognize the value of opposing ideas, encourage employees to take risks and explore the unknown. Futhermore, a supportive learning environment allows employees time to review organizational processes. The authors specify that a supportive learning environment has four distinguishing characteristics. These include psychological safety,

appreciation of differences, openness to new ideas, and time for reflection. The importance of psychological safety is also emphasized by Edmondson (2003), who note that to learn, to learn, employees should not fear being belittled or marginalized when they disagree with peers or authority figures, ask naive questions, own up to mistakes. On being open to new ideas, the authors point out that learning is not simply about correcting mistakes and solving problems, it is also about crafting novel approaches. Employees should be encouraged to take risks and explore the untested and unknown (Edmondson, 2003). This suggests that it's time to shift from problem-based learning and adopt aspirational based learning.

Concrete learning processes ensure that a team or company has formal processes for generating, collecting, interpreting, and disseminating information. It ensures that the team and company place high value on experimenting with new offerings, to gather intelligence on competitors, customers, technological trends, and the solving of problems. These type or organizations also prioritizes developing employees' skills because it appreciates that it is when employees grow that organizations grow. Garvin et al. (2008) view learning processes to include experimentation to develop and test new products and services; intelligence gathering to keep track of competitive, customer, and technological trends; disciplined analysis and interpretation to identify and solve problems; and education and training to develop both new and established employees.

Building on the work of Garvin et al. (2008), the United States Agency for International Development (USAID), presented a more comprehensive model, the Collaborating Learning and Adapting (CLA) model, which considers learning processes to include knowledge management, institutional memory and decision making (USAID, 2016). According the CLA model, KM processes include the acquisition of knowledge internally and externally, distillation of such knowledge and sharing of knowledge internally and externally. Institutional memory includes the processes of accessing institutional knowledge and managing of staff transitions. Decision-making include the awareness of decision-making processes, autonomy to make decisions and appropriate stakeholder involvement in decision making processes.

Garvin et al. (2008) also consider leadership that reinforces learning as essential for organizational learning. They note that organizational learning is strongly influenced by the behavior of leader's. When organizational leaders actively question and listen to employees and prompt dialogue and debate, people in the institution feel encouraged to learn. When leaders signal importance of spending time on problem identification, knowledge transfer and experimentation, these activities are likely to flourish in the organization. When leaders demonstrate through their own behavior a willingness to entertain alternative points of view, employees feel emboldened to offer new ideas and options. Therefore, leaders should demonstrate a behaviour that encourages employees to learn. This type of leadership encourages leaders to foster a culture that allows employees the freedom and pleasure to learn without the fear of making mistakes.

The building blocks form essential components of the current study. As Garvin et al. (2008), notes that the three building blocks of organizational learning reinforce one another and, to some extent, overlap. In appreciation of this the study utilized the three building blocks as parts of the independent variables including leadership practices, learning processes and learning culture. The study looks at the effect of the leadership practices as conceptualized by Garvin et al. (2008) and Senge (2006) on competitive advantage of state corporations. The study also assesses the effect of both the learning processes and learning culture on competitive advantage of state corporations. This will go a long way of testing the theoretical underpinning that learning is associated with competitive advantage.

2.2.3 Levels of Learning within Organizations

Theorists have also viewed organizational learning to occur at different levels. In his paper, we used Argyris (1977) double loop learning in organizations. Argyris (1977) identified two levels of learning, which may be present in an organization. Single loop learning focuses on fixing errors in the current system, while double loop learning goes a level higher to question the policies and procedures rather than simply focusing only on error correction. Single and double loop learning were later adapted to include triple loop learning which looks at the values upon which the

policies and procedures are developed. Single-loop learning involves detecting and correcting "errors" so that the organization can continue or achieve its present policies or objectives in more efficient ways. In single-loop learning, outcomes are measured against organizational norms and expectations. Single-loop learning focuses on doing things in the right way without necessarily questioning whether they are the right things to be done. It explores more productive ways, doing it cheaper, using alternative approaches for same objectives.

Argyris and Schön (1996) use the analogy of a thermostat while describing single loop learning. According to the authors, single loop learning probes the 'how?' questions without worrying about the more fundamental 'why?' questions. Single loop learning can be compared to the reaction of a thermostat, as it detects deviations from the prescribed temperature and turns the heat off. When the thermostat turns the heat on or off, it is keeping with the program of orders given to it. The thermostat does not analyze the reasons for the variance. They note that if the thermostat could question itself about whether it should be set at 70 degrees, it would be capable not only of detecting error but of questioning the underlying policies and goals as well as its program. The type of questioning presents a more radical strategic change hence double loop learning which requires an organization not only to questions work practices and what they have learned but also questions how they have learned. Double loop learning not only requires changes in the rules and procedures of the organization but may also question the underlying assumptions and principles that form the basis of the rules and procedures.

The overwhelming amount of learning is single loop because organizations are designed to identify and correct errors (Argyris and Schön, 1996). Organizations are typically quite good at single loop learning, which is relatively straightforward because errors are usually attributable to defective actions or strategies. Similarly, Greve (2003) notes that organizations tend to look for solutions to problems, either in the immediate neighborhood of the problem or by going back to similar problems to retrieve either the exact solutions or analogies and parallels that might apply to the current problem. On the other hand, double-loop learning encourages organizations to not only reflect on the efficacy of their current work practices, but also, on the way

in which they evaluate their success. Double loop learning is more comprehensive, challenging current operating assumptions, and often entailing changing existing norms and practices. This kind of learning involves deeper inquiry and questioning, sometimes implying power and conflict struggles. Error correction may require a learning cycle where the norms of the organization are themselves modified.

Double-loop learning occurs when organizations are willing to question long-held assumptions about their ways of doing business. These include posing questions about their missions, customers, capabilities, or strategies. Managers ask themselves about the internal relevance of the standard and the validity of the prevailing norms. In government organizations, some authors have speculated that double loop learning may be restricted because departments and agencies are constrained to fit in with the political guidance of values government and ministers (Mavondo, Chimhanzi, & Stewart, 2005).

The implications of double loop learning are possibly far-reaching and may even lead to what has been called triple loop learning, which involves challenging the organization's principles and assumptions, requiring an open and often robust exchange of views. The triple loop learning is concerned about how to carry out single-loop and double-loop learning. This tier of learning is the final stage of the learning loop approach. Triple loop learning is a proactive learning process where there is a continuous effort to strive for perfection (Argyris & Schon, 1978). Triple loop learning is concerned with defining or finding a strategic vision for an organization (Mitchell, Curtis, & Davidson, 2012). This type of learning assumes that people in organizations can only reframe how they look at their activities and roles by a degree of questioning underlying their assumptions, principles, fundamental objectives and organizational beliefs, (Linz & Resch, 2010). For example, this might be the stage at which an organization more self-consciously chooses its aspiration level rather than simply operating with one that is historically or conventionally accepted. This kind of reflexive learning based on past practice is often tough in government organizations.

The nature of questioning long-held assumptions and power structures in double loop and triple loop learning are reasons why many organizations may deliberately discourage these types of learning (Argyris & Schon, 1978). Managers may intentionally avoid posing the hard questions associated with double-loop and triple-loop learning to avoid dealing with the organizational problems exposed by double-loop and triple loop learning. They would choose to do nothing and hope the problems go away or 'escape into action' which gives the appearance of change but leaves the real problem unsolved. According to Argyris and Schon, (1978), restructuring the organization is a commonly used tactic for giving the appearance of change while often leaving the underlying power structures untouched. The may explain why many restructuring efforts may not be successful in transforming organizations. To fully understand the role of learning in achieving competitive advantage of state corporations, it is essential to discern the type of learning occurring in the organization and establish the implications to competitiveness of the organization.

The levels of learning within organizations are important for the current study. The study focuses on single loop and double loop learning to calculate the rate of learning within organizations. Garvin et al. (2008), have averred that a complete conception of organizational learning must include change, such that an organization can be said to learn only when its actions have been modified because of reflection on new knowledge or insight. Therefore, the study will identify and estimate the number and type of changes organizations made at the level of single loop and double loop considering new knowledge and insights.

2.2.5 Theory of Competitive Advantage

Chaharbaghi and Lynch (1999) view competitiveness as the ability of a firm to win consistently over the long term in a competitive period. Similarly, Wang (2014) viewed competitiveness as the firm's ability to provide products and services more effectively and efficiently than relevant competitors. This implies that competitiveness is the ability of a firm or industry to outperform rivals who are active in the same market consistently by creating better customer value.

Competitiveness of a firm or industry includes ability to do better than comparable firms in sales, reduction in costs, market shares or profitability (Lall, 2001).

Competitive advantage is attained through industry analysis, resource-based view, culture, technology, and through leveraging competencies (Barney, 1991; Grant, 1991; King & Zeithaml, 2001; Porter, 1990; Prahalad & Hamel, 1990). Competitive advantage manifests itself in superior financial performance, cost reduction, better reputation, and brand image. Competitive analysis provides information about the business forces operating in the external environment (Porter, 2008). On the other hand, resource-based view analyzes internal capabilities and strengths possessed by a firm. Importantly, environmental analysis is a necessary but not sufficient for assuring a firm's competitive advantage (Barney, 1991). In fact, internal resource analysis is inevitable as it provides unique internal organizational information, which is not available to competitors in the industry and helps design a unique strategy that is inimitable and cannot be substituted.

Firms that implement a value creating strategy, which is not implemented by other competitors, and ensure that the competitors are unable to imitate or duplicate the benefits of this strategy, ultimately gain competitive advantage. Barney (1991) posits that a firm should possess internal resources that are valuable, rare, non-imitable and non-substitutable. Once a firm has identified resources that possess these evaluations, it should care for and protect the resources, because doing so can improve organizational performance. Decades of research have focused on identifying how firms can gain a sustained competitive advantage. Various theories have evolved because of this inquiry. Key theorists include Potter (1990) who looked at the strategies a firm could adopt to create competitive advantage, Barney (1991) who invented the resource-based view theory of competitive advantage, Teece et al. (1997) who further develop the resource-based view to include dynamic capabilities.

As a contribution to the competitive advantage debate, Barney (1991) developed the *Resource-Based View Theory* of competitive advantage. This theory suggests that firms are bundles of resources and capabilities. The resource-based view theory states that a firm can gain competitive advantage based on its unique set of resources.

Those resources are valuable, rare, perfectly inimitable and non-substitutable. Out of the four, two key features appear to be relevant, namely, that resources must enable the creation of value and must also resist the duplicative efforts of competitors. This perspective suggests that firms are bundles of resources and capabilities. The latter is of particular importance because, in conditions of open competition, rival firms will seek to imitate, acquire or try to substitute for the resources that are a source of advantage.

The resource-based view theory has been found to have certain limitations and has been criticized for ignoring key factors of resources, such as how a firm develops and integrates resources into the enterprise. To address this limitation, recent contributions to the resource-based view distinguish capabilities from resources (Grant, 1991; Teece et al., 1997). Others view capabilities as a source of competitive advantage, while resources are the source of capabilities, and a firm can gain competitive advantage from its ability to apply its capabilities to perform critical activities within the firm (Grant, 1991; Porter, 2008; Teece et al., 1997).

Capabilities refer to firm's capacity to deploy resources, usually in combination with organizational processes to achieve the desired end (Amit & Schoemaker, 1993). Capabilities are firm-specific, information-based, tangible or intangible processes that are developed over time through complex interactions among the firm's resources. Grant (1991) divided the capabilities into four categories: cross-functional, broad functional, activity-related, and specialized capabilities. Dynamic capabilities enable organizations to integrate, build, and reconfigure competencies to address rapidly changing environments, (Teece et al., 1997). Capability-based model, compared to the resource-based model provides a more satisfactory explanation of the value-creation process and service delivery (Barney, 1991). It does so by assigning a prominent role to the strategic leadership of the organization (Grant, 1991; Hayes et al., 1996). The resource-based theory emphasizes resource choice while capabilities theory emphasizes resource development and renewal. Capability theory recognizes the important role of firms' key decision-makers in building and sustaining a competitive advantage.

The theories of competitive advantage are of great significance for the current study in two ways. First, they help in conceptualizing the independent variables that are expected to explain how competitive advantage occurs because of organizational learning. In this case, the identified independent variables are theorized as important preconditions for organizational learning and competitive advantage. They create enabling advantage and competencies required to learn and gain a competitive advantage. Secondly, the theories have help in the definition and measurement of competitive advantage. The study will measure competitive advantage of state corporations by analyzing information on profitability, sales growth, and market share and customer satisfaction (Hardeep & Bakshi, 2014; Porter, 2008). All these measures have been identified in the theories as competition constructs. The study assesses performance of state corporations along those constructs to measure their competitiveness.

2.2.6 Summary of Theories and Models Reviewed

Table 2.1 summarizes the theories and models reviewed. Six models focusing on the studies variables were reviewed. The theories and models fleshed out the important variables to support the conceptualization of the study.

Table 2.1: Summary of Literature Reviewed and Research Gap

Author	Theory/Model	Findings and Implications
Argyris and Schön (1996)	Espoused Theory and Theory in Use	The model shows that to create working environments that are conducive to learning, organizations need to encourage moving from espoused theory to theory in use and make it easy for individuals to interact with their working environments in an undefined and unstructured way. Learning thrives in an environment that is un-constrained by formal procedures.
Argyris and Schön (1996)	Levels of Learning Within Organizations	Identified two levels of learning, which may be present in an organization. Single loop learning focuses on fixing errors in the current system while double loop learning which goes a level higher to question the policies and procedure rather than focusing only on error correction.
Senge (2006)	Five Disciplines of a learning organization	Identified five key competencies or 'disciplines' that he suggests all leaders must have to build and lead a learning organization. These competencies are personal mastery, mental models, shared vision, team learning and systems thinking.
Garvin, Edmondson, and Gino(2008)	Building Blocks of a Learning Organization	Proposed three building blocks required for creating a learning organization; theseare a supportive learning environment, concrete learning processes, and leadership that reinforces learning.
(Barney, 1991) (Teece et al., 1997)	Resource-based view theory and Capability-based model	Showed that competitive advantage is attained through industry analysis, resource-based view, culture, technology, and through competencies. Demonstrates how competitive advantage manifests itself in superior financial performance, cost reduction, better reputation, and brand image.

23 Conceptual Framework

A study's conceptual framework considers that any change in the independent variables results in a change in the dependent variables (Saunders et al., 2015). This study's conceptual framework consists of four independent variables, namely: learning culture, leadership practices, learning processes and systems thinking. These independent variables influence competitive advantage of organizations, mediated by the rate of learning.

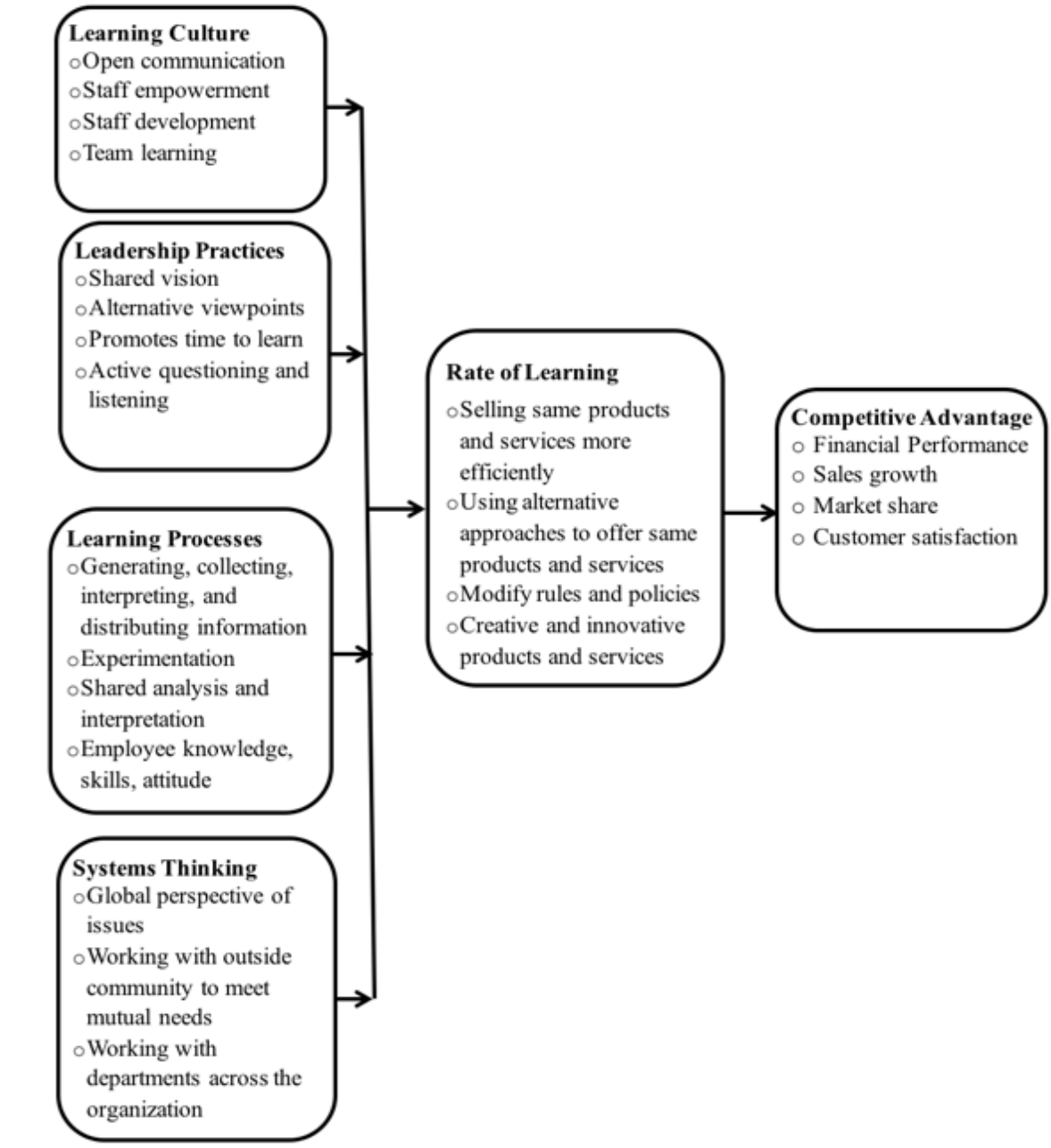


Figure 2.1: Conceptual Framework (Adapted from Garvin et al., 2008)

2.4 Review of Variables Under Study

2.4.1 Learning Culture

An organization's culture manifests itself in the dominant ideologies and established patterns of behavior (Hogan & Coote, 2014). If organizational learning is to be a genuinely organization-wide endeavor, it must become part of the organization's culture - the set of core values, ideologies and assumptions which guide and fashion the norms of desirable individual and group behavior of its members. A learning culture is one of the three independent variables and is expected to have a direct positive relationship between a firm's competitive advantage. Garvin et al., (2008), identified psychological safety, appreciation of differences, and openness to new ideas as essential components of a supportive learning environment which in this study we consider as components of a learning culture. Additionally, a learning culture predicated to have a direct and positive effect on the rate of learning within the organization. Lastly, the rate of learning is predicted to mediate positively in the relationship between learning the culture and competitive advantage.

Openness of organizational culture is predicted to have a significant positive impact on the sustainable competitive advantage and that organizational learning ability had significant positive impact on the sustainable competitive advantage. Culture is seen as a source of competitiveness due to its difficulty to imitate or duplicate (Mueller, 1996). This results from its inherent tacit nature, complexity and specificity. Bwegyeme and Munene (2015) study reinforced the importance of culture in influencing organization outcomes including problem-solving and performance. Mikkelsen et al. (2000), argued that a positive learning climate reduces job stress, and also had a direct and positive impact on job satisfaction and employee commitment. Theorists and researchers seem to agree that a culture which promotes open communication practices, prioritizes and promotes staff empowerment, supports supporting staff development and promotes team learning is likely to lead to competitive advantage. However, the evidence has not targeted state corporations in

particular those in developing countries partly due to their perceived non-competitive nature.

2.4.2 Leadership Practices

Leadership looks at the extent to which the leadership articulates and fosters a shared vision, reinforces systems thinking practices, entertains alternative viewpoints, stresses the importance of taking time to learn and practices active questioning and listening. When leaders actively question and listen to employees and thereby prompt dialogue and debate people in the institution feel encouraged to learn. Organizational learning is predicted to be dependent on the behavior of leaders within the organization (Džinić, 2015; Waddell & Pio, 2014). Therefore, it is essential that organizations' leaders aspiring to grow into learning organization reinforce learning. Leadership is an essential precondition to a learning culture as well as in ensuring that organizational processes for learning are in place and functioning.

Various researchers conducted studies to assess the role of leadership on competitive advantage in line with associated theoretical underpinnings (Džinić, 2015; Koech & Namusonge, 2012; Witherspoon, 2014). Studies examined the relationship between leadership, learning, and competitive advantage found that a certain styles leadership are essential to ensuring firm performance and competitive advantage. Some findings have shown that transformational leadership encourages organizational innovation and organizational performance at a higher level if there are competencies focused on organizational learning that minimize the cost of internal change. Other results affirmed the mediating effect of knowledge management practices in the relationship between knowledge-oriented leadership and innovation performance and learning. On the contrary, transactional leadership had mixed findings with some results showing a negative effect on organizational learning variables.

Leadership is expected to have a positive relationship with the rate of learning and subsequently competitive advantage of the firm (Donate & Sánchez de Pablo, 2015). The study also predicts a direct and positive relationship between leadership and competitive advantage. Their studies revealed the critical role that leadership plays in

nurturing a learning culture and ensuring successful learning processes; the study will test these two assumptions. Lastly, the study will test the mediating effect of rate of learning on the relationship between learning processes and competitive advantage.

2.4.3 Learning Processes

A learning organization is cultivated through a series of concrete steps and widely distributed activities (Sokhanvar, Matthews, & Yarlagadda, 2014). Theorists have made efforts at explicating the learning processes essential to influencing learning and attaining competitive advantage. Garvin et al., (2008) consider learning processes to involve the generation, collection, interpretation, and dissemination of information. Learning processes include experimentation to develop and test new products and services; intelligence gathering to keep track of competitive, customer, and technological trends; disciplined analysis and interpretation to identify and solve problems; and education and training to develop both new and established employees.

USAID (2016) presented a more comprehensive model, collaborating learning and adapting (CLA) model, which considers learning processes to include knowledge management, institutional memory and decision making. According the CLA model, KM processes include the process of acquiring knowledge internally and externally, distilling the knowledge and sharing knowledge internally and externally. Institutional memory includes the processes of accessing institutional knowledge and managing of staff transitions. Decision-making include the awareness of decision-making processes, autonomy to make decisions and appropriate stakeholder involvement in decision making processes.

Empirical studies have been conducted and shown results in support of theory. Learning processes ensure that an organization and employees continually create, acquire, and transfer knowledge and use it to adapt to the ever-changing internal and external environment. To achieve maximum impact, Garvin et, al. (2008) suggests that knowledge should be shared in systematic and clearly defined ways among

individuals, groups, or whole organizations. Knowledge can move laterally or vertically within a firm. By implementing knowledge management processes as part of daily business activities, organizations can confidently compete and sustain in the competitive markets (Daud & Yusuf, 2008). Sangari, Hosnavi, and Zahedi (2015) results also showed that knowledge management processes have a significant impact on supply chain performance. Considering the theoretical underpinning and the empirical support, the study predicts that learning processes will have a positive effect on competitive advantage of state corporations.

In measuring learning processes, the study will assess the extent to which state corporations have established processes for collecting, interpreting, and disseminating information. The study will also assess the ability and practices for experimenting with new offerings, identifying and solving problems and developing employees' skills among State corporations. Considering the theoretical underpinning and the empirical support, the study predicts that learning processes will have a positive effect on competitive advantage of state corporations.

2.4.4 Systems Thinking

Senge (2006), made his contribution to organizational learning theory through his concept of systems thinking, which is viewed as an ability to discover structural causes of behavior. It is necessary for sustaining generative learning which is a foundation for people's creativity. Systems Thinking focuses on interrelationships between parts of an organization and emphasizes the importance of recognizing the effects of one level of learning on another. It shows the interrelated patterns within a business and enables people to see the whole organization instead of focusing only on the parts. Using a more holistic perspective, systems thinking helps people to solve problems with a context of a larger scenario instead of fixing the problem as a discrete activity. According to Prugsamatz (2010), systems thinking provides a means of understanding systems at a deeper level to see the paths available to bring about changes more effectively. A systems thinker can understand the interrelationship of activities happening inside the organization (Akhtar et al., 2013).

Empirical results show that systems thinking tends to have a positive effect on performance and competitiveness of petroleum industry firms (Akhtar et al., 2013). Systems thinking can be taught, and as such, it should become a requirement for all employees to acquire for better coping with constant changes (Cooper, 2005). Systems thinking produces major impacts on organizational learning and change (Fullan, 2004). In fact, Kumar et al. (2005) emphasizes that an individual must utilize systems thinking to become a decision-maker. Some organizations provide systems thinking training for their staff to improve the quality of their performance (Seligman, 2005).

Similarly, Kim, Akbar, Tzokas, and Al-Dajani (2013) found that systems thinking had a positive effect in the absorptive capacity (ACAP) of high-tech small and medium-sized enterprises form South Korea, with an overall impact on firm performance. They found that firms outperforming others in their ACAP also showed a clear element of systems thinking. Even though studies have alluded to its importance while discussing the organizational competencies necessary for competitiveness, systems thinking has not received significant attention, particularly in the public sector, where it may be most needed of the interdependent nature of these institutions. This study will assess the role of systems thinking in achieving competitive advantage among state corporations.

2.4.5 Rate of Learning

Organizational learning is essential in today's dynamic and discontinuous environment of change. Organizational learning has gained prominence among researchers as a crucial determinant of performance and the only true sustained competitive advantage that an organization can have (Linz & Resch, 2010; Salmador & Florín, 2012). Various attempts have been made at explaining organizational learning. Some authors are in consensus that a learning organization is founded on the learning process of individuals in organizations. On the contrary, it is also evident that individual learning does not necessarily lead to organizational learning. A learning organization is seen to be an organization, which is 'skilled at creating, acquiring, and transferring knowledge, and at modifying behavior to reflect new

knowledge and insights.' Learning happens when errors are detected and corrected, and practices changed within the organization (Peeters & Robinson, 2015; Witherspoon, 2014). The rate of learning refers to the speed at which the organization is modifying its behavior or changes its practices to reflect new knowledge and insights.

Rate of learning refers to the frequency at which the organizations take decisions address their challenges in alignment to new knowledge and insights. This study will look at decisions or actions at two levels: Single loop learning, which occurs when the mismatch gets corrected by altering behavior or actions and double loop learning, which happens when the organizations change their underlying values and adopts new actions (Mitchell et al., 2012). Single loop is about efficiency and answers the question, are we doing things in the right way? In single-loop learning, outcomes are measured against organizational norms and expectations (Peeters & Robinson, 2015).

The overwhelming amount of learning in organizations is single-loop because organizations are designed to identify and correct errors (Witherspoon, 2014). On the other hand, double loop is concerned with effectiveness and answers the question, ‘are we doing the right things’? Rate of learning is predicted to be higher among organizations that have entrenched a strong learning culture. The rate at which organizations apply both single-loop and double-loop learning are expected positively to mediate the relationship between the combined effect of the independent variables and competitive advantage.

Even though empirical studies have had limited focus in assessing the rate of learning in organizations, various authors have conducted useful studies in laying the foundation. Sorenson (2003) found that interdependence engendered by vertical integration slowed the rate of learning in firms in stable environments and speeded learning in volatile environments. Investment in Research and Development increased the rate of learning among firms in the chemical processing industry. Similarly, Sinclair, Klepper and Cohen (2000) found that research and development contributed to the productivity gains observed in a chemical firm. Social capital is an

important factor that affects the organizational learning performance (Wu, Ay, & Lien, 2009). Based on findings from self-regulated learning research that control of learning and learning orientation are positively related to learning performance (Boekaerts & Corno, 2005). Even though authors have suggested firms that learn faster than others are likely to gain competitive advantage, there is limited research that have assessed this hypothesized mediating role rate of learning on the achievement of competitive advantage (Garvin et al., 2008; Senge, 2006).

2.4.6 Competitive Advantage

Some authors view competitiveness as the ability of an organization to win consistently in a competitive period (Akhtar et al., 2013; Santos-Vijande, López-Sánchez, & Trespalacios, 2012). Others have viewed competitiveness as the firm's ability to provide products and services more effectively and efficiently than relevant competitors (H. Wang, 2014). Therefore, competitiveness is the ability of a firm or industry to outperform their rivals who are active in the same market consistently by creating better customer value. Competitiveness of a firm or industry is about its ability to do better than comparable firms in for example sales, reduction in costs, market shares or profitability. It is the ability of a firm outperform comparable firms in sales, cost reduction, market shares or profitability (Akhtar et al., 2013; Kessler et al., 2000).

Competitive advantage is attained by a firm that is implementing a superior value-creating strategy that competitors are unable to duplicate (Leonidou et al., 2015; Leonidou, Leonidou, Fotiadis, & Zeriti, 2013). A firm should possess internal resources that are valuable, rare, non-imitable and non-substitutable. Once a firm has identified resources that possess these evaluations, it should care for and protect the resources, because doing so can improve organizational performance. Competitive advantage manifests itself in superior financial performance, cost reduction, better reputation, and better brand image. It is derived in the form of valuable, rare, non-substitutable and inimitable resources that result from the integration of unique resources and capabilities.

The more unique the competency an individual possesses in an organization, the higher the competitive edge the organization gains because valuable, and rare employees create more value. A firm should possess internal resources that are valuable, rare, non-imitable and non-substitutable (Sigalas & Economou, 2013). Once a firm has identified resources that possess these evaluations, it should care for and protect the resources, because doing so can improve organizational performance. Competitive advantage manifests itself in superior financial performance, cost reduction, better reputation, and better brand image. The study predicts that three independent variables; learning culture, concrete learning processes, and leadership have a significant positive influence on the competitive advantage of the firm. Additionally, the study predicts that the rate of learning positively mediates the relationship between the three independent variables and competitive advantage. Competitive advantage is measured by a firm's profitability, sales growth, and market share and customer satisfaction.

The study will measure competitive advantage of state corporations by analyzing information on profitability, sales growth, and market share and customer satisfaction (Hardeep & Bakshi, 2014; Porter, 2008). In order to measure profitability, the study asked the managers of the organization whether the agreed upon a set of statements regarding profitability performance in comparison to their competitors over three years. The study measured sales growth by looking at profitability of the firm measured by profits over sales and organizations annual percentage sales over the fiscal year. Customer satisfaction was assessed comparing customer satisfaction with that of competitors, whether the organization considered that it offered greater value and retained its key customers more than competitors.

2.5 Empirical Review

2.5.1 Learning and Competitive Advantage

Some authors view organizational learning as a mediating or moderating variable or a variable that works with other variables to assure superior performance and secure a sustained competitive advantage for organizations (Kharabsheh, Jarrar, & Simeonova, 2014b; Pemberton, Stonehouse, & Yarrow, 2001; Wei, Wu, Cheung, & Chiu, 2012). These scholars argue that for other performance variables to function effectively in securing a competitive advantage, organizational learning must occur.

Building on capability-based view of competitive advantage, CamisÉn and Villar-López (2011) , assessed the role of learning capabilities as an antecedent to non-technical innovation. They analyzed 159 industrial companies in Spain and modeled a system of structural equations using partial least squares methodology. This study demonstrates that organizational memory and learning capabilities are necessary antecedent factors in organizational and marketing innovation, both of which positively affect achievement of sustained competitive advantage. The results confirmed that both organizational memory and learning capabilities favor the development of organizational innovation and marketing innovation. The strong effect of organizational learning on memory supports theorists who highlight the importance of organizational memory as a repository of knowledge derived from organizational learning.

Weihong, Caitao, and Dan (2008) conducted a study of 204 large and medium-sized manufacturing firms in the Pearl River Delta (PLD), to examine the mutual influence of the organizational culture, organizational learning, technological innovation and sustainable competitive advantage. Results showed that organizational learning ability had a significant positive effect on technological innovation capability. Weihong et al. (2008) also found that openness of organizational culture had a significant positive impact on the sustainable competitive advantage and that organizational learning ability had significant positive impact on the sustainable competitive advantage.

Drawing from the strategy implementation approach and the resource-based view of the firm, Kharabsheh, Jarrar, and Simeonova (2014b) conducted a study to examine the relationships among competitive strategy, responsive market orientation, proactive market orientation, learning orientation and organizational performance. They surveyed senior managers of 264 manufacturing and service companies in Jordan. Results showed that moderate but significant relationships were evident in the links between cost leadership and learning orientation, and responsive market orientation and organizational performance. On the other hand, strong and important relationships were evident in the links between differentiation and responsive market orientation; differentiation and proactive market orientation; differentiation and learning orientation; learning orientation and organization's performance.

Results also showed that differentiation strategy is more important than cost leadership strategy and that learning orientation is the most important factor for better organizational performance. As an implication of this study, managers need to understand that building competitive advantage goes through firm learning and market capabilities. These results are similar the study by Weihong, Caitao, and Dan (2008), which advises managers to adopt competitive strategies and at simultaneously develop learning capabilities as a route to achieve competitive advantage.

Similarly, Hardeep and Bakshi (2014) investigated the impact of intellectual capital on competitive advantage in the banking sector. In addition to the direct relationship, the authors examined the moderating role of organizational learning in the relationship between intellectual capital and a firm's competitive advantage. By analyzing data from 144 branches of 21 public and seven private banks in Northern India, they found that intellectual capital had a direct and positive effect on competitive advantage and confirmed the moderating effect of organizational learning on the relationship between intellectual capital and competitive advantage.

On the other hand, other authors found learning having a direct effect on competitive advantage (Akhtar et al., 2013; Donate & Sánchez de Pablo, 2015). These authors suggest that learning is the key to sustained competitive advantage, and that it

significantly influences the ability of a firm to secure competitive advantage. First, Akhtar et al. (2013) conducted a study in an attempt to test the theoretical underpinning that organizational learning is associated with competitive advantage. The study posed three research questions. The first sought to explore the critical dimensions of a learning organization that facilitates learning. The second queried whether learning in an organization lead to a competitive advantage while the third looked at the types of relationships that exist between a learning organization and competitive advantage. They conducted personal interviews and mailed surveys of 94 employees of the petroleum industry and used to run regression analyses.

Results of the study showed that dimensions of the learning organization and organizational learning contribute significantly to the achievement of competitive advantage. Strategic thinking and team learning were found to be important determinants in achieving a competitive advantage. Flexibility to change in any organization was considered a most important ingredient of a learning organization. Therefore, an organization's culture should give prime support to these disciplines along with other disciplines of organizational learning while preparing organizational improvement activities.

Similarly, Donate and Sánchez de Pablo (2015) examined the role of knowledge-oriented leadership in knowledge management initiatives that seek to achieve innovation. They also assessed the mediating effect of knowledge management practices in the relationship between knowledge-oriented leadership and innovation performance. In line with previous literature, their results showed that, although knowledge management practices themselves are important for innovation, the existence of this kind of leadership encourages the development and use of knowledge exploration and exploitation practices. Because of this development and the use of knowledge management practices, firms can improve their performance in product innovation.

In summary, empirical studies reviewed show the significance of organizational learning on various performance variables. Pemberton et al. (2001) notes that for other performance variables to function effectively in securing a competitive advantage,

organizational learning must occur. Similar results were found by Weihong et al., (2008), and by Donate and Sánchez de Pablo (2015), who found that organizational learning ability had significant positive impact on the sustainable competitive advantage. Other studies looked at mediation and moderating relationships associated with learning and competitive advantage (Donate & Sánchez de Pablo, 2015; Hardeep & Bakshi, 2014). Despite the studies looking at various roles that learning plays in competitive advantage of state corporations, they missed to assess the combination no effect various antecedents of learning as proposed by various models and theories (Garvin et al., 2008; Senge, 2006). Furthermore, the measurement of organizational learning did not factor in the rate of learning and instead only looked at characteristics of a learning organizations. Table 2.2 summarizes the studies reviewed on organizational learning and competitive advantage of state corporations.

Table 2.2: Empirical Studies on Organizational Learning and Competitive Advantage

Authors	Results
1. Non-technical innovation: Organizational memory and learning capabilities as antecedent factors with effects on sustained competitive advantage (Camisón & Villar-López, 2011)	Organizational memory and learning capabilities are necessary antecedent factors in organizational and marketing innovation, both of which positively affect achievement of sustained competitive advantage.
2. The role of knowledge-oriented leadership in knowledge management practices and innovation (Pemberton et al., 2001)	For other performance variables to function effectively in securing a competitive advantage, organizational learning must occur.
3. A Study on the Relationships between Organizational Culture, Organizational Learning, Technological Innovation and Sustainable Competitive Advantage (Weihong et al., 2008)	Organizational learning ability had significant positive impact on the sustainable competitive advantage. Openness of organizational culture had a significant positive impact on the sustainable competitive advantage
4. Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning (Hardeep & Bakshi, 2014)	Intellectual capital had a direct and positive effect on competitive advantage and confirmed the moderating effect of organizational learning on the relationship between intellectual capital and competitive advantage.
5. The role of knowledge-oriented leadership in knowledge management practices and innovation (Donate & Sánchez de Pablo, 2015)	Learning having a direct effect on competitive advantage Affirmed that the mediating effect of knowledge management practices in the relationship between knowledge-oriented leadership and innovation performance

2.5.2 Learning Culture and Competitive Advantage

Numerous studies have examined the various contextual factors that affect the ability of organizations to learn. Factors that have dominated empirical work are a culture that is conducive to learning, strategy that allows flexibility, and organizational structure that allows both innovativeness and new insights, and the environment. Studies have found these factors to have a circular relationship with learning - they can create and reinforce learning, and learning can create them. Weihong, Caitao,

and Dan (2008) studied the mutual influence of the organizational culture, organizational learning, technological innovation and sustainable competitive advantage. Through this research, they found that the openness of the organizational culture and organizational learning capability had a significant impact on the technological innovation capability.

Similar results were found by Sanz-Valle, Naranjo-Valencia, Jiménez-Jiménez, and Perez-Caballero (2011) when they assessed 451 firms to evaluate the effect of organizational learning on technical innovation as well as the role of organizational culture in determining organizational learning processes. They used the organizational culture typology by Cameron and Quinn (2005) that suggests four types of culture including clan, adhocracy, market, and hierarchy. On one hand, their results provided evidence for the positive link between organizational culture and organizational learning. This finding aligns with results by Lee and Lee (2013) proposition that the impact of organizational culture on organizational learning varies with the type of organizational culture. On the other hand, Sanz-Valle et al. (2011) had surprising results related to clan and market cultures where they expected to have a positive effect on organizational learning due to flexibility orientation, but results were not significant.

Sanz-Valle et al. (2011) explained their findings by noting that although flexibility is necessary for organizational learning, an external orientation is also required to acquire knowledge yet clan cultures foster an internal focus. Regarding market culture, authors suggest that due to its emphasis on control and stability it has a negative effect on organizational learning. On the contrary, the findings do not support this hypothesis partially because external focus may mitigate the negative effect of control and stability orientation. The type of organizational culture which encourages organizational learning is adhocracy while hierarchy culture is negatively associated with organizational learning. The implication for organizations that seek to enhance their innovation ability, neither a flexibility focus nor an external focus are enough. Both are necessary to characterize organizational culture.

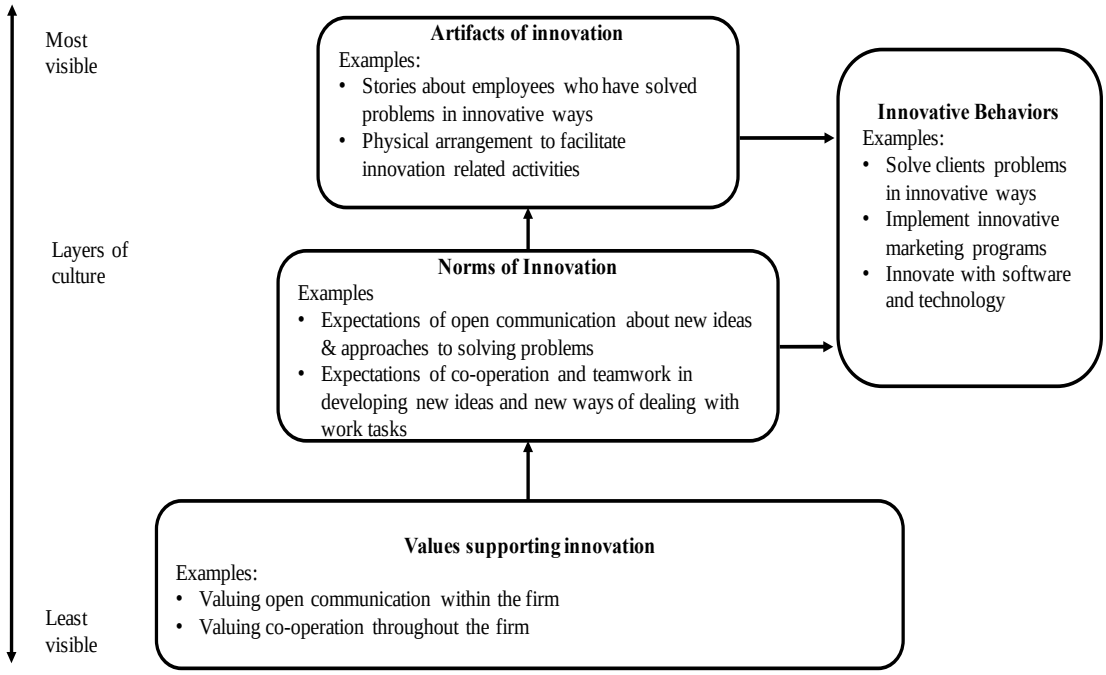


Figure 2.2: Schein's Model, 1990

Hogan and Coote (2014) used Schein's (1990) model to test the relationship between organizational culture, innovation, and performance. The multi-layered model of organizational culture offers a framework for thinking about processes that can foster organizational innovation. The significance of the model is a distinction between the varied layers of organizational culture including values and norms, artifacts and behaviors. The authors sought to test the relationships within Schein's conceptual model using data collected from approximately 100 principals of law firms.

Their test results were supportive of the core hypotheses of the model, that is, the distinct layers of organizational culture partially mediate the effects of values that support innovation on firm performance. Their findings supported the hypothesized relationships in Shein's conceptual model. One significant result was the way layers of organizational culture, specifically norms, artifacts, and innovative behaviors, partially mediate effects of values that support innovation on measures of firm performance. These findings had implications for building an organizational culture within professional service firms that foster innovative behavior.

Graham and Nafukho (2007) surveyed 498 small-size business enterprises in the Southern and mid-Western United States and found a link between four independent variables and organizational learning as a dimension that explains organizational learning readiness in seven small-size business enterprises. The study results showed that the type of enterprise was a major predictor of employees' perception of culture as a dimension demonstrating organizational learning readiness. They found that certain kinds of enterprises nurtured learning conducive to organizational learning readiness more than do others.

Elsewhere, in South-Western Nigeria, Gbenro and Agboola (2015) surveyed 410 randomly selected health workers to assess trust as a predictor of willingness to share and use tacit knowledge. Their findings revealed that both affect-based and cognition-based trust were significant predictors of healthcare workers willingness to share and use tacit knowledge. Surprisingly, affect-based trust contributed more than cognition-based trust to a willingness to share tacit knowledge. They also found that cognition-based trust exerted more influence compared to affect-based trust on a willingness to use tacit knowledge. To facilitate knowledge sharing and use among employees, management of healthcare sector need to establish strategies to foster both affect-based trust and cognition-based trust among workers, (Lagrosen & Lagrosen, 2012). This results reinforce the importance of an organizational culture that encourages trust among employees as an important determinant of knowledge sharing.

On the other hand, while studying the role of culture in predicting organizational learning, performance, and competitive advantage, some authors found culture to have a direct role while others found culture to have a mediating role (Arago´ n-Correa, Garc´ıa-Morales, & Cordo´ n-Pozo, 2007). Their evidence suggests that organizations which portray a high degree of tolerance towards adventurous spirit, high democratic participation and more innovation activities have a better chance of becoming learning organizations and fostering competitive advantage. Open and flexible culture has been found to be more supportive of learning as opposed to rigid cultures. On this basis, the study attempts to validate these findings in the context of

state corporations in Kenya by establishing the effect of culture in achieving competitive advantage.

In summary, the studies reviewed above affirm the significance of culture in fostering learning and innovation in organizations (Gbenro & Agboola, 2015; Sanz-Valle et al., 2011). The studies have also defined the preferred culture that fosters learning within organizations. Similar to the perspectives by Argyris and Schön, (1996), the studies show that learning thrives in an environment that is un-constrained by formal procedures (Hogan & Coote, 2014). Even though the studies show the effect of culture on organizational performance variable, they do not explain how the effect occurs through mediation or moderation of other variables. This brings in an implicit assumption of a purely linear relationship which is in line with theoretical underpinnings (Argyris & Schön, 1996; Garvin et al., 2008; Senge, 2006).

Table 2.3: Empirical Studies on Learning Culture and Competitive Advantage

Authors	Results
1. Perception toward Organizational Learning Culture in Small-Size Business Enterprises (Graham & Nafukho, 2007)	Type of enterprise was a major predictor of employees' perception of culture as a dimension demonstrating organizational learning readiness.
2. Dimensions of trust as predictors of willingness to share and use tacit knowledge among health workers in Nigeria (Gbenro & Agboola, 2015)	Both affect-based and cognition-based trust were significant predictors of healthcare workers willingness to share and use tacit knowledge. Affect-based trust contributed more than cognition-based trust to a willingness to share tacit knowledge
3. Linking organizational learning with technical innovation and organizational culture (Sanz-Valle et al., 2011)	Expected to have a positive effect on organizational learning due to flexibility orientation, but results were not significant.
4. Organizational culture, innovation, and performance: A test of Schein's model (Hogan & Coote, 2014)	Layers of organizational culture, specifically norms, artifacts, and innovative behaviors, partially mediate effects of values that support innovation on measures of firm performance

2.5.3 Leadership Practices and Organizational Learning

A lot of research has gone into assessing the relationships between leadership, organizational learning and competitive advantage. Garcia-Morales, Matias-Reche, and Hurtado-Torres (2008) found similar results when they examined the effect of transformational leadership on innovation and performance, depending on the level of organizational learning in technological firms. They analyzed data from 164 pharmaceutical firms, and the results showed a positive relation between transformational leadership, technological innovation, between transformational leadership and organizational performance and between organizational innovation and organizational performance. These results affirmed that transformational leadership encourages organizational innovation and organizational performance at a

higher level if there are competencies focused on organizational learning that minimize the cost of internal change. Similarly, Garcia-Morales, Jimenez-Barrionuevo, and Gutierrez-Gutierrez (2012) analyzed the influence of transformational leadership on organizational performance. The assessed a sample of 168 Spanish firms and found a positive relation between transformational leadership and organizational learning and innovation.

Similarly, Džini (2015) conducted a verification of theoretical postulates on the correlation between the administrative leadership style and learning processes in local administrative organizations. The results of the empirical research confirmed the hypothesis on the correlation between administrative leadership style and inclination towards organizational learning. Furthermore, the author found a significant positive correlation between administrative leadership style and each category of organizational learning in selected administrative organizations. These results show that there exists a positive correlation between authoritarian or transactional administrative leadership style and lower inclination towards organizational learning as well as between participatory/transformational administrative leadership style and higher inclination towards organizational learning.

Garcia-Morales et al. (2012) support theorists who suggest that transformational leadership style analyzes, modifies, and drives systems, designing them to share and transfer knowledge through the process of organizational learning. Findings also affirmed a positive relation between transformational leadership and innovation through the construction of competencies focused on learning to minimize costs of internal change.

At departmental level, Amitay, Popper, and Lipshitz (2005) analyzed correlation leadership styles of unit managers and the extent of organizational learning in their unit at 44 community clinics of a health-care organization in Israel. Their findings attested to the central role of organizational leaders in determining the effectiveness of organizational learning. Findings showed a high correlation between the three sets of variables examined in this study: leadership, organizational learning values, and

organizational learning mechanisms. Additionally, transformational leaders were found to affect significantly organizational learning values. Valid information is essential as a precondition for effective learning and performance and organizations that seek to obtain it need to accept values of transparency, issue orientation, and accountability needs as dominant. However, as a surprise, their findings found negative correlations between transactional leadership and organizational learning variables. They might be explained on psychometric grounds as well as by the actual circumstances in these clinics.

Similarly, Donate and Sánchez de Pablo (2015) examined the role of knowledge-oriented leadership in knowledge management initiatives that seek innovation. This knowledge-oriented leadership integrates elements of disparate styles, such as transformational and transactional, along with motivation and communication elements, which are necessary to develop and propel knowledge management initiatives for further product innovation. Their results affirmed that the mediating effect of knowledge management practices in the relationship between knowledge-oriented leadership and innovation performance. They showed that although knowledge management practices are essential for innovation, the existence of knowledge-oriented leadership encourages development and use of knowledge exploration and exploitation practices. Consequently, development and use of knowledge management practices, the firm can improve its performance in product innovation. Firms with a greater tendency toward a knowledge-oriented leadership position seem to consider efforts devoted to the development and support of knowledge exploitation practices for organizational functioning and performance worthwhile.

A key managerial implication of these results is that knowledge-based organizations should integrate practices oriented toward knowledge exploration and knowledge exploitation. Such organizations should also afford to shift flexibly the stress to these elements as per the demands of the situation (Miller, Bierly III, & Daly., 2007). Knowledge-oriented is an effective way of promoting knowledge management practices to do with incremental change through the exploitation of existing knowledge.

From a local context, Koech and Namusonge (2012) investigated the effects of leadership styles on organizational performance at state corporations. They looked at impact of laissez-faire, transactional and transformational leadership styles on organizational performance at state corporations in Kenya through a descriptive survey of middle and senior managers in 30 state corporations based in Mombasa, Kenya. From their results, correlations between the transformational leadership factors and organizational performance ratings were high, whereas correlations between the transactional leadership behaviors and organizational performance were relatively low. Also, laissez-faire leadership style was not significantly correlated with organizational performance.

The findings of Koech and Namusonge (2012) showed that all variables of transformational leadership style had a strong positive relationship with organizational performance. The authors suggested to managers to discard laissez-faire leadership style and become more involved in guiding their subordinates. Additionally, public managers were advised to formulate and implement effective reward and recognition systems. Managers are also advised to stimulate subordinate efforts to become more innovative and creative and pay greater attention to individual's need for achievement and growth. This study concurs with Džini, (2015), who also assessed the role of leadership styles on performance and ultimately competitive advantage. This study builds on the results of these authors be further exploring the actions of leaders that are suitable for a fostering learning and whether these actions are necessary and sufficient preconditions for attainment of competitive advantage.

Table 2.4 summarizes empirical work on leadership and competitive advantage. The studies have affirmed the positive role of leadership variables on performance of state corporations. The studies have focused on the effect of various leadership styles on performance of various organizations. Transformational leadership style has received most attention in terms of empirical work (Amitay et al., 2005; Victor Jesus Garcia-Morales et al., 2012; Koech & Namusonge, 2012). Despite the efforts and gains in leadership research, little has been done to focus on leadership practices on performance. None of the studies have assessed leadership as conceived by (Garvin

et al., 2008) as a pre-condition of to building a learning organization and achieving sustained competitive advantage.

Table 2.4: Empirical Studies on Leadership Practices and Competitive Advantage

Authors	Results
1. Transformational leadership, organizational learning, innovation, organizational performance (García-Morales, Llorens-Montes, & Verdú-Jover, 2006)	Positive relation between transformational leadership and organizational performance
2. Leadership and organizational learning's role on innovation and performance: Lessons from Spain (Arago´ n-Correa et al., 2007)	High degree of tolerance towards adventurous spirit, high democratic participation and more innovation activities have a better chance of becoming learning organizations and fostering competitive advantage.
3. Leadership styles and organizational learning in community clinics (Amitay et al., 2005)	High correlation between the three sets of variables examined in this study: leadership, organizational learning values, and organizational learning mechanisms.
4. The Effect of Leadership Styles on Organizational Performance at State Corporations in Kenya (Koech & Namusonge, 2012)	Correlations between transformational leadership factors and organizational performance ratings were high, whereas correlations between the transactional leadership behaviors and organizational performance were relatively low.
5. Correlation between the administrative leadership style and inclination towards organizational learning in local administrative organizations (Victor Jesus Garcia-Morales et al., 2012)	Positive relation between transformational leadership, organizational learning and innovation Correlation between the administrative leadership style and inclination towards organizational learning in local administrative organizations

2.5.4 Learning Processes and Competitive Advantage

Some studies around learning processes have focused on the Knowledge Conversion Process (KCP), and its four processes including socialization, internalization, externalization and combination. In this regard, Dimitrios and Prodromos (2015)

conducted a study focusing on the process of knowledge management and its diffusion throughout the organization. They proposed a conceptual framework and tested it, using a structured questionnaire, in a sample of 211 bank employees.

Their results showed that companies with enhanced innovative culture and an organizational climate that fosters cooperation between employees tended to promote and maximize knowledge diffusion. As far as the knowledge management process and its four processes, socialization, internalization, externalization, and combination, is concerned, the results show that an increase in the level of the inter-organizational exchange of experiences will enable employees to understand clearly tacit knowledge and use it more effectively.

The strong relationship that was found between socialization and internalization supports this finding; the greater the exchange of experiences, the more effective the incorporation of tacit knowledge. They explained that this mechanism occurs because socialization is closely related to "learning by doing" and in parallel is enhanced by improving communication among employees at every hierarchical level (Dimitrios & Prodromos, 2015). Furthermore, the empirical results underline that only if tacit knowledge is made explicit and, thus, readily accessible it will become perceptible and used by all the employees of the organization. Similar results were found by Al-adaileh, Dahou, and Hacini (2012) when they examined the impact of the KCPs on implementing a learning organization strategy. They did the study in an Algerian international oil company using a case study approach by administering questionnaires to 416 managers. Results confirmed that socialization, internalization, and combination have a significant impact on the success of a learning organization strategy. Furthermore, socialization is the major influential factor, having the strongest impact on learning organization. However, externalization was found to have no statistical influence on learning organization.

Other authors focused the role of knowledge management practices in performance and competitive advantage. For example, Valmohammadi and Ahmadi (2015) assessed the impact of knowledge management practices on organizational performance in an attempt to present a holistic approach to the evaluation of

knowledge management practices on organizational performance. They assessed the effects of seven Critical Success Factors (CSFs), namely leadership role, organizational culture, knowledge management strategy, processes, and activities, training and education, information technology, and motivation and rewarding system, on organizational performance. There results showed that knowledge management practices positively and meaningfully impact overall organizational performance, but the impact was only significant for the growth and learning dimension. The other dimensions were insignificant. Among the seven CSFs, motivation and rewarding system obtained the lowest rank among the surveyed organizations.

Likewise, Bahrami, Jazani and Joybar (2014) investigated the relationship between knowledge management strategies, and organizational learning in improving learning in organizations. They used the banking industry case study. The factors they assessed included human resources management, information technology, senior management support, rewards for employees, knowledge-based strategies, sharing and knowledge dividing and organizational culture. Their results showed that strategy and human resource management played an essential role in organizational learning. Further statistical tests revealed that information technology also influenced organizational learning. Therefore, if organizations wish to increase the key success factors for knowledge management and organizational learning, they need to use knowledge-based strategies and policies, human resource management and use of information technology tools for success in the organization.

In Finland, Tuurnas (2015) conducted an explorative study on how public service professionals coped with co-production as a means to produce and develop public services. They found conflicting approaches to co-production with various implications used simultaneously, causing uncertainty among the professional co-producers. When moving from rhetoric to practice there seemed to be a lack of tools and methods for applying and utilizing the possibilities of co-production. The processes of co-production and their implications should be thoroughly understood and managed throughout public service organizations, from politicians to frontline workers.

To conclude, it can be said that co-production was not an easy issue for the professionals. When moving from rhetoric to practice, the authors note a lack of tools and methods for applying and utilizing the possibilities of co-production. This result is essential when we try to understand the world of the public service professionals as initiators and implementers of co-production practices. The research also highlights the importance of renewed professional culture, which points to accepting and acknowledging experiential knowledge alongside their professional knowledge in the service development

In India, Jain and Moreno (2015) investigated the impact of organizational learning on the firm's performance and knowledge management practices in a heavy engineering organization in India. Their results showed that all the factors of organizational learning were positive predictors of different dimensions of firm's performance and knowledge management practices. Organizational learning factors included collaboration and team working, performance management, autonomy and freedom, reward and recognition and achievement orientation. The results indicated the positive relationships between organizational learning, organizational performance, and knowledge management practices.

This study provides insights for improving organizational performance and knowledge management by creating a culture and climate of organizational learning, which implies that organizations need to encourage collaboration and team learning by linking different parts of the organization. The system should help to measure the gaps between current and expected performances which consequently can assist in making the learning available across the organization. The authors argue that this be one crucial way that process of double-loop learning could also be enhanced in the organization.

Undoubtedly, studies associated with learning processes are of high relevance to the current research (Al-adaileh et al., 2012; Bahrami et al., 2014; Dimitrios & Prodromos, 2015; Valmohammadi & Ahmadi, 2015). The studies have shown that successful transformation to learning organizations depends on the existence of appropriate cultural and technological contexts that facilitate sharing and transferring

of knowledge into an explicit form that might be of use to organizational members. Appropriate learning culture context not only have to enhance transforming of explicit knowledge into more complex and systemic sets of explicit knowledge but also a culture that can help people enrich their tacit knowledge (Al-adaileh et al., 2012; Dimitrios & Prodromos, 2015).

Studies have also revealed a direct link between knowledge management factors and performance of organizations. According to Valmohammadi and Ahmadi (2015), the biggest challenge for future managers is to increase the productivity of knowledge employees. This challenge is the work instruction of executives in the next decades and the ultimate determinant of competitiveness of companies. Researchers have encouraged organizations that wish to increase the key success factors for knowledge management and organizational learning to use knowledge-based strategies and policies, human resource management and information technology tools to achieve their aims.

Table 2.5: Empirical Studies on Learning Processes and Competitive Advantage

Authors	Results
1. A survey on the effects of knowledge management on organizational learning: A case study of technical and vocational training organization (Bahrami et al., 2014)	Strategy and human resource management played an essential role in organizational learning. Further statistical tests revealed that information technology also had an effect on organizational learning
2. The central role of knowledge management in business operations developing a new conceptual framework (Dimitrios & Prodromos, 2015)	Companies with enhanced innovative culture and an organizational climate that fosters cooperation between employees tended to promote and maximize knowledge diffusion
3. Impact of knowledge conversion processes on implementing a learning organization strategy (Al-adaileh et al., 2012)	Socialization, internalization, and combination have a significant impact on the success of a learning organization strategy
4. The impact of knowledge management practices on organizational performance (Valmohammadi & Ahmadi, 2015)	Knowledge management practices positively and meaningfully impact overall organizational performance, but the impact was only significant for the growth and learning dimension.

Table 2.5 summarize empirical work associated with learning processes and competitive advantage. The results show a link between aspects of learning processes on performance and on competitive advantage. Despite this positive association, it is evident that majority of the research has focused on private sector organizations with limited attention to the public sector. The studies have also focused on performance and not going a step further to establish whether knowledge management has a role in achieving competitive advantage (Valmohammadi & Ahmadi, 2015).

2.5.5 Systems Thinking and Competitive Advantage

Schiuma, Carlucci and Sole (2012) sought a better understanding of why and how knowledge assets management initiatives could be turned into value creation mechanisms with positive impacts on firm performance. They wrote a paper proposing a systems thinking-based framework, the Knowledge Assets Dynamics Value Map, seeking to explicate how the working mechanisms by means knowledge assets can evolve by knowledge management initiatives and affect firm performance. Their framework offered a holistic view of the mechanisms on the basis of how knowledge assets are translated into organizational value. The framework also supports the explanation of how knowledge assets are linked. It also helps to explain how management of one knowledge asset activates flow dynamics, that influence other knowledge assets and business performance. Managers can use this framework to reflect upon the knowledge components that ground a firm's value creation and assess their mental models.

Skaržauskiene (2010) analyzed new management practices for addressing complexity, uncertainty, and changes in today's business landscape. Specifically, they sought to understand the role of intellectual capital and particularly explore the key competencies to be developed so order to deal with the fluidity of business. They author sought to clarify the relationship between systems thinking and organization performance and identified and tested six competencies that constitute systems thinking orientation: understanding of mental models, continuous learning, process orientation, systems logic, interactivity and dynamic thinking.

The author concluded that development of systems thinking competence, and retention of cognitive abilities, significantly improve both efficiencies of leadership and effectiveness of the organization. Their results showed that systems thinking was associated with higher organization performance. However, the authors note that to generalize the research findings, further research needed to include more companies from different industries. Using their results and a synthesis of scientific literature they developed a conceptual model to explain the relationships between systems thinking and organization performance.

Lin and Tan (2014) conducted a study with the primary objective of devising an innovative performance measurement approach for the building administration authorities in Taiwan. The adopted a two-stage study for the research. First, data envelopment analysis is used to measure the organizational and individual performance in the building administration authorities. Second, social-network analysis is used to investigate the relations between an individual's centrality in the organization and their performance. Findings showed a high rate of resignation in some architectural divisions. The resignation rate is a major factor in organizational efficiency. The main reason for a high resignation rate was that managers did not respond to human resource demands of promptly. The results also showed a positive relationship between organizational members' intrarelationships and their performance. They also demonstrated that individuals with higher centrality in the organization worked more efficiently. Their study distinguished effectiveness and efficiency of the individuals and work months in the building administration authorities.

Kim, Akbar, Tzokas, and Al-Dajani (2013) developed and tested absorptive capacity's relationship with systems thinking. Even though systems thinking has been postulated as an important element, it had received little empirical attention in the absorptive capacity literature. The authors introduced unique pathways through which systems are thinking influences absorptive capacity and showed how systems thinking affects various interrelated dimensions of small and medium-sized enterprises' performance. The results of this study provide significant evidence to support the role that systems thinking plays in contemporary SMEs working in technologically intensive industries. To respond to the turbulence and complexity of this environment, SMEs need to explore new information and ideas continuously.

Other researchers had found that an SME's ability to mobilize its resources and capabilities, and to align them with changing opportunities in the environment, are vital to its survival and to creating competitive advantage (Liao et al., 2009). In line with previous research, the study by Kim, Akbar, Tzokas, and Al-Dajani (2013), confirms that the firm's ACAP directly influences an SME's NPD and market performance. However, whereas ACAP enables firms to screen and filter external

knowledge for its relevance and usefulness, it has been noted that to integrate complex and sophisticated technological knowledge, firms must develop significant competencies. Systems thinking represent such competency, since by enabling organizational systems and subsystems to be viewed and understood as a coherent whole, it allows organizations to analyze and integrate knowledge effectively (Senge et al., 2008).

Various authors have found systems thinking as the conceptual cornerstone of a learning organization which provides the framework for organizations to create new knowledge and accelerate change (Alegre & Chiva, 2008; McAdam et al., 2010; Alegre et al., 2013). This result is in line with recent research into SMEs, where organizational learning capability as well as knowledge and information capturing, have been found to be important determinants of innovation activity and performance. The study by Kim, Akbar, Tzokas, and Al-Dajani (2013) confirms the critical role that systems thinking performs. Systems thinking enhances the ACAP of the firm and allows it to make sense of the complexity and usefulness of external technologies as well as incorporate them into the development of new products with clear competitive advantage.

Dunnion and O'Donovan (2014) wrote a paper explaining an alternative view of how to transform the way that the higher education system in the UK delivers service to students in an environment where 'student choice' would be regarded as of paramount importance. The paper argued that the prevailing 'command and control' management logic, which can be found at work throughout both the public and private sectors, is the primary cause of inferior, expensive service in the higher education system (Seddon 2003).

As an alternative, the authors explored the benefits of working in systems thinking way, while comparing this with the previous thinking. Using a case study methodology, their paper addressed what had been learned by applying the Vanguard Method in an HEI environment for the first time (Yin's 2009). The purpose of this paper was to uncover processes and the corresponding social mechanisms promoting innovation in organizations. It is the integration of organizational learning, the

internal knowledge base of the company and its external knowledge base, viewed in relation to innovations in organizations, which are the main elements discussed in this paper.

To profit from the explicit and tacit knowledge within these systems, strong personal links are essential. These personal links could be maintained both through the institutional contacts of the company and through the personal contacts of each employee with their professional networks. For organizational learning to be developed in a company, these elements will, however, should be subject to routine, putting the companies in a position to create learning systems that are robust in relation to important knowledge actors internally in the enterprise. Also, for companies to exploit the information and knowledge developed by the individuals in through their external contacts, knowledge must be integrated into the company, and be applied to the solution of concrete company-related problems. In the same way as for external knowledge, strong internal connectivity among the employees are crucial, to integrate both the explicit and the tacit knowledge. The authors also presented a conceptual model, which represents a synthesis of the social mechanisms which influence those processes affecting innovation in social systems.

Table 2.5 summarizes results of empirical studies on the systems thinking. The studies show that systems thinking is important in fostering performance of organizations (Skaržauskiene, 2010; (Schiuma, Carlucci, & Sole, 2012); (Akhtar et al., 2013). Other studies have looked at approaches for nurturing systems thinking culture in organizations. Despite the positive role of systems thinking in organizational performance, few studies have assessed its effect on competitive advantage and even fewer studies have focused on public organization.

Table 2.6: Empirical Studies on Systems thinking and competitive advantage

Authors	Results
1. Systems thinking and absorptive capacity in high-tech small and medium-sized enterprises from South Korea (Y. A. Kim et al., 2013)	Support the role that systems thinking plays in contemporary SMEs working in technologically intensive industries.
2. Managing complexity: systems thinking as a catalyst of the organization performance (Skaržauskiene, 2010)	Systems thinking was associated with higher organization performance
3. Systems Thinking and Higher Education: The Vanguard Method (Dunnion & O'Donovan, 2014)	Command and control' management logic, which can be found at work throughout both the public and private sectors, is the primary cause of inferior, expensive service in the higher education system
4. Exploring and measuring organizational learning capability and competitive advantage of petroleum industry firms (Akhtar et al., 2013)	Empirical results show that systems thinking tends to have a positive effect on performance and competitiveness of petroleum industry firms
5. Systems thinking, a consilience of values and logic Kumar et al. (2005)	Emphasizes that an individual must utilize systems thinking to become a decision-maker.
6. Building a systems thinking culture at Ford Motor company (Seligman, 2005)	Some organizations provide systems thinking training for their staff to improve the quality of their performance
7. Systems thinking and absorptive capacity in high-tech small and medium-sized enterprises from South Korea Kim, Akbar, Tzokas, & Al-Dajani, (2013)	Found that systems thinking had a positive effect in the absorptive capacity (ACAP) of high-tech small and medium-sized enterprises form South Korea with an overall impact on firm performance. They found that firms outperforming others in their ACAP also showed a clear element of systems thinking.

2.5.6 Rate of learning in Organizations

Voolaid (2013) conducted a study to assess the organizational learning rate of business schools and its comparison with the average learning rate of business organizations and Estonian universities using Watkins and Marsick's measurement instrument. Results demonstrate that the learning rate dependence on ownership form was statistically significant. The average rate of learning for privately owned Business Schools (BSs) as organizations (4.8) was higher than that of state-owned and public BSs (4.5). Private schools had a higher arithmetic mean of the learning

rate also in all at individual, team and organizational levels. The level that depends the most on ownership form is the first (individual) with the average rates 4.9 and 4.5, for private and public business schools respectively. To explain the better learning ability of privately owned BSs, the author suggested several reasons: the author believes the most important are the greater dependence of private schools on external environment and the small or non-existent state financing, inducing privately owned BSs to react to changes in the environment faster and more flexibly, which in turn has positive impact on the learning rate. Private schools often are also profit earning organizations with owners interested in higher learning ability for the sake of profit and therefore invest in this.

Similar results were found by (Clark et al., 2013), who explore volume-based learning in a setting where doctors at an outsourcing firm complete radiological reads for hospital customers. They examined more than 2.7 million cases read by 97 radiologists for 1,431 customers and found evidence supporting the benefits of customer-specific experience accumulated by individual radiologists. Additionally, they found that variety in an individual's customer experience may increase the rate of individual learning from customer-specific experience for a focal task. Finally, they found that the level of experience with a customer for the entire outsourcing firm yielded learning and that the degree of customer depth moderates the impact of customer-specific experience at the individual level.

The two studies discussed above lead us to various importance conclusions about the rate of learning. First, we have the importance of individual learning in increasing rate of organizational learning. In addition to finding higher score for individual level learning, Voolaid, (2013) further found that individual learning was largely dependent on the ownership with the learning rates being higher in private owned institutions as compared to the public owned institutions. In explaining the individual learning scores, the author notes that individual level characteristics are more universal and less organization specific than the organizational level characteristics. Similarly, Clark, Huckman, and Staats (2013) concluded from their study that individual customer–domain experience was more beneficial, on average, than other types of experience.

Secondly, both studies point out the importance of learning from customers. Voolaid (2013) conducted a deeper analysis of the learning characteristics and concluded a need to further develop team learning abilities and skills, as well as to improve the ability to create a system to capture and transform leaning and knowledge. Furthermore, the study results showed that the market participation rate had a sizable impact on the organization's learning rate. Similarly, Clark, Huckman and Staats (2013), found that individual customer–domain experience was more beneficial, on average, than other types of experience. Table 2.6 summarizes empirical results on rate of learning and competitive advantage.

In summary, studies reviewed have shown various ways of increasing rate of learning in organizations (Clark et al., 2013; Voolaid, 2013). The studies have also shown that single loop learning is more frequent in organizations than double loop learning (Witherspoon, 2014). A significant contribution to literature by the studies reviewed is the actual measure of rate or learning by Voolaid (2013) and organizational learning performance by Wu, Ay, and Lien (2009). Among the factors that affect rate of learning include ownership model of organization and the need to learn from external sources. Public organizations were found to have lower rates of learning than privately owned firms (Voolaid, 2013). Table 2.7 summarizes the empirical studies reviewed and important findings of the studies.

Table 27: Empirical Studies on Rate of Learning and Competitive Advantage

Authors	Results
1. Measurement of organizational learning of business schools (Voolaid, 2013)	Results demonstrate that the learning rate dependence on ownership form was statistically significant.
2. Learning from Customers: Individual and Organizational Effects in Outsourced Radiological Services (Clark, Huckman, & Staats, 2013)	Variety in an individual's customer experience may increase the rate of individual learning from customer-specific experience for a focal task.
3. Double-Loop Coaching for Leadership Development (Witherspoon, 2014)	Single loop learning is more frequent in organizations than double loop learning.
4. Interdependence and adaptability: Organizational learning and the long-term effect of integration (Sorenson 2003)	Found that interdependence engendered by vertical integration slowed the rate of learning in firms in stable environments and speeded learning in volatile environments. Investment in Research and Development increased the rate of learning among firms in the chemical processing industry.
5. Capability contingent: the impact of organizational learning styles on innovation performance (Wu, Ay, & Lien, 2009)	Social capital is an important factor that affects the organizational learning performance
6. Informal workplace learning: An exploration of age differences in learning competence (Boekaerts & Corno, 2005)	Based on findings from self-regulated learning research that control of learning and learning orientation are positively related to learning performance

2.6 Critique of the Existing Literature Relevant to the Study

Despite the attempts to provide empirical evidence for the theoretical perspectives associated with organizational learning and competitive advantage, the studies have had methodological, conceptual and practical limitations that impact on generalizability. Table 2.1 summarizes the gaps and limitations noted in the studies reviewed and their respective frequency based on the number of studies. The highest limitations explicated in the empirical studies concerned sampling. Issues of sample representativeness included industries targeted (Hardeep & Bakshi, 2014) gender of respondents sampled (Hogan & Coote, 2014) and level of organization where the samples were draw (Victor Jesus Garcia-Morales et al., 2012).

Table 2.8: Summary of Critique of Literature Reviewed

Critique and Gap Category	Percentage
Cross-sectional design	24%
Sample Size	7%
Sample representativeness	34%
Cultural Context and time invariant factors	7%
Instrument Type, Self-report and single respondents	17%
Variable Conceptulization	10%
Total	**100%**

First, some of the studies demonstrated methodological inadequacies. Some studies were limited by survey data being based on self-reports, which have the potential of being subject to social desirability bias. Victor Jesus Garcia-Morales et al. (2012) had a challenge of self-reports and single respondent while assessing transformational leadership. Evidence suggests that self-reports of leadership are valid measures of interviewing and administering questionnaires. However, most researchers only interviewed leaders, even though to interview other organizational members would have been preferable to verify leaders' self-report of their behavior. Additionally, besides the quantitative inquiry adopted by most studies, to fully

understand the role of some dimensions, a qualitative inquiry is recommended, yet not utilized by most studies.

Additionally, the cross-sectional nature of most studies only allowed them to analyze a specific situation at a specific moment in time in the sampled organizations, without looking at their overall conduct through time. Similarly, the correlational approach employed by most studies using structural equation modeling did not allow for conclusions to be drawn from causal inference for most variables studied. On the other hand, most studies only tested for association and not causality, which limited the generalizability of the results. Similarly, the use of a single respondent may have influenced the accuracy of some measurements. A similar limitation was pointed out by Victor Jesus Garcia-Morales et al. (2012) in their study. Even though their results were consistent with theoretical reasoning, the research designs were incapable of confirming the causal relationships set out in the hypotheses.

Furthermore, most studies had instrumentation and variable conceptualization challenges (Kohtamäki, Kraus, Mäkelä, & Rönkkö, 2012; María Martínez-León & Martínez-García, 2011). Variables that were studied mainly focused on limited dimensions of learning (María Martínez-León & Martínez-García, 2011; Prugsamatz, 2010). For example, María Martínez-León and Martínez-García (2011), study only assessed at the organizational structure as a determinant of learning and competitive advantage. Similarly, Prugsamatz (2010) only focused on selected dimensions to investigate while much more could exist.

Some studies lacked objective measure for variables such as organizational learning (María Martínez-León & Martínez-García, 2011). Despite showing that objective measures are correlated with subjective ones, the use of subjective measures does leave space for studies measuring constructs by objective measures. Also, in some studies, only a limited number of statistical tests were conducted to draw conclusions from some studies when more analysis could have been carried out to identify varying trends and results and understand the interactions that exist between the aspects studied at a greater depth. Future studies should address these theoretical,

practical and methodical gaps to strengthen the quality of evidence that examines the theoretical underpinning that learning affects competitive advantage.

Studies focusing on rate of learning have heavily focused on preconditions to increasing rates of learning without making attempts to assess the level of learning within organizations. Even though they have done a thorough job at assessing the rate of learning, the studies have not been consistent on eth tools utilize. For example, Voolaid (2013) use the Dimensions of Learning Organizations Questionnaire (DLOQ) while Clark, Huckman, and Staats (2013) used other quantitative measures. This limits comparability of the results. Secondly, even though the studies have tried to look at learning at the level of individual, organization and teams, they have not assessed differences between single loop and double loop learning in organizations yet, we cannot make sound conclusions without knowing the type of changes being experienced in organizations. As Garvin et al. (2008), points out, a concrete conception of organizational learning must include change, such that an organization can be said to learn only when its actions have been modified because of reflection on new knowledge or insight. This learning aspect had been left out in the studies conducted to assess rate of organization learning.

2.7 Research Gap

Review of theoretical foundations and empirical work on organizational learning and competitive advantage has revealed key gaps research. One gap is the samples and sectors used in the studies were not representative or comprehensive to allow for generalizations. Only a small number of studies focused on state corporations showing the lack of empirical literature in this sector (Gbenro & Agboola, 2015). Authors recommend future studies with additional heterogeneous enterprises to reinforce past findings. Others propose that future research targets different cultural contexts or geographical areas to validate the results for a broader spectrum of cultures and geographies.

Also, gaps in the identification of variable elements have been noted. For example, organizational learning elements in the study of organizational learning and competitive advantage have not been consistently and comprehensively identified (Donate & Sánchez de Pablo, 2015). The authors suggested future studies should classify the inventory of specific organizational learning elements and dimensions within small and medium enterprises and determine if similarities exist in other sectors. Similarly, continued efforts to examine the dynamics around interactions between organizational learning culture and employee satisfaction, learning, and performance is essential for the ongoing development of research and practice unique to human resource development. Furthermore, there is a need for more rigorous designs to measure perceived organizational learning culture, critical incidents, and employee motivation. Also, it is important to examine differences and similarities between organizational learning culture dimensions between organizations and relevant outcomes.

From a methodology and instrumentation angle, much research has focused mainly on quantitative methods and have not exploited the significant role of qualitative techniques to address the critical questions. In one study, the authors recommended the use of qualitative inquiry to determine why employees with less than one year of work experience perceived culture as a stronger indicator of organizational learning readiness than did those with more than one year of longevity (Thoithi, 2013).

Additional gaps relate to the role of leader-managers in establishing values and norms that support innovation and performance (Donate & Sánchez de Pablo, 2015). That is, how do the dimensions establish themselves within organizations, and how do organizations come to place emphasis on some dimensions and not others? Although most leadership studies have investigated sequential relationships between leadership dimensions, the interactive and inter-subjective features of the leadership process have not been sufficiently assessed. Qualitative research should be conducted to explore the interactive mechanism of leadership. Lastly, gaps identified during the literature review affirm the argument that there are a limited amount and quality of empirical studies to support the elaborate theoretical foundations that link

organizational learning and competitive advantage. These gaps range from methodical to lack of objective measures.

2.8 Summary of Literature Reviewed

The theoretical review has shown that there is sufficient theoretical foundation to assess and describe a learning organization. In 1978, Argyris and Schon suggested the initial definitions of a learning organization and proposed the critical learning loops that can occur in organizations. These learning loops include single loop, double loop, and triple loop and have guided research on organization learning and improvement for decades. Senge (2006; 1990) also made critical contributions to the meaning and significance of organizational learning, and the result of his work was a refined definition of a learning organization and five critical disciplines or competencies that organizations need to have to learn effectively. Theoretical perspectives suggest that organizations must find their niche to be successful. In fact, some authors argued that a firm's ability to learn be an important source of sustained competitive advantage.

Empirical studies have shown mixed results associated with organizational learning. Some authors assessed the link between organizational learning and competitive advantage. When evaluating this link, some authors found organizational learning to mediate or moderate relationships with organization performance variables. Other authors focused on the relationship between learning processes and competitive advantage. These researchers revealed a direct and indirect link between knowledge management factors and performance of organizations (Valmohammadi & Ahmadi, 2015). Empirical studies demonstrated that successful transformation into a learning organization depends on the existence of appropriate cultural and technological contexts that facilitate sharing and transferring of knowledge into an explicit form that might be of use for organizational members (Al-adaileh et al., 2012; Dimitrios & Prodromos, 2015).

Other studies examined the relationship between leadership, learning, and competitive advantage found that a certain styles leadership are essential to ensuring

firm performance and competitive advantage (Amitay et al., 2005; Džinić, 2015; Koech & Namusonge, 2012). Some findings have shown that transformational leadership encourages organizational innovation and organizational performance at a higher level if there are competencies focused on organizational learning that minimize the cost of internal change. Other results affirmed the mediating effect of knowledge management practices in the relationship between knowledge-oriented leadership and innovation performance and learning. On the contrary, transactional leadership had mixed results with some showing a negative effect organizational learning.

The review also focused on studies looking at rate of learning. Research on rate of learning has heavily focused on preconditions to increasing rates of learning without making attempts to assess the level of learning within organizations. Even though they have done a thorough job at assessing the rate of learning, the studies have not been consistent on the tools utilized which limits comparability of study results. Secondly, even though the studies have tried to look at learning at the level of individual, organization and teams, they have not assessed differences between single loop and double loop learning in organizations yet, we cannot make sound conclusions without knowing the type of changes being experienced in organizations. As Garvin et al. (2008) points out, a concrete conception of organizational learning must include change, such that an organization can be said to learn only when its actions have been modified because of reflection on new knowledge or insight. This aspect of learning had been left out in the studies conducted to assess rate of organization learning.

Lastly, researchers have also assessed the link between organizational culture, organizational learning, and competitive advantage. Most authors established a positive link between organizational culture and organizational learning as suggested by in the literature by Argote, Mcevily, as well as by Lee and Lee (2013) proposition that the impact of organizational culture on organizational learning varies with the type of organizational culture. On the contrary, Sanz-Valle et al. (2011) expected a positive effect on organizational learning due to its flexibility orientation,

but results were insignificant. Table 2.9 summarizes literature reviewed and the gaps noted in the studies.

Table 2.9: Summary of Literature Reviewed and Research Gap

Authors	Critique and Research Gap
1. Non-technical innovation: Organizational memory and learning capabilities as antecedent factors with effects on sustained competitive advantage (Camisón & Villar-López, 2011)	Cross-sectional nature of the data prevents full consideration of the dynamic character of learning capabilities and innovation and does not allow conclusions about the causality between constructs.
2. A Study on the Relationships between Organizational Culture, Organizational Learning, Technological Innovation and Sustainable Competitive Advantage (Weihong et al., 2008)	Study samples were only taken the from major large and medium-sized manufacturing enterprises in PRD hence future studies should be tried to verify the result based on a wider survey.
3. Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning (Hardeep & Bakshi, 2014)	Study was confined to the banking sector hence similar research should be undertaken in different service and manufacturing sectors and countries to validate established relationships
4. The role of knowledge-oriented leadership in knowledge management practices and innovation	The cross-sectional research design was incapable of confirming the causal relationships set out in the hypotheses.

Authors	Critique and Research Gap
(Donate & Sánchez de Pablo, 2015)	
5. Perception toward Organizational Learning Culture in Small-Size Business Enterprises (Graham & Nafukho, 2007)	Generalizing results beyond the specific context of small-size business enterprise may not be possible. Thus, the interpretations were limited to the seven small-size business enterprises studied. Besides the quantitative inquiry, to fully understand the role of dimension of culture in explaining organizational learning readiness, a qualitative inquiry is recommended.
6. Dimensions of trust as predictors of willingness to share and use tacit knowledge among health workers in Nigeria (Gbenro & Agboola, 2015)	A sample that reflects national spread may ensure the generalization of the present findings. Cross-sectional nature of the data called into question any inferences that could be made concerning the directionality of relationships.
7. Linking organizational learning with technical innovation and organizational culture (Sanz-Valle et al., 2011)	The data in the study were collected from one source only. Although the use of single informants remains the primary research design in most studies, multiple informants would enhance the validity of the research findings. Cross-sectional design of this research limited causal inference. Working with an ad-hoc database with predetermined variables implied evaluating only four of the six features of the competing value model.
8. Organizational culture, innovation, and performance: A test of Schein's model (Hogan & Coote, 2014)	Sample of respondents, mostly principals of law firms, is overwhelmingly male (78%) which limits interpretation and use of results.

Authors	Critique and Research Gap
9. Transformational leadership, OL, Innovation, Organizational performance (García-Morales et al., 2006)	Survey data was based on self-reports hence may be subject to social desirability bias (Podsakoff and Organ, 1986). The study concentrated on four sectorsonly. Cross-sectional nature of the research into a series of dynamic concepts only allows analysis of specific situation in time of the organizations studied, not their overall conduct throughout time.
10. Correlation between the administrative leadership style and inclination towards organizational learning in local administrative organizations (Victor Jesus Garcia-Morales et al., 2012)	Study measures the variables based on the CEOs' managerial perceptions (single respondents), which involve a certain degree of subjectivity. Measures of transformational leadership had limitations. Although existing evidence suggests that self-reports of leadership are valid measures (e.g., Yukl and Van Fleet, 1991), interviewing and administering questionnaires to all other organizational members (not only to subordinates) would have been preferable to verify leaders' self-report of their behavior.
11. The central role of knowledge management in business operations Developing a new conceptual framework (Dimitrios & Prodromos, 2015)	Self-report scales to measure the factors (constructs) of the proposed model. Lacks a longitudinal approach since it provides a static picture of the application of KM within enterprises.
12. The impact of knowledge management practices on organizational performance (Valmohammadi &	Sample is restricted to only three companies, so gathering data from various parts of Iran including both manufacturing and service industries could increase the generalizability of the results

Authors	Critique and Research Gap
Ahmadi, 2015)	obtained. As in this study the data gathered were cross-sectional, a longitudinal study could help gain deeper understanding of the cause-and-effect relationship among the variables.
13. Systems thinking and absorptive capacity in high-tech small and medium-sized enterprises from South Korea (Y. A. Kim et al., 2013)	Only a single industry was studied Cultural context may have affected results
14. Managing complexity: systems thinking as a catalyst of the organization performance (Skaržauskiene, 2010)	Sample of this research was limited only to national level therefore it is not possible to compare results across different countries. In order to generalize the research findings, further research should include more companies from different industries. The traditional self-assessment method has been used for evaluation of competencies in this paper, but the results could be supplemented by adding 360-degree feedback or multisource assessment results.
15. Exploring and measuring organizational learning capability and competitive advantage of petroleum industry firms (Akhtar et al., 2013).	Other areas of OL should be focused i.e. empowerment, knowledge flow, systems thinking, strategic learning, and internality should be incorporated in the training programs to optimally utilize the potential of all employees.
16. Learning from Customers: Individual and Organizational Effects in Outsourced Radiological	Other contexts including settings in manufacturing or professional services (e.g., software development, legal, or consulting services) need to be studied.

Authors	Critique and Research Gap
ServicesClark, Huckman, & Staats, (2013)	Time-invariant factors such as individual talent and the "match" between individual providers and customers, may have caused results to be subject to concerns of bias due to remaining sources of endogeneity

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology and approaches that were employed to conduct this study. It describes the research philosophy, research design, sampling design and population of the study. The chapter further explains the process through which data was collected, analysed and presented. Lastly, the chapter discuss the operationalization of study variables.

3.2 Research Design

3.2.1 Research Philosophy

A research philosophy is a belief about the way in which data relating to a phenomenon should be gathered, analyzed and used. It encapsulates the development of knowledge and the nature of that knowledge (Saunders et al., 2015). The study takes a positivist philosophy. This philosophy tries to uncover the truth about how things are, or at least, how we can focus on them. Positivists believe that reality is stable and can be observed and described from an objective viewpoint without interfering with the phenomena under study (Mkansi & Acheampong, 2012). It is a structured method, combining logical deductions with precise empirical observations of the behavior of individuals to open-up and confirm causal relationships that are valid with a known probability and can, therefore, be used for prediction. Positivist philosophy is seen to be best for quantitative designs (Polit & Beck, 2008; Steen and Roberts, 2011).

3.2.2 Research Design

Cooper and Schindler (Saunders et al., 2015) define research design as the plan and structure of investigation so conceived as to obtain answers to the set research questions. It includes an outline of what the investigator did from writing hypotheses,

and their operational processes leading up to the final analysis of the data. A research design is the blueprint for collection, measurement, and analysis of data, and it aids in allocation of limited resources. A research design is, therefore, a plan and a structure to obtain answers to research questions. The study adopted a cross-sectional, correlational design.

Cross-sectional design was selected based on the methods used by similar studies that deal with the organizational learning issues (Sanz-Valle et al., 2011; Tan, Smyrnios, & Xiong, 2014). Furthermore, review of literature found that though some research used an empirical approach, they based their data largely on case studies leading to a call for quantitative testing by cross-sectional studies to further rectify and refine this proposed linkage between learning and competitive advantage (Andjelkovic & Boolaky, 2015; Bahrami et al., 2014; Bell, 2013). Second, cross-sectional research allows a researcher to analyze only a specific situation in the time of the organizations studied which was the intention of this study. The third reason is that cross-sectional studies provide an efficient and economical way to assess the utility of research hypotheses and conceptual models before engaging any other expensive research approaches (Egan, Yang, & Bartlett, 2004).

Correlational design was selected because it provides opportunity to describe the homogeneity or heterogeneity of various variables and the extent to which they are similar or different from one another. Also, computation of specific correlation coefficients allows the researcher to describe the degree to which variables are inter-correlated with one another. Most importantly, correlation design allows the researcher to interpret these data and give them meaning. Even though inferences of cause-and-effect relationships based on correlation coefficients within this study are not practical, evidence of common causal bonds among the variables in this study links the phenomena of selected variables in a logical fashion. Further, correlational design for this research allows one to look beyond the forces of the correlated data. In fact, correlation coefficients for this study act as an antecedent triggering a need to discover, predict, and explain relationships with additional analyses like the work done by Leedy and Ormrod (2001).

3.2 Target Population

A study population refers to a group of individuals, objects or items, from which samples are taken for measurement. According to Cooper and Schindler (2008), a population is the total collection of elements about which one wants to make inferences. Therefore, a population is the researcher's 'universe'. The population of this study comprises of 132 state corporations in Kenya as identified by that State Corporations Advisory Committee, the official body mandated to advise on all matters pertaining to state corporations under section 27 of the state corporations Act, Chapter 446 (Government of Kenya, 2012, 2015). The study has chosen state corporations for two main reasons. First, is their essential roles and mandates in social and economic development, (Government of Kenya, 2015). Secondly, research gaps have shown that there is limited empirical evidence and tools to facilitate state corporations in becoming learning organizations that could achieve competitive advantage.

Table 3.1: Study Population (SCAC, 2016)

Sector	**Population**
Finance	15
Commercial and Manufacturing	32
Public Universities	7
Training and Research	13
Service Corporations	26
Regional Development	6
Tertiary Education and Training	5
Regulatory	28
Total	**132**

3.4 Sampling Frame

A sampling frame is defined as the list of all the items where a representative sample was drawn for a study (Saunders et al., 2015). The sample frame comprises of 132 state corporations categorized into eight sectors. The study further reduced the list to comprise of only those entities that were operating in a competitive landscape. Based on this exclusion criteria, the study removed institutions from the regulatory, regional development, selected financial-sector institutions, and service corporations. The revised sample frame comprises of 53 state corporations (See table 3.2).

Table 3.2: Sample Frame (SCAC, 2016)

Sector	Population
Finance	9
Tertiary Education and Training	5
Public Universities	7
Commercial and Manufacturing	32
Total	**53**

3.5 Sample and Sampling Technique

3.5.1 Sample

The sample size determination formula by Cochran (1977), and procedures for categorical data helped calculate the sample size. The formula considers the margin of error and the alpha level which refers to the level of acceptable risk the researcher is prepared to accept that the true margin of error exceeds the acceptable margin of error. According to Ary, Jacobs, and Razavieh, as cited by Bartlett, Kotrlik, and Higgins (2001), the alpha level used in determining a sample size in most educational and social science research studies, is either .05 or .01. Similarly, this study used an alpha value of 0.05. The general rule relative to acceptable margins of error in educational and social research is as follows for categorical data is that 5%

margin of error is acceptable. This study used a margin of error of 5%, (Saunders et al., 2015).

$$n = \frac{Z^2 * P(1-P)}{e^2}$$ = 47 state corporations

Where:

n	Sample size of state corporations
Z^2	Confidence level at 1.96 for 95% confidence level
P	Percentage picking a choice, expressed as decimal (.5 used for sample size needed)
e	Confidence interval or margin of error at 5% (standard value of 0.05)

$$n = 1 + \frac{n}{1+\frac{n-1}{pop}}$$ = 35 state corporations

Where:

Pop	Population

Equation 3.1: Cochran's Sample Size Formula

Cochran's formula for categorical data assumes that samples are selected from an infinite population or that samples are selected with replacement. This is not the case with the current study hence there is a need to correct the sample size for finite populations. With these considerations, the study estimated that 73% of the state corporations would be sufficient to represent the population hence calculated a sample size of 39 state corporations. This sample size includes an additional 10% questionnaires to cater for non-response, (Schoeni, Stafford, Mcgonagle, & Andreski, 2013). Detailed calculations are shown in Equation 3.1.

Table 3.3: Population and Sample

Sector	Population	Sample	Target staff
Finance	9	7	42
Tertiary Education and Training	5	4	24
Public Universities	7	5	30
Commercial and Manufacturing	32	24	144
Total	**53**	**40**	**240**

3.5. 2 Sampling Technique

Sample selection was done using stratified random sampling technique with proportional allocation to the different sectors of state corporations, a probabilistic sampling option where the population is split into meaningful categories relevant to the research interest (Saunders et al., 2015).

Various reasons motivated the selection of stratified sampling technique with proportionate distribution of sectors. First, this sampling technique is recommended when the categories of the strata are thought to be too distinct and too important to the research interest, and when investigators wish to oversample a particularly small group of interest (Saunders et al., 2015; Schutt & Chambliss, 2011). Secondly, the stratified random sampling technique was selected due to its ability to ensure representation of the sectors within which state corporations operated. Stratified random sampling helped ensure that the heterogeneous population of state corporations is categorized into homogeneous groups by dividing them into their respective sectors. The state corporations were stratified according to the four sectors with proportional allocation to each sector to ensure the representativeness of the population under study. Lastly, the sampling techniques was also utilized by similar studies dealing with organizational learning in public institutions and organizations which were from multiple sectors (Fidel, Schlesinger, & Cervera, 2015; Owen, 2001).

In the second stage, each state corporation was assigned a serial number in its respective category and simple random sampling technique using random numbers were used to select the corporations to be involved in the study. This step ensured satisfied the requirement of randomization in selection of participating state corporations. As Fahy, (2002) notes, surveys are highly susceptible to low response rates leading to problems of non-response error despite the existence of a variety of studies that have looked at ways of improving response rates. 10% additional state corporations were added to the sample to cater for non-response. These steps fulfill the requirements of efficiency, representativeness, reliability, and flexibility taking care of systematic bias that may result from non-respondents (Saunders et al., 2015). To select individuals to be interviewed, the study targeted six staff from each state corporation. Therefore, 240 staff from 40 state corporations were targeted for interviewing.

Selection of six respondents from each state corporation was based on two reasons. First, previous studies identified the use of a single respondent as a having potential effect on the accuracy of some measurements. Victor Jesus Garcia-Morales et al. (2012) notes that most researchers or organizational learning, leadership and organizational performance research only interviewed leaders, even though to interview other organizational members would have been preferable to verify leaders' self-report of their behavior. Secondly, selection of the respondents ensured we have a suffficient sample to conduct the requires type of analysis including regressions and mediation analysis.

3.6 Data Collection Instruments

The study used three methods of data collection namely, semi-structured questionnaire, interview guide, and records review.

First, a semi-structured questionnaire helped to collect data from 240 employees from 40 state corporations. Six employees including senior manager, middle-level manager and non-management employees, from each, sampled state corporations were targeted with the semi-structured questionnaire. The questionnaire captured

information on the dependent variable (competitive advantage), independent variables (learning culture, leadership practices, learning processes and systems thinking) and the mediating variable (rate of learning). The questionnaire was self-administered where each respondent reads and answers the same set of questions in a predetermined order without an interviewer. This decision to self-administer was reached on the basis that all the questions were straight forward (Saunders et al., 2015). Additionally, Cooper and Schindler (2008) note that questionnaire is good because standardized and impersonal formats of a questionnaire has uniformity and help in getting data objectively; information on facts, attitudes, motivation and knowledge can be obtained easily.

Secondly, the study administered an interview guide to gather in-depth information from 16 employees on the existing leadership and management practices and their implication for organizational learning and competitive advantage. This was aimed at getting deeper insights into the state corporations learning practices and generate recommendations from the key informants. Even though the structured survey questionnaire was useful in providing the descriptive aspects of the study results, it did not provide the respondent sufficient opportunity to explain the phenomena.

Therefore, the study used the interview guide to conduct personal and phone interviews with an aim of getting information on reason for the learning attributes noted and recommendations to improve learning practices. The rationale behind use of the interview guide is also in response to the gaps noted in literature where some researchers pointed out the reliance on one data collection tool as a hindrance to deeper understanding of issues around learning and competitive advantage (Victor J Garcia-Morales et al., 2008). Besides the use of quantitative inquiry adopted by most studies, to fully understand the role of some dimensions of organizational learning, Graham and Nafukho, (2007) recommended the uses of qualitative inquiry.

Third, was a detailed review of state corporation's financial records for the year 2013/2014 and 2014/2015 including fiscal year audited reports to help calculate financial rations that would help explain competitive advantage of state corporations. The records were used to calculate four financial ratios namely: current ratio, asset

turnover ratio, debt to assets ratio, return on assets ratio. These were calculated to triangulate descriptive statics of the competitive advantage scores that were found from the perception-based questionnaire. Nachmias and Nachmias (2008) observe that triangulation involves the use of more than one form of data collection to test the same hypothesis.

3.7 Data Collection Procedure

Data collection was conducted over a period of three months. The researchers personally administered the questionnaires assisted by three trained enumerators. All the enumerators had a minimum of university degree with at least one year of experience in data collection for quantitative and qualitative surveys. Initially, there were difficulties in gaining access to the respective organizations for data collection. Some organizations had elaborate approval processes before data collection could proceed while others were hesitant to complete the questionnaires.

The researcher employed strategies by Saunders, Lewis, and Thornhill (2015), on gaining access to collect both secondary and primary data. Saunders proposed nine strategies to gaining access including: ensuring you are familiar with and understand the organization or group before making contact; allowing yourself sufficient time; using existing and developing new contacts; providing a clear account of purpose and type of access required; overcoming organizational concerns; highlighting possible benefits to the organization; using suitable language; facilitating replies; developing access incrementally; establishing credibility; and being open to unexpected events.

To provide a clear account of purpose and information required from the study respondents, the researcher sought introductory letters from Jomo Kenyatta University of Agriculture and technology (appendix 2) self-introduction letter (appendix 1), and a certificate to collect data from National Commission for Science, Technology and Innovation (NACCOSTI) (appendix 3). For some institutions, the researcher had to wait for internal approvals to allow for data collection. Saunders also recommends gaining incremental access and this was facilitated by the personal

presence during the distribution of questionnaires by either the research or the enumerators. In the end, the researcher managed to ensure that 240 questionnaires were distributed in 40 state corporations. 198 questionnaires from 35 state corporations were returned after being completed. There were no major data quality issues or incomplete questionnaires hence all the questionnaires that were received were used for analysis.

The interview guide was only administered to state corporations by the researcher. Enumerators were not involved in administration of the qualitative interviews. The researcher conducted 16 interviews within the four targeted sectors sing the interview guide (see appendix 5). Two respondents (one management staff and one non-management staff) were interviewed in each of the sectors and this happened after the questionnaires had been distributed. These interviews took a period of three weeks due to challenges in gaining access and scheduling appropriate timing for the interviews.

The document review process faced challenges in terms of access. Initially, the researcher intended to use the state corporations' performance report but was informed by the relevant authorities that the report had not been published since 2012 and advised to go to each firm and get their financial reports. This process only yielded a 15% response with only six reports received from the targeted 40 state corporations. The final solution was to request for audited financial reports from the office of the auditor general. Numerous reports for all categories of state corporations were uploaded to the Kenya National Audit Office (KENOA) website. The research managed to access 16 reports out of the 35 organizations that returned their research questionnaires accounting for 46% of the reports. Appendix 7 lists the state corporations whose audited reports were accessed. This data was used to triangulate responses on competitive advantage of state corporations as they could not be used to compute the variable for use in the regression equations and the structural equation modelling procedure.

3.8 Pilot Testing

The researcher conducted a pilot test to provide validity and reliability of the questionnaire before the instruments were administered. The research instruments were pretested using a sample of 1.5%, which is considerd as sufficient by Mugenda and Mugenda (1999) who opine that a successful pilot study would use 1% to !0% of the actual sample size. In this regard, a pilot study was conducted from May 30th to 4th June 2016 in line with guidance by (Cooper & Schindler, 2008; Saunders et al., 2015). The pilot test interview 36 staff from six state corporations that fall under the non-sampled institutions and was be carried out based on the approach by (Cooper & Schindler, 2008; Saunders et al., 2015). See chapter four for pilot study results. Feedback obtained was used to refine the measures and make them more theoretically meaningful.

3.9 Data Analysis and Presentation

This study generated both qualitative and quantitative data for processing and analysis. According to Sekaran (2003), data analysis has three core objectives: getting a feel of the data, testing the goodness of the data, and testing the hypotheses developed for the research. Data analysis had two major stages including processing and analysis of quantitative data and processing and analysis of qualitative data.

Before analysis of quantitative data, the researcher undertook a series of steps to detect and correct data quality errors (Saunders et al., 2015; Zhao, Lynch Jr., & Chen, 2010). This process involved detection of outliers, missing values, logical inconsistencies and coding errors within the dataset. After detection of errors, the researcher addressed by first checking the source of error and secondly using statistical methods as appropriate to clean the dataset.

First, the researcher conducted descriptive statistics to summarize the data and generate measures of central tendency and measures of dispersion. These included frequencies, percentages, mean, mode, median, standard deviation and variance depending on the nature of variables. The researcher conducted normality tests with relevant plots to determine the extent to which the data was normally be distributed

to make further statistical analysis and interpretation decisions including inferential statistics. Errors detected during the data verification process were all addressed. After confirmation that the dataset was clean using the same processes of detection, the researcher created operationalized independent, dependent and intervening variables using SPSS version 22.

Qualitative analysis addressed two main aspects of the research. First, the study used qualitative data to explain the relationships between variables as found in the quantitative interviews thus addressing the explanatory research design aspect of the research. The study used explanatory design to gain deeper understanding of the relationship between independent, mediating and dependent variable. Qualitative also interviews helped to triangulate with findings from the quantitative to improve the strength of evidence (Collector & Module, 2011).

The qualitative analysis technique took a four-steps process as suggested by Schutt and Chambliss, (2011). Once data has been collected, the researcher organized and categorized and information into themes. The researcher used Atlas.ti 8.1.1 for qualitative analysis. The study used the research variables and sub-variables to create the themes for coding and organizing of data. The study produced quasi-statistics, summary tables and word clouds to aid in interpretation of the findings.

According to Schutt and Chambliss (2011), once data has been organized and coded, the researcher examined relationships between the different variables and produce relevant outputs for presentation and display. This step was followed by authentication of the conclusions using various secondary sources and the quantitative data. The final step entailed presentation and writing of the research findings and conclusion. Data was presented using word clouds to display frequency of key words used by respondents to make recommendations, charts, summary tables and text as appropriate. The study used quotes from the interviewees to reinforce evidence quality of the findings. These diverse presentation methods ensured readability by the research audience.

Quantitative data was presented using text, tables, graphs, and charts as appropriate while qualitative data was presented using word clouds, charts, summary tables and text as necessary. The study used quotes from the interviewees to reinforce evidence quality of the findings. These diverse presentation methods shall ensure readability by the research audience (Neubauer, 2010). The presentation aimed to prioritize variables that need to have the most prominent symbol or line, the need to emphasize differences or similarities between elements, and the scale, scale intervals, maximum and minimum values, and statistical representations are most meaningful.

The study used pie charts, column charts, bar charts, line charts, and radar charts for presentations. Pie charts are effective at highlighting proportions of a total or whole, column and bar charts help in comparing the values of different categories line charts allow the display of a sequence of variables in time or space (Margaret & Patrick, 2013).

3.9.1 Statistical Measurement Models

3.1.1.1 Correlation Analysis

Correlation analysis was done to get the linear relationships between the independent variables and the dependent variables of firm performance (Džinić, 2015; Saunders et al., 2015). With the assumption of continuous and normally distributed data, Pearson Correlation was used. The designation r symbolizes the correlation coefficient, which varies over a range of +1 to -1, whereby the sign signifies the direction of the relationship. This coefficient was deemed true in situations where the significance level was $p<0.05$ and $p<0.01$.

3.1.1.2 Multiple Regression Model

In examining the effect of organizational learning on competitive advantage, the study ran step-wise multiple regression models, which measured the linear relationship that exists between organizational learning and competitive advantage of state corporations (see Appendix 4). Step-wise multiple regressions has helped researchers to decide to eliminate or retain variables whose effect on the response is

insignificant and in this way, construct a most appropriate model (Kanji, 2006; Saunders et al., 2015).

Table 3.4: Model 1 – Multiple Regression Model

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$	
Where:	
Y	is competitive advantage variable measured by profitability growth, percentage sales, market share and customer satisfaction
β_0	is the constant
X_1	is Systems thinking (ST)
X_2	is Learning Processes (LP)
X_3	is Leadership (L)
X_4	is Learning Culture (LC)
ε	is the error term

3.1.1.3 Structural Equation Models

Path analysis using structural equation modeling helped assess the causal relationship between organizational learning variables (learning culture, leadership, and learning processes), and competitive advantage of state corporations. To achieve this, the researcher identified the structural model that best fits the data. Structural Equation Modeling (SEM) refers to a diverse set of mathematical models, computer algorithms, and statistical methods that fit networks of constructs to data (Kothari, 2004). SEM included confirmatory factor analysis and a series of multiple regression to test the theory. The structural equation model approach bridges theoretical and empirical knowledge for a better understanding of the real world (Y. S. Chen, Lin, & Chang, 2009). For the structural equation model, this study examined two level of analysis – the measurement model and the structure model. Statistical Package for Social Scientists (SPSS) version 21 and Amos Version 21 were used for this analysis.

3.9.2 Tests of Hypotheses

The goal of hypothesis testing is to allow the research to make a statistical inference, which helped discover some properties or general pattern about the population by

studying the sample with an aim to generalize the results to the larger group (Mugenda & Mugenda, 1999). The researcher used one sample t-test (t-test) and one-way ANOVA (f-test). The f-test and t-test were used to test hypotheses based on the statistical significance of the R^2 as an indicator of goodness of fit of the overall model. Rejection of the null hypothesis was pegged on statistical significance ($p<0.05$). The study used the model by Mathieu and Taylor (2006), to test the hypothesis related to mediation analysis. Figure 3.2 shows the decision points during hypothesis testing for mediation analysis.

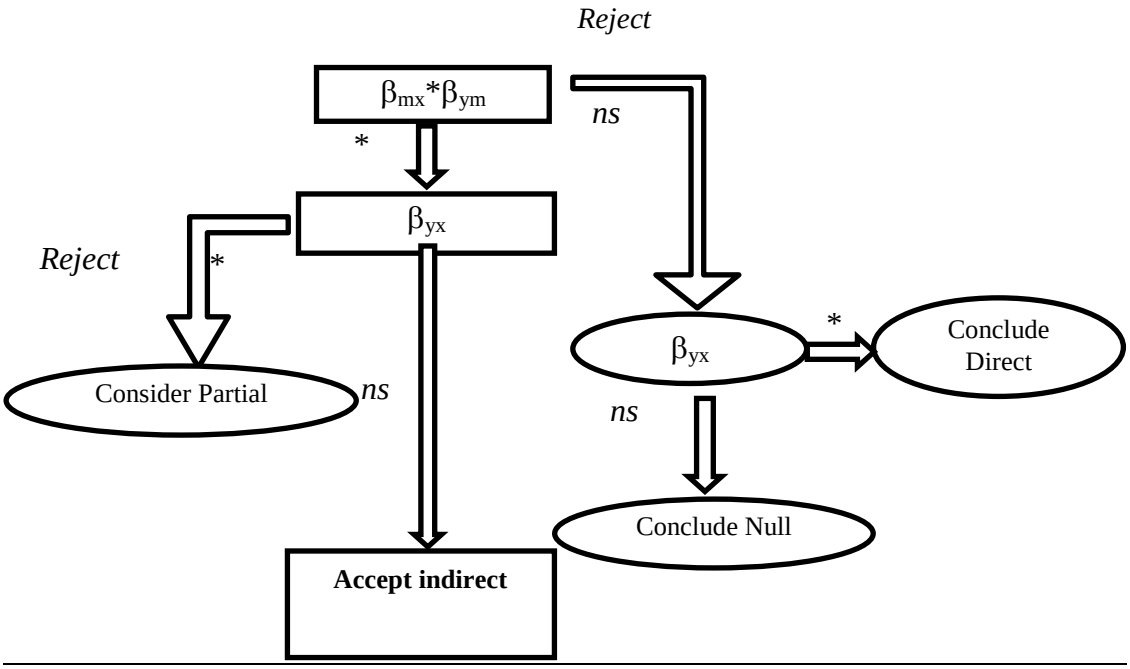


Figure 3.1a: Hypothesized Indirect Mediation (Mathieu & Taylor, 2006)

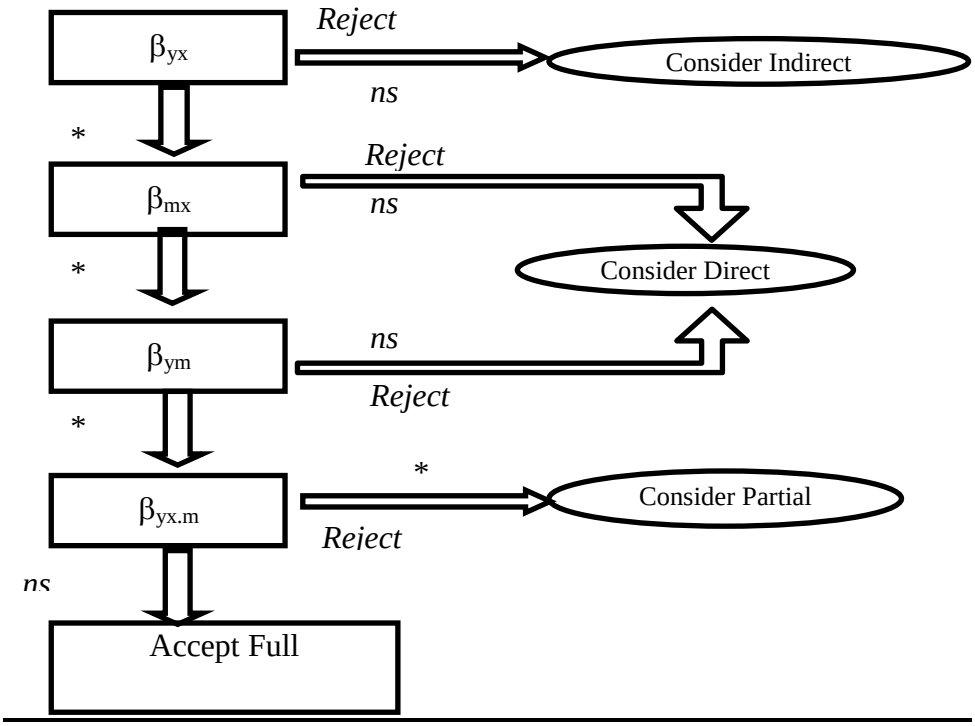


Figure 3.1b: Hypothesize Full Mediation (Mathieu & Taylor, 2006)

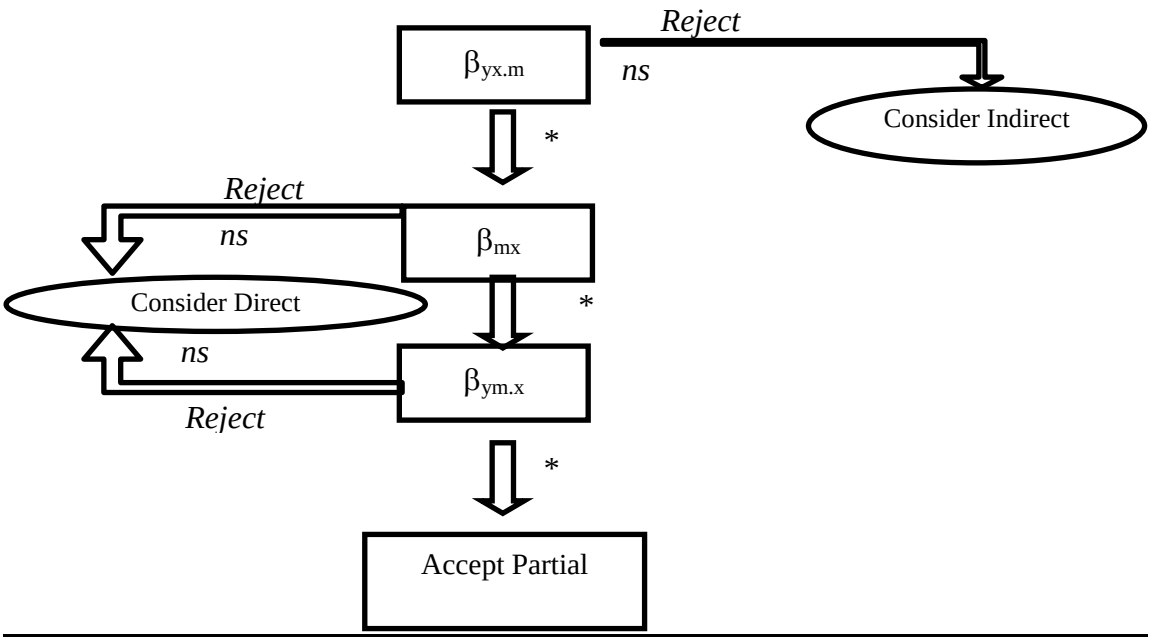


Figure 3.1c: Hypothesize Partial Mediation (Mathieu & Taylor, 2006)

The study tested the full and partial mediation role of rate of learning on the relationship between each of the independent variables and competitive advantage, in line with the project hypotheses using the model by Mathieu and Taylor (2006). Before testing for mediation, validity and reliability of the study variables were tested to ensure they meet the conditions proposed by the Mathieu and Taylor. The study employed a four-step process suggested by Baron and Kenny (1986) to test the possible mediation roles that rate of learning could have in the relationship between each of the independent variables and the dependent variable. Table 3.4 details the four steps and the respective models that to test for the three types of intervening relationships.

Regression analysis was also used to test the mediating role of rate of learning on the dependent variable in line with guidance for testing mediation by Mathieu and Taylor (2006). This approach ensures that several regression analyses are conducted, and significance of the coefficients examined at each step. Statistical Package for Social Scientists (SPSS) version 22 was used for this analysis. The first mediation model tested for the mediating role of rate or learning in the relationship between learning culture and competitive advantage.

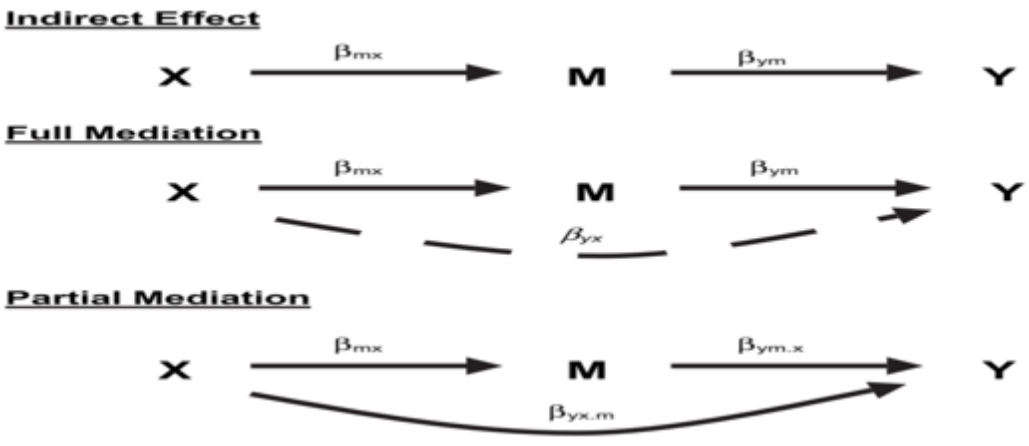


Figure 3.2: Alternative mediation relationship (Mathieu & Taylor, 2006)

The model suggested by Mathieu and Taylor (2006), and a presented in Figure 3.1; there are three possible alternative mediation models. The study first tested for indirect effects. As showed in part 1 of Figure 3.1, the main test of the indirect model is simply (βmx*βym) using methods such as the Sobel (1982). If such a test is not significant, then one should reject the indirect effect hypothesis and consider viable alternatives. Therefore, even if the indirect effect results were significant, the study still considered testing whether partial or full mediation model are suggested by the data.

Table 3.5: Hypothesis tests for mediation models

Step	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Step 1: Simple regression of X predicting Y	$Y = \beta_0 + \beta_2 X_2 + \varepsilon$ Y is competitive advantage β_0 is the constant $X_2$is leadership ε is the error term	$Y = \beta_0 + \beta_3 X_3 + \varepsilon$ Y is competitive advantage β_0 is the constant X_3 is leadership ε is the error term	$Y = \beta_0 + \beta_4 X_4 + \varepsilon$ Y is competitive advantage β_0 is the constant X_4 is learning processes ε is the error term	$Y = \beta_0 + \beta_5 X_5 + \varepsilon$ Y is competitive advantage β_0 is the constant X_5 is organizational learning ε is the error term
Step 2: Simple regression of with X predicting M	$M = \beta_0 + \beta_2 X_2 + \varepsilon$ M is rate of learning β_0 is the constant X_1 is leadership ε is the error term	$M = \beta_0 + \beta_3 X_3 + \varepsilon$ M is rate of learning β_0 is the constant X_1 is leadership ε is the error term	$M = \beta_0 + \beta_4 X_4 + \varepsilon$ M is rate of learning β_0 is the constant X_1 is learning processes ε is the error term	$M = \beta 0 + \beta_5 X_5 + \varepsilon$ M is rate of learning β_0 is the constant X_1 is organizational learning ε is the error term

Step	Model 2	Model 3	Model 4	Model 5
Step 3: Simple regression of M predicting Y to test the significance of path b		$Y = \beta_0 + \beta_1 M_1 + \varepsilon$ Y is competitive advantage β_0 is the constant M_1 is rate of learning ε is the error term		
Step 4: Multiple regression of X and M predicting Y	$Y = \beta_0 + \beta_2 X_2 + \beta_1 M_1 + \varepsilon$ Y is competitive advantage β_0 is the constant X_1 is leadership M_1 is rate of learning ε is the error term	$Y = \beta_0 + \beta_3 X_3 + \beta_1 M_1 + \varepsilon$ Y is competitive advantage β_0 is the constant X_1 is leadership M_1 is rate of learning ε is the error term	$Y = \beta_0 + \beta_4 X_4 + \beta_1 M_1 + \varepsilon$ Y is competitive advantage β_0 is the constant X_1 is learning processes M_1 is rate of learning ε is the error term	$Y = \beta_0 + \beta_5 X_5 + \beta_1 M_1 + \varepsilon$ Y is competitive advantage β_0 is the constant X_1 is organizational learning M_1 is rate of learning ε is the error term

Key:

Model 2 – to test the mediating role of rate or learning (L) in the relationship between learning culture (LC) and competitive advantage (CA)

Model 3 – to test mediating role of rate or learning (L) in the relationship between leadership (LR) and competitive advantage (CA)

Model 4 – to test the mediating role of rate or learning (L) in the relationship between learning processes (LP) and competitive advantage (CA)

Model 5 – to test the mediating role of rate or learning (L) in the relationship between organizational learning (OL) and competitive advantage (CA)

Secondly, the study tested the full mediation hypothesis (Mathieu & Taylor, 2006). The full mediation hypothesis is predicated on a significant total $X \rightarrow Y$ (βyx) relationship. If the hypothesis fails this test, the study considered the alternative

hypothesis of an indirect effect. If suppression is evident, the study considered to test for a partially mediated relationship. Assuming the total effect is present, the researchers proceeded to test the X→M (βmx) and M→Y (βym) relationships. If either fails to exist, then the evidence was considered to consistent with the alternative hypothesis of a direct effect. The authors further suggest that full mediation depends on the non-significance of direct effect of X→Y relationship when the M→Y path is included. If the direct X→Y path is significant in this context, then the hypothesis of full mediation was rejected, and the researcher considered the alternative hypothesis of partial mediation.

Mathieu and Taylor (2006) further suggest as shown in panel 3 of figure 3.2, that a partial mediation hypothesis rests on the significance of all three paths: X→M (βmx) and both X→Y (βyx.m) and M→Y (βym.x) when considered simultaneously. Therefore, given the presumed causal order of variables, if the X→Y (βyx.m) path is not significant in this model, then the hypothesis of partial mediation was rejected and, the researcher considered the alternative hypothesis of full mediation. Alternatively, if the X→M (βmx) or the M→Y (βym.x) paths are not significant, then the researcher rejected partial mediation hypothesis in lieu of the alternative hypothesis of simply a direct effect.

To further test the indirect effect, the resaerch employed boot-strapping (Bollen & Stine, 1990; Shrout & Bolger, 2002). Boot-strapping is a non-parametric method based on re-sampling with replacement which is done many times, e.g., 2000 times. From each of these samples, the indirect effect is computed and a sampling distribution can be empirically generated. This method is also recommended by Mathieu and Taylor (2006) for testing indirect effects and making coclusions on mediation effect of the intervening variable. The bootstrapping was done with 2000 samples using Amos version 21.

3.9.3 Operationalization of Variables

The study drew items from different studies, through the literature review, to measure the constructs. In addition to these items having demonstrated impressive reliability and validity measures in their respective studies, the researcher also validated the items using subject experts from each of the eight sectors. These items cover the five variables, namely; organizational learning culture, leadership, learning processes, the rate of learning and competitive advantage.

The variable, organizational learning culture, was based on items adopted from Dimensions of Learning Organizations Questionnaire and Garvin et al. (2008) learning organization questionnaire. This measure has been mainly used in for-profit contexts and linked to the financial performance of firms. Four sub-variables comprising 11 items were used to measure the organizational learning culture of the target organizations. The sub-variables include open communication practices, learning practices, staff empowerment and supporting staff development. These items are measured on a five-point Likert-type scale to permit the measurement of the dependent variable at the interval scale (Leedy and Ormrod, 2001).

Leadership was measured using a combination of scales used by Donate and Sánchez de Pablo, (2015); and the work of Garvin et al., (2008). To measure leadership, the study assessed the manager's ability to reinforce the practices of active questioning and listening, articulate and promotes shared vision, and entertain alternative viewpoints. The study also assessed manager's ability to reinforce the importance of spending the time to learn, promoting an environment of openness and tolerance for mistakes and fosters teamwork and systems thinking among staff. The variable had 12 items measured on a five-point Likert-type scale.

The study used a blend of the instruments from various researchers, to design comprehensive learning processes variable (Donate & Sánchez de Pablo, 2015; Garvin et al., 2008; María Martínez-León & Martínez-García, 2011). The final scale comprises of four sub-variables: generating, collecting, interpreting, and

disseminating information; experimenting with new offerings; identifying and solving problems and developing employee knowledge, skills and attitude.

Systems thinking refers to people's capacity to examine a problem in the full setting of the interconnecting elements. Systems thinking was adapted from the DLOQ and the questionnaire by, Bess, Perkins, and McCown, (2011). Items used to measure systems thinking are; organization's practices to promote external alignment and practices to promote internal alignment. Six items were used to measure systems thinking using a five-point Likert scale.

The mediating variable, rate of learning, has been measured by reviewing the works of Witherspoon (2014) who assessed double loop and single loop learning in the various organization. The variable rate of learning considers the rate at which an organization utilized insights and knowledge from the dependent variables to take action that aims to better the organization. The mediating variable has been analyzed by assessing actions taken by the organization in selling products and services more efficiently, using alternative approaches to offer same products and services, modifying rules and policies, creative and innovative products and services and changing customer or client base.

The dependent variable, competitive advantage, has been measured by analyzing information from the state corporation in 2015 and 2016 on profitability, sales growth, and market share and customer satisfaction (Hardeep & Bakshi, 2014; Porter, 2008). In order to measure profitability, the study asked the managers of the organization whether the agreed upon a set of statements regarding profitability performance in comparison to their competitors over the three years. Managers were also asked to provide information on the 'profitability of the firm by measured by profits over assets and by profits from own resources. The study measured sales growth by calculating the profitability of the firm measured by profits over sales and organizations annual percentage sales over the fiscal year. Customer satisfaction was assessed comparing customer satisfaction with that of competitors, whether the organization considered that it offered greater value and retained its key customers more than competitors.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the summary of the major findings of the study, the relevant discussions, conclusion and the appropriate recommendations. The study sought to examine the effect of organizational learning on achieving competitive advantage of state corporations. It focused on leadership practices, learning culture, learning processes and systems thinking as the independent variables and competitive advantage as the dependent variable. The study also assessed the mediating effect of rate of learning in the relationship between organizational learning variables and competitive advantage of state corporations. The following are the specific breakdown of the summaries of the major findings based on the output of the descriptive and inferential statistical analyses guided to answer the five research questions of the study.

4.2 Results of Pilot Study

The researcher conducted a pilot test to check and improve validity and reliability of research instruments. The pilot test was conducted from May 30th to 4th June 2016 in line with guidance by Cooper & Schindler, 2008; Saunders et al., 2015). The research instruments were pretested using a sample of 1.5%, which is considerd as sufficient by Mugenda and Mugenda (1999), who opines that a successful pilot study would use 1% to !0% of the actual sample size. The pilot test interview 36 staff from six state corporations that fall under the non-sampled institutions and was be carried out(Cooper & Schindler, 2008; Saunders et al., 2015) . Feedback obtained was used to refine the measures and make them more theoretically meaningful. Using SPSS version 21, the study employed Cronbach's Coefficient Alpha to test for internal consistency of the constructs within the six variables of study. Table 4.2 shows the Cronbach's Alpha reliability results of the scales after the pilot study.

Table 4.1: Scale Reliability for Pilot Data

Scale	Cronbach's Alpha	Number of Items
Competitive Advantage	.603	6
Learning Culture	.603	6
Leadership	.623	6
Learning Processes	.516	11

Various modifications were made to the tools and scales because of the feedback from the pilot study. Learning culture had four items dropped and two items reverse-coded to improve scale reliability and validity. The scale has 6 items, with Cronbach's Alpha of .603. The study dropped 3 items from the leadership scale to improve scale reliability. The final sale had 6 items with Cronbach's Alpha of .623. The study also dropped 5 items from the learning processes scale and the final scale had 11 items with Cronbach's Alpha of .580. 3 items dropped to improve scale reliability. Scale has six items with Cronbach's Alpha of .516. The study also introduced a systems thinking scale with a six item scale whose validity and reliability were validate in studies by various researchers (Leufvén, Vitrakoti, Bergström, Ashish, & Målqvist, 2015; Serrat, 2009; Song, Baek-Kyoo, & Chermack, 2009).

4.3 Response Rate

Fowler (1994) defines the response rate as the extent to which the final data set includes all sample members. Neumann (2005) suggests that when you calculate this you should include all eligible respondents. Data was collected from state corporations in Kenya which are registered under the state corporations' advisory committee. Even though the study sample comprised of 240 staff from 40 state corporations, only 198 (83%) staff from 35 (88%) state corporations responded to the study. Babbie (2002) points out that a response rate of above 50% is adequate for analysis in descriptive research designs. Therefore, 83% response rate was in this study was adequate for analysis. The high response rate was due to the structured follow-up visits by the research team.

Table 4.2: Response Rate

Sector	Sample	Actual	Response Rate
Finance	7	7	100%
Tertiary Education and Training	4	4	100%
Public Universities	5	5	100%
Commercial and Manufacturing	24	19	79%
Total	**40**	**35**	**88%**

4.4 Background Information

4.4.1 Distribution

The study analyzed the gender distribution of respondents. A simple majority of the respondents were female at 52.5% as shown in table 4.3. This distribution shows a fair balance of gender in the sampled state corporations. Considering that majority of the responses are perceptual in nature, this kind of distribution helps to accommodate opinions and views from either gender. The gender distribution observed differs from earlier studies such as studies by Koech and Namusonge, (2012) who found that male were more than women while studying state corporations. On another note, the gender balance observed in this study of state corporations is a clear pointer to the progress achieved by the ongoing efforts in Kenya's public service to mainstream gender in response to the constitutional threshold that mandates a 30% of either sex to be hired in public institutions. This gender balance is useful for the study since it affirms the representativeness of the sample.

Table 4.3: Gender Distribution of Respondents

Gender	Frequency	Percent
Male	94	47.5
Female	104	52.5
Total	198	100.0

4.4.2 Job Levels of Respondents

In response to the previous studies on gaps in organizational learning, this research tried to achieve a balance of job levels of the respondents. In this regard, the study assessed the role of respondents in their organizations. Majority of the respondents said that they viewed their roles as middle-level managers (51%), and the least were senior managers (11%). This distribution depicts the staffing situation in state corporations and is very important because it ensures adherence to the principle of representativeness. Additionally, learning occurs at all levels of the organizations hence it is important to capture opinions and facts from all key staffing categories. Furthermore, over-reliance on the opinion of senior managers was noted in the literature as a limitation of most organizational learning studies. Table 4.4 shows the job levels as found by the study. These results addresses limitations observed by Victor Jesus Garcia-Morales et al. (2012) who noted that most studies assessing the leadership variable only focused on the leader thus limiting the opinion of the leader's behavior to be a self-assessment. This distribution is important in ensuring representativeness of the sample focusing on key positions represented within the state corporations.

Table 4.: **Job Levels of Respondents**

Job Level	**Frequency**	**Percent**
Senior Manager	22	11.1
Middle-level Management	101	51.0
Non-Management staff	75	37.9
Total	**198**	**100.0**

4.4.3 Organization's Departments

State corporations typically consist of several departments or functions and organizational learning may be more pronounced in some departments than others for various contextual reasons. Against this background, the study was keen to identify the departments in which the respondents worked. Majority of the

respondents were from human resources (27%), and the production departments (23%). Cumulatively, departments dealing with the core business including production, service, purchasing, research and development and marketing were 51% while those associated with support functions including accounting, finance and human resources were 49%.

This is an important distribution since it gives the study an opportunity to assess the role of some organizational learning variables like systems thinking which basically tries to look at relationships between various departments in the organization. In estimating the systems thinking practices within state, there is need to have data from multiple departments. This helps to learn the way various departments work together particularly to establish if the state corporations encourage employees to seek answers from other departments and collaborate with them in finding solutions to common challenges. This perspective is common among studies that assessed systems thinking (Dunnion & O'Donovan, 2014; Schiuma et al., 2012).

Table 4.5: Respondent departments/units

Department or unit	Frequency	Valid Percent
Production/Services	46	23.2
Purchasing	20	10.1
Human Resource Management	54	27.3
Research and Development	21	10.6
Marketing (Including the selling function)	15	7.6
Accounting and Finance	42	21.2
Total	**198**	**100.0**

4.4.4 Length of Service in Years

The study sought to determine the length of years the respondents had worked for the current state corporations. This information is essential when assessing differences in experience of employees and organizational learning. Majority of the respondents (78.8%) had worked in the organization for less than 11 years with 60% having worked for five years or less. The average length of employment was for the

employees was 7.3 with a standard deviation of 7.6 years. These age distribution is similar to findings by Aydin and Ceylan (2009) who found a mean length of service of 7.3. This shows a sufficient diversity of experience to allow analysis of study variables.

At the same time, these results show that majority of the staff were hired in their current organizations or roles within the past ten years which is also around the same time that organizational learning and the knowledge economy became 'household' concepts in state corporations. It is important to note that more than half of the employees interviewed had less than 6 years of experience within the organization. Follow-up with HR practitioners within selected state corporations confirmed that this is the general distribution within their organizations, thus the results were representative of the staffing within state corporations. Therefore, the study was content that the distribution was representative of the situation in state corporations.

Table 4.6: Length of Service in Years

Years of Service	Frequency	Valid Percent
<1 to 5	118	59.6
6 to 10	38	19.2
11 to 15	15	7.6
16 to 20	10	5.1
21 to 25	9	4.5
26 to 30	5	2.5
31 to 35	3	1.5
Total	198	100.0

4.4.5 Age of Respondents

Table 4.7 shows that high responses were received from the 36-45 and 26-35 age brackets giving 33.33% and 28.8% respectively. The mean age was 39.6 years with a standard deviation of 10.9 years. These results are explained by the high percentage of middle managers that participated in the study in comparison to other type of staff. Majority of middle managers were aged between 36 and 45 years old which is a common phenomenon in organizations where employees climb up the ladder with

time hence the length of service often reflect a growth in job-levels. Lastly, these results also demonstrate that the workforce in the public service is young which aligns to the country's population dynamic which show that majority of the working population are young people aged 25-45 (Central Bureau of Statistics, 2002).

Table 4.7: Crosstab of Age of Respondents and Role in Organization

		Senior Manager	Middle-level Management	Non-Management	Total
Age bracket of employee	18-25	0	6	11	17
	26-35	6	27	25	58
	36-45	3	43	21	67
	46-55	11	21	11	43
	56-65	2	4	5	11
	66 and above	0	1	1	2
Total		**22**	**102**	**74**	**198**

4.4.6 Level of Education

The study sought find the respondents' level of education and found that majority (64.1%) indicated that they had at least a degree level of education while a relatively high percentage (42.4%) possessed a higher degree at postgraduate level (Table 4.8). This was highly expected due to the high levels of tertiary education in the country and that 62% of the respondents were middle or senior managers who are often required to have higher qualifications in line with their nature of jobs. Furthermore, studies in other state corporations have found similar levels of education (Koech & Namusonge, 2012).

Table 4.8: Respondents' Highest Level of Education

Highest level of education attained by respondents	Role of respondents in this organization			
	Senior Manager	**Middle-level Management**	**Non-Management**	**Total**
Secondary School	0%	0%	1%	1%
Post-secondary certificate/diploma	1%	11%	23%	35%
Bachelor's Degree	2%	13%	8%	22%
Master's degree or higher	7%	18%	5%	30%
PHD or higher	2%	9%	2%	13%
Total	**11%**	**51%**	**38%**	**100%**

4.4.7 Background of State Corporations

The study also sought the sectors under which that targeted state corporations were classified. Majority (54%) of the sectors were classified as commercial and manufacturing while 24% were from either training, tertiary education or public universities. The finance sector was represented by 20% of the sample state corporations. The high proportion of the manufacturing industry was expected and planned for during sampling since they form the highest proportion of state corporations. The representation from all key sectors is important in assessing differences within sectors in line with the study variables. This also addresses an important research gap noted by Gbenro and Agboola, (2015), who noted that some studies not only left out state corporations, but they did not also focus on key sectors within which state corporations work. Similarly, Weihong et al. (2008) also found that studies did not focus on service industries which this representation of state corporations has tried to address by focusing on public universities, tertiary education and finance sectors.

Table 4.9: Sectors of State Corporations

Sector	Frequency	Percent
Finance	7	20%
Tertiary Education and Training	4	11%
Public Universities	5	14%
Commercial and Manufacturing	19	54%
Total	**35**	**100%**

4.5 Requisites for the Factorability of the Data

The study conducted various tests to ensure the measurement model would be applicable to the required analysis for regression and mediation. To prepare the data for regression analysis, the study conducted a series of analyses to ensure the data set fulfilled key assumptions, including linear relationship, normality of the dependent variable, and no or little multicollinearity Saunders et al. (2015). Similarly, for mediation, validity and reliability of the scales were considered.

4.5.1 Normality of Dependent Variable

Kothari (2004), stressed the importance of fulfilling the normality assumption, noting that the normality of the population distribution forms the basis for making statistical inferences about the sample drawn from the population. To assess the assumption of normality of the dependent variable, the study employed various normality analyses. These included the observation of histogram, normal probability plot and statistical test using the Shapiro-Wilki test (Shapiro & Wilk, 1965).

Figure 4.6 show histogram for competitive advantage showing that it represented a normal curve. A visual examination of the histogram suggests a positive skewness of the standardized residuals. This aligns to the guidance by Neubauer, (2010), on interpreting histograms. This is also supported by Saunders et al. (2015), who states that prior to using many statistical tests it is necessary to establish the distribution of

values for variables containing numerical data and notes the role of a histogram in observing for normality of the data.

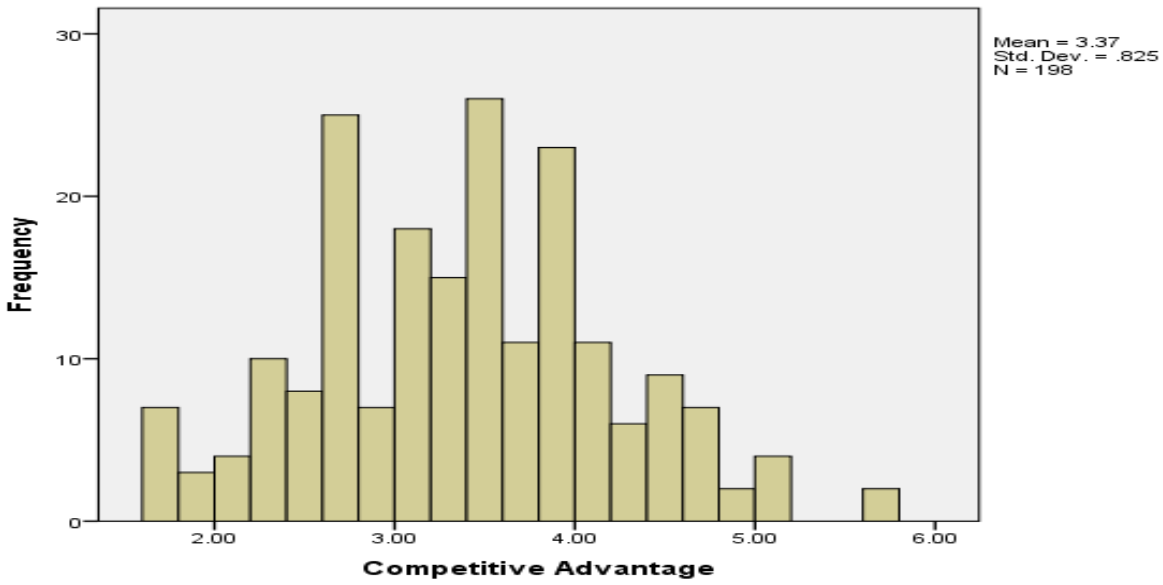


Figure 4.1: Histogram for Dependent Variable

The study also used normal probability plot (Q–Q plot) for further verification of the normality assumption. In a Q-Q plot, each observed variable is paired with its expected value from the normal distribution. If the sample if from a normal distribution, then the cases are expected to fall more or less in a straight line. Figure 4.7 shows that the cases fall more or less in a straight line indicating that the sample was from a normal distribution. This observation aligns with findings of Chen and Fong (2015), who stressed the importance of fulfilling the assumption of normality while preparing data for regression.

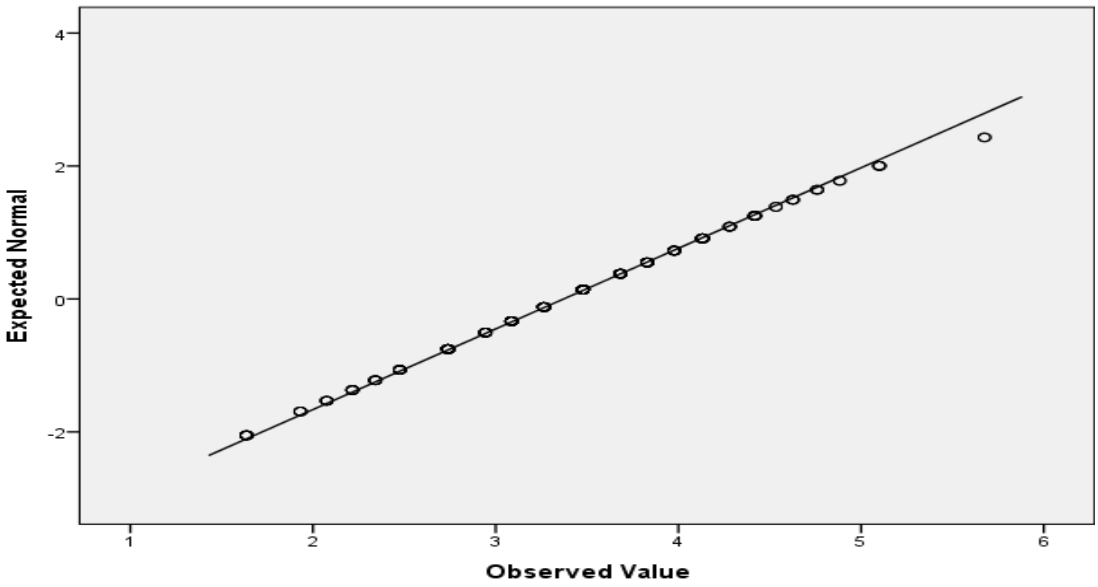


Figure 4.2: Q-Q Plot for Dependent Variable

The study further employed the Shapiro-Wilk Test for normality (Liang, Tang, & Chan, 2009; Shapiro & Wilk, 1965; Srivastava & Hui, 1987). The test is commonly used by statisticians and is typically tested at the α = .005 level of significance. The Shapiro-Wilks Test is a statistical test of the hypothesis that sample data have been drawn from a normally distributed population (Shapiro and Wilk, 1965). The formula for the test is as follows:

$$W = \frac{\left(\sum_{i=1}^{n} a_i x_{(i)}\right)^2}{\sum_{i=1}^{n}(x_i - \overline{x})^2}$$

Where: $x(i)$ (with parentheses enclosing the subscript index i) is the ith order statistic, i.e., the ith- smallest number in the sample;

X = (x_1 +...+x_n)/n is the sample mean;

The Shapiro-Wilk results obtained by this test for the dependent variable, competitive advantage. The null-hypothesis of the Shapiro-Wilki test is that the population is normally distributed (Shapiro & Wilk, 1965). Thus, if the p-value is less than the chosen alpha level, then the null hypothesis is rejected and there is

evidence that the data tested are not from a normally distributed population; in other words, the data are not normal.

On the contrary, if the p-value is greater than the chosen alpha level, then the null hypothesis that the data came from a normally distributed population cannot be rejected (e.g., for an alpha level of 0.05, a data set with a p-value of 0.02 rejects the null hypothesis that the data are from a normally distributed population). Given that p-value was 0.128 for competitive advantage which is greater than the α of 0.05, the null hypothesis was accepted and the study concluded that the samples were drawn came from a normally distributed population (Liang et al., 2009; Shapiro & Wilk, 1965). Considering that all three approaches of checking for normality of independent variable were to the affirmative, the study concluded that the independent variable met the requirement of normality and therefore okay to proceed for inferential analysis.

Table 4.10: Shapiro-Wilk test of Normality

Variable	**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**
Competitive Advantage	.989	198	.128

4.5.2 Reliability and Validity Analysis

In line with guidance from Mathieu and Taylor, (2006), in order to conduct analysis through structural equation modeling (SEM) for the purpose of testing the model, the study conducted a series of tests were run on the variables to improve the reliability of the various constructs. Using SPSS version 21, the study employed Cronbach's Coefficient Alpha to test for internal consistency of the constructs within the six variables of study. The data on each of the variables were separately analyzed based on the values of coefficient of reliability and item total correlation. For analysis, each variable was abbreviated as follows: Competitive Advantage (CompAd.); Learning Culture (LearnC.); Leadership (Lead.); Learning Processes (LearnP.); and Systems Thinking (SyThink.).

Since the coefficient alpha of individual scales indicated that the reliability estimates of items Lead.1, LearnP.8, LearnP.10, and LearnP.13 were marginal, a secondary analysis was conducted by dropping these items. The reliability estimates and item-total correlations of the remaining items under learning process and leadership improved after dropping these items. Dropping is advised by Spiliotopoulou, (2009) who assessed the use of Cronbach's alpha for assessing reliability. The researchers decided to delete items Lead.1, LearnP.8, LearnP.10, and LearnP.13 to enhance Cronbach's coefficients. Table 4.22 shows a summary of the Cronbach's alpha coefficient for each of the variables.

After deletion, all four independent variables and dependent variable registered an acceptable Cronbach's alpha coefficient of above 0.7. This aligns with findings by Christensen, Johnson and Turner (2011) who noted that scales of 0.7 and higher, suggest satisfactory reliability. After these procedures, the study concluded that the constructs measuring learning culture for this study had sufficient internal consistency and hence, reliable for the analysis of learning culture as an independent variable (Spiliotopoulou, 2009). Table 4.11 shows the reliability estimates while appendix 7 details the reliability estimates and respective items correlation.

Table 4.11: Cronbach's Alpha Reliability Estimates

Competitive Advantage	Cronbach's Alpha
Competitive Advantage	.876
Learning Culture	.804
Leadership	.811
Learning Processes	.848
Systems Thinking	.846

4.5.3 Sampling Adequacy

To examine whether the data collected was adequate for statistical tests such as factor analysis, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Barlett's Test of Sphericity were performed on all the study variables. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO

should be greater than 0.5 (Field, 2000). Table 4.23 shows that all the KMO coefficients were above the critical level suggested of 0.5 as noted by Field, (2009). Similarly, all the results of the Bartlett's Test of Sphericity were highly significant ($p < 0.05$). Based on the results of the sampling adequacy tests, these results confirm the variable was suitable for analysis.

Table 4.12: Summary KMO and Bartlett's Chi-Square Tests for Sampling Adequacy

Variable Name	KMO	Bartlett's Chi-Square	Df	Sig.
Learning Culture	0.728	236.591	15.000	0.000
Leadership	0.856	375.148	21.000	0.000
Learning Processes	0.848	685.511	55.000	0.000
Systems Thinking	0.823	391.985	10.000	0.000
Rate of Learning	0.671	246.960	6.000	0.000
Competitive Advantage	0.860	567.388	15.000	0.000

4.5.4 Confirmatory Factor Analysis

The researcher employed Anderson and Gerbing (1988) two-step Structural Equation Modeling (SEM) strategy to test the measurement and structural model using AMOS version 21. SEM techniques have been advocated for a long time as preferable to regression techniques for testing mediational relationships because they permit one to model both measurement and structural relationships and yield overall fit indices SEM is a confirmatory method providing a comprehensive means for validating the measurement model (Baron & Kenny, 1986; Mathieu & Taylor, 2006). The validating procedure employed was the Confirmatory Factor Analysis (CFA). The CFA method can assess the Uni-dimensionality, Validity and Reliability of a latent construct. The study performed CFA for all the five latent constructs involved in the study before modeling their inter-relationship in a structural model (SEM). Table 4.24 details the results from confirmatory factor analysis.

Table 4.13: Summary of confirmatory factor analysis with factor loadings

Code	Variable Questions	Factor Loading
Competitive Advantage		
CompAd4	The organization has achieved greater customer satisfaction than its key competitors	0.793
CompAd6	The organization has retained its customers more than competitors	0.756
CompAd3	The organization has obtained greater market share for priority products than its competitors.	0.723
CompAd2	The organization has obtained sales growth in its main products/services higher than that of competitors.	0.715
CompAd5	The organization offers value to customers than its competitors	0.658
CompAd1	The organization has achieved profitability higher than that of key competitors	0.605
Learning Culture		
LearnC2	In my department, people give open and honest feedback to each other	0.729
LearnC1	In my department people openly discuss mistakes to learn from them	0.687
LearnC5	My department recognizes people for taking initiative.	0.668
LearnC3	In my department, people are rewarded for exploring new ways of working	0.613
LearnC4	My department enables people to get needed information at any time quickly and easily	0.591
LearnC6	In my department, leaders support requests for learning opportunities and training.	0.523
Leadership		
Lead3	My managers continuously articulate and promotes a shared vision	0.776
Lead4	My managers encourage multiple points of view	0.741
Lead6	My managers have been creating an environment for responsible employee behaviour and teamwork	0.489
Lead7	My managers criticize views different from their point of view.	0.565
Lead8	Managers promote learning from experience tolerating mistakes up to a certain point	0.484

Code	Variable Questions	Factor Loading
Lead9	My managers acknowledge their limitations on knowledge, information, or expertise.	0.572
Learning Processes		
LearnP1	My department systematically collects information on technological trends	0.769
LearnP3	My department has forums for meeting with and learning from experts from outside the organization	0.735
LearnP2	My department encourages its employees to join formal or informal networks made up of people from outside the organization	0.657
LearnP4	My department regularly conducts post-audits and after-action reviews.	0.648
LearnP6	My department engages in productive conflict and debate during discussions	0.597
LearnP5	My department has formal mechanisms to guarantee sharing of best practices among the different activity fields	0.51
LearnP7	My department seeks out dissenting views during discussions.	0.494
LearnP12	In my department/unit, training is valued.	0.474
LearnP14	In my department, time is made available for education and training and mentorship activities.	0.411
Systems Thinking		
SyThink5	My organization encourages people to get answers from across the organization (other departments and staff) when solving.	0.775
SyThink2	My organization works together with the outside stakeholders to meet mutual needs	0.769
SyThink3	In my organization leaders ensure that the organizations actions are consistent with its values	0.733
SyThink4	My organization considers the impact of decisions on employee morale	0.733
SyThink1	My organization encourages people to think from a stakeholders' perspective	0.566

Unidimensionality is achieved when all measuring items have acceptable factor loadings for the respective latent construct (Mathieu & Taylor, 2006). To ensure unidimensionality of a measurement model, any item with a low factor loading

should be deleted. All items with a factor loading of less than .4 were deleted from the study. The deletion done sequentially one item at a time with the lowest factor loading item to be deleted first. After an item was deleted, the researcher run the new measurement model. This process continued until the unidimensionality requirement is achieved. Additionally, the study ensured that all factor loadings to be positive thus further fulfilling all the unidimensionality requirements.

Validity is considered as the ability of instrument to measure what it supposed to measure for a latent construct. Schwab (1980) defined construct validity as representing the correspondence between a construct (conceptual definition of a variable) and the operational procedure to measure or manipulate that construct. Mathieu and Taylor (2006) considers convergent validity to be achieved when all items in a measurement model ae statistically significant. Using this measure, the study found that all the items for the five latent variables were statistically significant. (P<.001). Discriminant validity indicates the measurement model of a construct is free from redundant items.

Using AMOS, the study identified the items redundancy in the model though a discrepancy measure called Modification Indices (MI). Using this measure, High value of MI indicates the respective items ae redundant. As a result, with a MI measure greater than 15 were deleted. With CFA, the items deletion should not exceed 20% of total items in a model. Otherwise the particular construct itself is deemed to be invalid since it failed the "confirmatory" itself. In this egad only seven of the 38 (18%) items from the pooled model were deleted. Four of the deleted items were from the leaning processes latent variable, and thee wee from the leadership latent variable. Another requirement for discriminant validity is the correlation between exogenous constructs should not exceed 0.85. The correlation value exceeding 0.85 indicates the two exogenous constructs are redundant or having serious multicollinearity problem. The descriptive statistics and variable correlations showed that all items were positively and significantly correlated and there was no item that had a correlation of more than 0.85 (Mathieu & Taylor, 2006).

Construct validity is achieved when the Fitness Indexes for a construct achieved the required level. The fitness indexes indicate how fit is the items in measuring their respective latent constructs. In order to gauge model fit for SEM, Mathieu and Taylor (2006) suggest that we report the Standardized Root Mean Square Residual (SRMSR), Goodness of Fit index (GFI; Joreskog et al., 2000), and the Comparative Fit Index (CFI; Bentler, 1990). We also report Chi-square values which provide a statistical basis for comparing the relative fit of nested models. Kline (2010) further recommends reporting the Chi-squared test, the Root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the SRMSR (Baron & Kenny, 1986; Mathieu & Taylor, 2006).

Specifically, SRMSR is a measure of the standardized difference between the observed covariance and predicted covariance. Usually, SRMSR values=0.08 are considered a 'relatively good fit for the model,' and values=0.10 considered 'fair' (Browne & Cudeck, 1989). The CFI is an incremental fit index that contrasts the fit of a hypothesized SEM model against a baseline (uncorrelated indicators) model. The RMSEA avoids issues of sample size by analyzing the discrepancy between the hypothesized model, with optimally chosen parameter estimates, and the population covariance matrix. The RMSEA ranges from 0 to 1, with smaller values indicating better model fit. A value of .06 or less is indicative of acceptable model fit. The study focused on the Chi-Square, RMSEA, and GFI.

Using the covariance matrix, the study estimated a five-factor CFA model. This model was used to test the discriminant validity of the five latent variables; learning culture, learning processes, systems thinking, leadership and competitive advantage. The five-factor CFA evidenced excellent fit indices [Chi-square (16) = 15.55, n.s.; GFI=.983; CFI=1.00; RMSEA= 0.000] with all five latent variables exhibiting significant ($p < 0.05$) correlations. Collectively, these results show that the measurement properties fit quite well and there is sufficient covariance among the latent variables to warrant examining the different intervening effects (Baron & Kenny, 1986; Zhao et al., 2010). Collectively, these results indicate that the measurement properties fit quite well and there is sufficient covariance among the

latent variables to warrant examining the different intervening effects. Table 4.25 shows the models developed and their fit indices.

Table 4.14: Summary of confirmatory factor analysis with factor loadings

Model		Model Fit Measures				
	DF	**Chi-Square**	**GFI**	**CFI**	**TLI**	**RMSEA**
Overall model	16	15.550	.983	1.000	1.001	.000
Learning Culture	19	42.652	.956	.971	.945	.079
Leadership	19	62.257*	.937	.947	.899	.108
Learning Processes	19	33.823	.964	.982	.966	.063
Systems Thinking	19	56.590*	.942	.954	.913	.100

*. Chi-square value significant at the 0.05 level.

4.6 Descriptive Analysis

4.6.1 Organizational Culture in State Corporations

The study sought to find out the extent to which the state corporations nurtured and promoted a culture that reinforced learning at departmental level. To achieve this objective, the study used Likert Scale with six constructs including open discussion of mistakes, honest feedback, reward to innovation, access to information, recognition of performance and learning opportunities. On average, majority (63%) of the respondents were of the view that the culture within their departments supported learning and learning opportunities.

Table 4.15: Learning culture summary results

Learning culture statements	SD	D	N	A	SA	Mean	Std. Dev
In my department, people openly discuss mistakes to learn from them	5%	20%	13%	48%	14%	3.47	1.10
In my department, people give open and honest feedback to each other.	2%	15%	14%	54%	15%	3.66	0.96
In my department, people are rewarded for exploring new ways of working	10%	25%	20%	40%	5%	3.05	1.12
In my department people are enabled to get needed information timely and easily	4%	14%	14%	52%	17%	3.64	1.03
In my department people are recognized for taking initiative.	3%	16%	25%	50%	7%	3.40	0.94
In my department, leaders support requests for learning opportunities.	1%	12%	23%	46%	18%	3.68	0.94
Average	**4%**	**17%**	**18%**	**48%**	**13%**		

KEY: SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA= Strongly Agree

These high scores were noted particularly in open discussions of mistakes (68.2%), giving of open feedback (71.7%) and ready access to information (69.2%). However, when it came to rewards, only 45% of the respondents said that in their departments people are rewarded for exploring new ways of working. Similarly, there were low score for support to requests for learning opportunities and training as well recognition of people for taking initiative. This shows that even though majority of

the state corporations supports a learning culture, they do not resource it by rewarding innovative thinking and practice.

Similar perspectives were heavily reinforced from the qualitative interview data. When respondents were asked for suggestion that could help enhance learning and performance of their departments, the main issues they raised included equal and fair opportunities for learning, need to provide rewards and recognition of innovation and performance and resources for learning. These results are reinforced by use of word clouds that were gotten from the coding of responses. The word cloud shows that the bigger the letter the more frequent a recommendation was suggested.

Figure 4.3: Frequency of words to address recommendations for learning culture

Participants in the qualitative interview also gave additional perspectives on the study constructs by raising some concerns regarding honesty and open communication, sharing of information, insufficient policy measure to reinforce learning, weak teamwork and a need for attitude change among employees when it comes to learning. Respondents also emphasized the need to encourage individuals and team to make and learn from mistakes. These respondents wanted their leaders to encourage and promote a culture of openness, honesty and respect among colleagues. They pointed to the need to promote team learning, learning from mistakes and positive competition, adding that these would eventually enhance the rate of learning

in the organization and solidify a learning culture. Other staff wanted leaders to encourage staff to go back to school and gather more skills that would help them perform on their jobs better. Interview respondent's suggestions are in line with the results of Garvin et al. (2008), who identified psychological safety, appreciation of differences, and openness to new ideas as essential components of a supportive learning environment.

"Encourage positive competition among employees and this in turn will result to a great learning culture"

Interview Respondent

The quantitative results and respondent interviews with respondents have shown the importance of learning culture development to improve firm innovation similar to the work of (Tohidi, Seyedaliakbar, & Mandegari, 2012). Recommendations by interview respondents focused on creation of the hypothesized learning culture. Suggestions like the need for leaders to promote team learning, learning from mistakes and positive competition are the ingredients of a learning culture yet they seem not to be sufficiently practiced by state corporations. The work by Bwegyeme and Munene, (2015) also affirm this situation when they found that culture influences the success of learning initiatives even though there were little efforts at nurturing it. These results also align with findings by Weihong, Caitao, and Dan, (2008), who showed in their study that openness of the organizational culture had a significant impact on the enterprise sustainable competitive advantage.

4.6.2 Leadership Practices in State Corporations

The second independent variable was leadership and the study used eight constructs in a Likert scale to measure leadership. The constructs focused more perception of the staff on the behavior and practices of their managers. On average, similar to culture, 62% of the respondents seemed to agree that leadership within the organization reinforced learning.

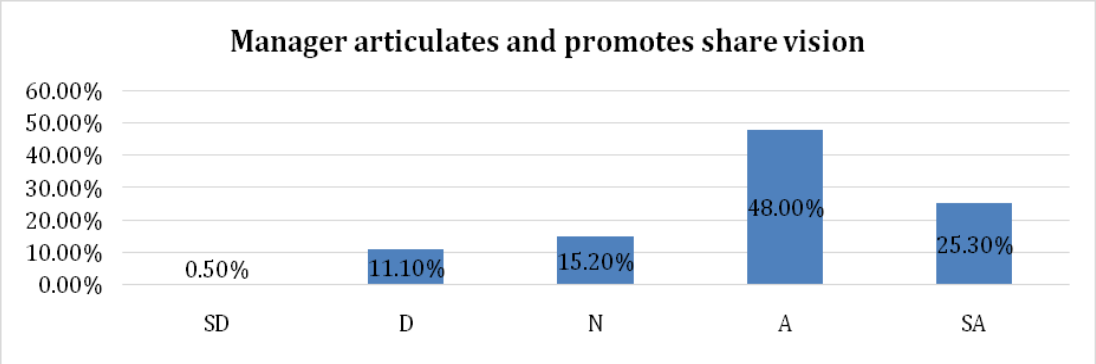


Figure 4.4: Results for Manager Promotes Shared Vision

The results showed that respondents were more appreciative of their leaders on three constructs including, listening attentively (71.7%), promotion and articulation of vision (67.2%) and creating an environment for responsible employee behavior and teamwork (66.7%). On the contrary, the respondents were not appreciative of their leaders regarding handling views different from their point of views, acknowledge their limitations on knowledge, information, or expertise and promote learning from experience tolerating mistakes up to a certain point. Only 49% of the respondent agreed that managers acknowledge their limitations on knowledge, information, or expertise. Considering that employees are adult learners and rely more on a leader's actions than words, when a manager fails to acknowledge their limitations, employees are likely to follow suit and learning within the organization reduces drastically.

Table 4.16: Summary Descriptive Results for Leadership

Leadership	SD	D	N	A	SA	Total	Mean	Std. Dev
My managers ask probing questions	3%	16%	19%	49%	14%	100%	3.55	1.015
My managers continuously articulate and promotes a shared vision	1%	11%	15%	48%	25%	100%	3.86	.938
My managers listen attentively	5%	15%	20%	47%	14%	100%	3.48	1.065
My managers encourage multiple points of view	4%	26%	18%	41%	12%	100%	3.31	1.087
My managers have been creating an environment for responsible employee behavior and teamwork	3%	22%	15%	44%	16%	100%	3.47	1.093
My managers criticize views different from their point of view	2%	19%	24%	39%	16%	100%	3.47	1.036
Managers promote learning from experience tolerating mistakes up to a certain point	6%	17%	19%	50%	9%	100%	3.38	1.053
My managers acknowledge their limitations on knowledge, information, or expertise.	8%	25%	24%	33%	10%	100%	3.13	1.140
Average	**4%**	**19%**	**19%**	**44%**	**14%**	**100%**		

KEY: SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA= Strongly Agree

These views were echoed by the respondents in the qualitative interviews. The dominant changes proposed by respondents to improving leadership that reinforces learning was the need for leaders to use multiple perspectives when making decisions. Over half of the respondents who filled the qualitative sections of the questionnaire, felt that some employees, especially the non-management staff, were left out of the decision-making processes and in some instances suppressed when they had new and perceived innovative ideas. A second issue that was dominant in the qualitative interviews was the need for managers to appreciate their competency limitations and make efforts towards addressing them. This practices is opposite to what is promoted by Gilson, Dunleavy, and Tinkler, (2008) who notes that the capacity of the leadership to learn and promote learning is essential in attaining competitiveness. In addition to addressing their own limitations, staff felt that it is important for leaders to rigorously promote learning by allowing staff time to attend classes and where possible resourcing the staff learning efforts.

Some employees felt the need to move beyond the formal learning options such as attending evening classes to use of non-formal learning approaches including mentorship and coaching. Employees also pointed out the effect of management by fear on the moral of staff to learn. The suggested a friendlier approach towards giving critical feedback and a harmonious working environment where fear was not a driver to performance. The mentioned that management by fear made it difficult for employees to make or acknowledge mistakes even if those mistakes were geared towards doing a better job at their work. Majority of the respondents clearly noted that they did not acknowledge their limitations on knowledge, information and expertise. The respondents further reinforced this result when there were asked to make suggestion on ways of improving leadership so that it fosters learning.

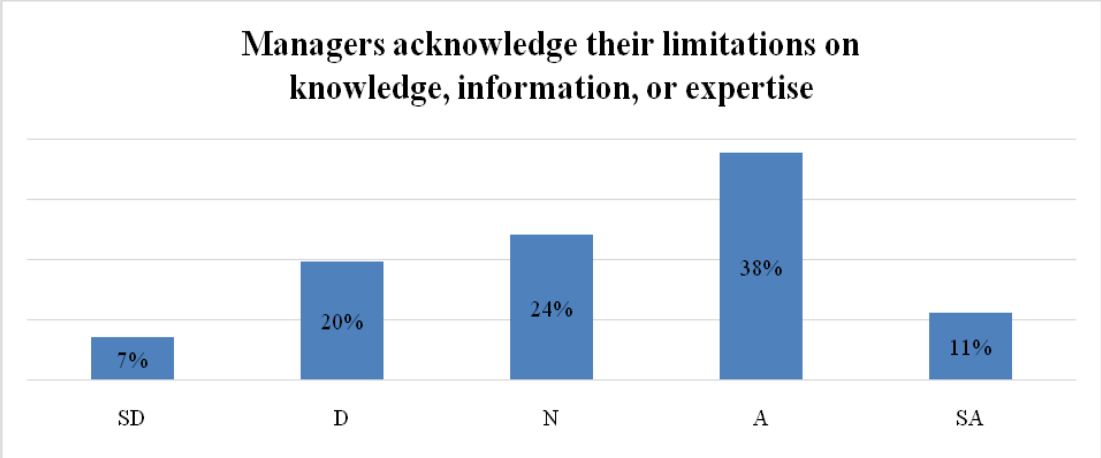


Figure 4.5: Managers' Acknowledgement of Their Limitations

The results under the variable 'leadership practices' are in line with findings of other researchers. Mugisha and Berg (2008) concluded that developing sound incentives required that leadership articulates the right vision for the company, guides staff in problem analysis, and motivates them to come up with strategies to address gaps. Furthermore, the noted that where there was success in learning, leadership had insisted that managers 'break all rules and procedures' that do not make sense, and which are, therefore, roadblocks to innovation. These attributes are akin to what respondents in the study made as recommendation to improve learning within the organization. As reported below, some employees in state corporations felt left out of decision-making processes and in some instances suppressed when they had new and perceived innovative ideas. These practices not only stifle innovation but also dampen the effectiveness of learning initiatives. Lastly, the responses from some of the participants reflected a low level of employee trust in leadership. Hi trust in leadership has been found by Hernaus, Škerlavaj, and Dimovski, (2008) to improved efficiency of work organization, a more committed workforce, decreased costs of work per employee, increased employee satisfaction and increased employee flexibility.

4.6.3 Learning Processes

To assess the learning processes within state corporations in Kenya, the study looked at 14 constructs. On average, only 61% of the respondent agreed or agreed strongly on the extent to which the statements associated with learning processes were implemented within their state corporations. Despite the moderate appreciation of the learning processes within their institutions, it was clear that learning processes associated with training were weak within state corporations were weak according to the respondents. Particularly, only 44% of the respondents indicated that experienced employees were provided with training when switching to new positions. This has been attributed to the understanding that they are seen or considered to know their work hence limited investment in their knowledge and skills.

In addition to the weak training systems, there were limited mechanisms within the organization to guarantee sharing of best practices across departments which essentially compromised inter-departmental learning within the state corporations. As Garvin (2008) suggests, knowledge should be shared in systematic and clearly defined ways among individuals, groups, or whole organizations to achieve maximum impact in organizational performance. Other areas that employees scored low included seeks out dissenting views during discussions (57%), revisiting well-established perspectives during discussions (58%), and employees to join formal or informal networks made up of people from outside the organization (58%).

The gaps in the systems to ensure staff have the required knowledge and skills to learn and implement new learning was also noted in the qualitative responses. Majority of responses indicated that key recommendations needed to be around training processes, content and correct targeting of the trainees. Among the issues noted by staff around training included the lack of focus on training needs, limited involvement of staff in making training decisions, lack of participation by junior staff in trainings, and irrelevant training content. Most importantly, there was very weak resourcing of training efforts and over-reliance on formal training.

Key recommendations by staff interviewed focused on the need to make use of on the job training (OJT), mentorship and coaching as approaches for imparting knowledge and skills to staff. The most affected category of staff was the junior staff and the middle managers especially when they are transitioned to new roles. They noted that little of no orientation or training is done when staff are promoted or transitioned to other jobs making it hard for them to cope and in other cases having to reinvent the wheel. The issues around training are not new in state corporations as they have been discussed extensively by Issa, (2010) who notes that poor staff development and training arrangements. They also point out the need to embrace strategies that enhance capacity for sustained change management and service improvements through staff training and development in order to transform state corporations.

A second area of weakness in the state corporations according to the qualitative discussions was around opportunities for reflection (Garvin et al., 2008). Staff noted that there was limited resources, space and time to reflect and learn from their work. They went ahead to propose ways that leadership would foster a culture of reflection and learning within the organizations. Suggestions included incorporation reflection time in meetings, creating an environment when staff could constantly have interactions with each other, purposeful budgeting for learning and providing rooms and values where people would have candid discussions with each other. The last suggestion from the staff touches on the way the working spaces are organized versus the extent to which they promote of limit learning.

The need to provide the right atmosphere for learning and reflect has been emphasize by various researchers including Garvin et al. (2008) who notes that when people are too busy or overstressed by deadlines and scheduling pressures, how- ever, their ability to think analytically and creatively is compromised. The importance of psychological safety is also emphasized by Edmondson and T, (2003) who note that to learn, to learn, employees should not fear being belittled or marginalized when they disagree with peers or authority figures, ask naive questions, own up to mistakes. This view is also held by Garvin et al. (2008).

Table 4.17: Summary Results for Learning Processes

Learning Processes	SD	D	N	A	SA	Total	Mean	S. Dev
My department systematically collects information on technological trends	10%	17%	14%	50%	10%	100%	3.32	1.165
My department encourages its employees to join formal or informal networks made up of people from outside the organization	7%	25%	15%	44%	10%	100%	3.26	1.136
My department has forums for meeting with and learning from experts from outside the organization	3%	19%	13%	55%	11%	100%	3.52	1.001
My department regularly conducts post-audits and after-action reviews.	3%	14%	18%	52%	14%	100%	3.59	.987
My department has formal mechanisms to guarantee sharing of best practices among the different activity fields	4%	15%	23%	50%	10%	100%	3.47	.975
My department engages in productive conflict and debate during discussions	2%	12%	24%	53%	10%	100%	3.58	.879
My department seeks out dissenting views during discussions.	2%	12%	28%	53%	6%	100%	3.51	.835
My department revisits well-established perspectives during discussions	2%	12%	26%	54%	7%	100%	3.53	.841

Learning Processes	SD	D	N	A	SA	Total	Mean	S. Dev
My department frequently identifies and discusses underlying assumptions that might affect key decisions.	2%	9%	24%	51%	15%	100%	3.68	.904
My department pays attention to different views during discussions	3%	8%	26%	50%	14%	100%	3.65	.899
Experienced employees in my department receive periodic training and training updates	3%	22%	23%	43%	10%	100%	3.36	1.012
Experienced employees in my department receive training when switching to a new position	8%	23%	24%	38%	7%	100%	3.14	1.088
In my department, training is valued.	2%	11%	21%	51%	17%	100%	3.70	.922
In my department, time is made available for education and training and mentorship activities.	2%	17%	19%	46%	17%	100%	3.59	1.022
Average	**3%**	**15%**	**21%**	**49%**	**11%**	**100%**		

KEY: SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA= Strongly Agree

4.6.4 Systems Thinking

According to Prugsamatz (2010), systems thinking provides a means of understanding systems at a deeper level in order to see the paths available to bring about changes more effectively. The study also sought the extent to which state corporation applied systems thinking practices within their organizations. Results showed that on average, 64.5% of the respondent felt that their organizations adopted systems thinking practices. More specifically, majority felt that their leaders ensured that the organization's actions were consistent with its values (71.7%) and the

organization worked together with the outside stakeholders to meet mutual needs (70.7%. These were high scores for systems thinking and can be partly explained by the nature of state corporations and government policy and bureaucracy which largely requires that that the state corporations conduct elaborate stakeholder consultations as part of their decision-making process. On the other hand, a lower number of respondents felt that their organization considers the impact of decisions on employee morale (55.6%) and encourages people to get answers from other departments and staff when solving problems (59%).

Table 4.18: Percentage Statistics for Systems Thinking

Systems Thinking	**SD**	**D**	**N**	**A**	**SA**	**Total**	**Mean**	**Std. D**
My organization encourages people to think from a stakeholders' perspective	5%	14%	19%	51%	12%	100%	3.5	1.0
My organization works together with the outside stakeholders to meet mutual needs	5%	14%	15%	51%	16%	100%	3.6	1.1
In my organization leaders ensure that the organizations actions are consistent with its values	4%	11%	16%	52%	18%	100%	3.7	1.0
My organization considers the impact of decisions on employee morale	5%	21%	21%	39%	14%	100%	3.4	1.1
My organization encourages people to get answers from across the organization when solving.	6%	12%	25%	44%	14%	100%	3.5	1.0
Average	**5%**	**14%**	**19%**	**47%**	**15%**	**100%**		

KEY: SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA= Strongly Agree

The limited focus on the impact of decisions on employee morale was reinforced in the qualitative interview responses. When respondents were asked to suggest actions that would improve the systems thinking within their organizations, the category that had the highest responses were stakeholder involvement and employee morale respectively. Among the recommendations under employee moral included the need for inclusive leadership from management, allow employee to make decisions on issues affecting them, team building activities, regular staff meetings, employee capacity building to participate in decision making processes and to provide tools or trade including technology. The most salient issues among these suggestions was the need to ensure employees are genuinely involved in decision making processes and that departments are working together in a way that motivate employees.

Specific suggestions under the stakeholder involvement included the need to increase awareness and bring all stakeholders on board, better feedback processes to stakeholders' questions, periodic stakeholder interaction forums, better listening management of political opinion shapers, formalizing stakeholder engagement with a framework and better communication. The most salient issues under this category of response was the need to ensure make intentional efforts to seek and address stakeholder opinion and to manage the relationship between the state corporation and stakeholders and among various stakeholders to the extent that it supports that grouch of the organization. The limited involvement of stakeholders was seen as a major impediment to nurturing the practice of systems thinking and ultimately reducing the levels of learning within the organization.

Table 4.19: Respondent Suggestion to Improve Systems Thinking Practice

Recommendations	Percent
Improve on values	8%
Stakeholder involvement	36%
Organization-wide solutions	25%
Employee morale	32%
Totals	100%

The quantitative and qualitative results show a need to continue investing in nurturing systems thinking competencies and practices. As Akhtar et al. (2013), notes systems thinker can understand the interrelationship of activities happening inside the organization. The employees suggested the need to get staff trained more and this aligns with suggestions by Cooper, (2005) states that systems thinking can be taught, and as such, it should become a requirement for all employees to acquire for better coping with constant changes. In fact, this is already being practices as Seligman (2005), points out that some organizations provide systems thinking training for their staff to improve the quality of their performance. Lastly, the preferred team approach to learning affirms the importance of social capital as an important factor that affects the rate of learning in organizations (Wu, Ay, and Lien, 2009).

To establish the level of learning with the state corporations, the study focused on establishing the frequency with which the various state corporations received actions forms of feedback from their sources including staff, customers and other stakeholders. Particularly, the study was interested on capturing and handling of suggestions associated with changes in strategies and methods, requests to offer different products, modification to policies or procedures and reaching a different set of clients or customers. Table 4.15 shows the descriptive statistics for frequency of learning which indicate that average frequency of learning, measured by the number of learning action taken over the past year was 14.28 (SD = 3.85). The state corporations that reported the least number of learning actions had four while the highest had 24 making a range of 20. As expected there were higher rates of learning for the single loop when compared to double loop. Table 4.15 shows the single and double loop learning among state corporations. These results align with propositions by Senge (2006) and Witherspoon (2014) who posit that single loop learning is more frequent in organizations than double loop learning.

Table 4.20: Descriptive Statistics for Rate of Learning

Descriptive	Single loop learning	Double loop learning
Mean	8.3	6.0
Median	9.0	5.0
Mode	9.0	5.0
Sum	1634.0	1193.5

Qualitative discussion about the rate of learning within the state corporation indicate that majority of the suggestion provided by the staff pointed to a need for leadership to prioritize alternative methods of offering goods and services to clients with 35% of the respondent giving specific suggestions in this regard. The suggestion included encouraging participatory approach, using suggestion boxes to get information from customers, implementation of technology that bring improvements, strengthening monitoring and evaluation, changes in marketing and promotion approaches, adopt global concepts such as green technologies, better methods of gathering information about competitors, restructuring the organization to cope with the current demands for skills and attitudes. The suggestions indicate that majority of the staff felt the need for a self-reflection within the organization on how they conduct their day-to-day businesses.

Table 4.21: Percentage Statistics for Frequency of Learning

Use of suggestions and information	Frequency of learning per year						
	0 /1	**2/ 3**	**4/5**	**6+**	**Total**	**Mean**	**Std. Dev**
To use alternative methods/strategies to offer same products or services in better ways.	1%	22%	59%	18%	100%	4.2	1.2
To start offering more creative and innovative products or services	2%	23%	60%	15%	100%	4.1	1.2
To modify our policies or procedures to help us offer better products or services	14%	52%	30%	4%	100%	2.9	1.3
To make decisions or act to reach a different client or customer base	12%	46%	37%	6%	100%	3.2	1.3
Average	**7%**	**36%**	**46%**	**11%**	**100%**		

The second category of suggestions was the need for more creative products to meet the client base. They felt that there is need to be more innovative with product and service offering and gave sector specific suggestions that were largely to do with innovations in their offering. Embracing use of technology was highly proposed with an emphasis on ensuring that services and products were reliable, consistent and innovative as pointed out in a quote from one of the respondents. This results show that majority of the learning in state corporation is still single loop in nature which if focused more on improving how the day to day processes are managed and do not go to the next step of double loop learning which focuses more on changing policies and procedures.

Table 4.22: Respondent Suggestions to Improve Rate of Learning

Suggestions	Percent
Alternative methods	35%
More creative products	32%
Modify policies and procedures	24%
change client or customer base	9%
Total	**100%**

Findings associated with the rate of learning are in line with theoretical underpinnings. As expected, single loop learning was more pronounced than double loop learning which is similar to suggestions by Witherspoon (2014). Majority of staff were still geared towards single loop learning. This is not the desired path since in single-loop learning, outcomes are measured against organizational norms and expectations (Peeters & Robinson, 2015). The reason behind this is because the overwhelming amount of learning in organizations is single-loop because organizations are designed to identify and correct errors, as explained by Witherspoon (2014). There is a need for state corporations to move beyond single loop learning and attempt the double loop learning which is concerned with effectiveness and help to ensure the organization has the right strategic direction rather than implementing a weak strategy efficiently.

4.6.6 Competitive Advantage

To measure competing advantage, the study focused on profitability, sales growth, market share, and customer satisfaction which rate the measures that have been frequently used to assess the competitive advantage of organizations similar to the ones in this study. In general, respondents did not find their originations being highly competitive if compared to similar organizations in their sectors. The biggest threat to competitiveness was the consistent loss of market share and the consequent inability to retain essential customers with only 49% of the respondents noting that their organizations had excelled in these two constructs. The loss of market share

was expected especially due to the increasing competitive landscape for state corporations. As Johnson and Hirt (2011) noted in his paper titled 'Reshaping academic capitalism to meet development priorities', globalization has also changed how Chinese universities operate, and has begun to create a culture of competition, corporate managerialism, efficiency and accountability in China's higher education. As similar scenario is being experience not just in universities but other state corporations.

Surprisingly, despite the low score on customer retention and market share, the respondents felt that their organizations were offering greater value than their competitors (58%). This inconsistency is explained by the fact that most of them noted that low investing in marketing and promotion of their products which makes it difficult for their clients to access. The private sector was a more aggressive in the market front even though they offered similar products to clients. Therefore, the staff believed that even though they had a good product to offer to the market, its penetration was hampered by under-investment in appropriate marketing. This challenge has been acknowledged by other researchers like Dunnion and O'Donovan, (2014) who notes that marketing product offered by public higher education institutions is essential to recruit students and avoid wasted effort.

Table 4.23: Percentage Statistics for Competitive Advantage

Competitive Advantage	SD	D	N	A	SA	Total	Mean	Std. Dev
Organization has achieved profitability higher than that of key competitors	9%	16%	23%	40%	12%	100%	3.3	1.1
Organization has obtained sales growth in its main products/services higher than that of competitors.	5%	19%	26%	38%	12%	100%	3.3	1.1
Organization has obtained greater market share for priority products than its competitors.	3%	18%	30%	41%	8%	100%	3.3	1.0
Organization has achieved greater customer satisfaction than its key competitors	6%	18%	23%	42%	11%	100%	3.3	1.1
Organization offers value to customers than its competitors	4%	12%	26%	45%	14%	100%	3.5	1.0
Organization has retained its customers more than competitors	3%	16%	32%	36%	13%	100%	3.4	1.0
Average	**5%**	**16%**	**27%**	**41%**	**11%**	**100%**		

Qualitative results showed that the most prominent issues that limited the competitiveness of the state corporation was marketing, nature of products and service, limited use of technology and weak business strategy. This was made more explicit after coding of responses and blowing up using a word cloud. According to the word cloud, the bigger the letters the more the mention of the word. Marketing,

products and services were the most mentioned words. The key issues pointed out by respondents that affected marketing included poor pricing strategy, weak customer care and non-responsiveness to customer feedback. Pricing and promotion were the most common marketing issues in the state corporations with respondents noting that their pricing strategies were not competitive. These issue show that the buyers are more discerning, experienced and price-sensitive (Grundy, 2006). In fact, the need for employees to partake training in customer handle and care was highly suggested by the qualitative respondents. Another issue which affected the competitiveness of state corporation was the handling of stakeholders especially suppliers.

Figure 4.6: Frequency of Words for Recommendations to Improve Competitiveness

Majority of the respondents noted that their inability to deliver consistent and quality products and services was due to the state corporations' poor handling of suppliers who had developed some form of apathy to supply state corporations with products. Poor management of suppliers is a grave competitive error that should be avoided at all costs as noted by Michael Porter's five forces (Porter, 2008). The suggestions being provided by interview participants indicate that suppliers to state corporations have gained greater bargaining power due to past mistakes on how they were handled. Porter notes that powerful suppliers capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants. The supply challenges impacting state corporations stem from

non-payment or delayed payment to suppliers which keeps state corporations perpetually indebted.

Pricing strategy of state corporations was also affected by the limited availability of cheap raw materials which soared their costs of production and service delivery. This situation coupled with the strength of the private sector is increasingly creating powerful consumers who are able to determine the price. Porter (2008) cautions that powerful customers can capture more value by forcing down prices, demanding better quality or more service thereby driving up costs, and generally playing industry participants off against one another. Once this is the case, the industry suffers from profitability losses (Grundy, 2006). Lastly, the respondents noted that the provision of resources to undertake effective marketing campaigns was not faithfully ensured making their competitors to be ahead of the game. Some pointed to the need to embrace communication channels that would enhance visibility of services provided.

4.6.7 Analysis of Financial Statements for State Corporations

To further assess the competitiveness of state corporations, the study conducted secondary review of financial records. According to Faello (2015), financial ratios are helpful explain financial statements – the assist in benchmarking a firm's performance with other firms in the same industry. They also help users of financial statement to identify problem areas with a company's operations, liquidity, debt position, or profitability. Using final signed audit reports from the Kenya National Audit Office (KENAO) website, the study found 16 audit reports from sampled organizations. The reports were for the periods 2013/2014 and 2014/2015. There were no reports for tertiary institutions and public universities hence the analysis does not include these sectors which have unique financial stories. The key ratios analyzed include current ratio, asset turnover ratio, debt to asset ratio, return on assets ratio.

4.6.7.1 Current Ratio

The study calculated that current ratio of state corporations to measure the liquidity of the organizations. Current ratio indicates whether an organization can pay debts due within one year out of the current assets. The current ratio reveals how much "cover" the business has for every KSH 1 that is owed by the firm. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time (Delen, Kuzey, & Uyar, 2013).

Table 4.19 shows that on average, the state corporations under study had a current ratio of 2.2 in 2013/2014 and made a small improvement to 2.4 in 2014/2015. This suggests that on average, the state corporations had enough cash to be able to pay its debts, but not too much finance tied up in current asset. However, it is worth noting that the study had an outlier with a current ratio of 31 in 2013 which suggest that even though the state corporation could cover for its debt, there was too much cash held up in assets that was meant for service delivery to the citizens. Of liquidity concern is that 63% of state corporations reviewed had a current ratio of less than 1.5 while 44% had a current ratio of less than 1. This suggests that the state corporations could not cover for its debt within one year of its current assets. This is a liquidity challenge for the state corporations and hampers service delivery to the citizens.

Table 4.24: 2013/2014 and 2014/2015 State Corporations' Current Ratio

Organization Code	2013/2014	2014/2015	Variance
Org1	0.38	0.30	-0.08
Org2	3.54	3.14	-0.41
Org3	0.93	1.00	0.07
Org4	0.60	0.22	-0.38
Org5	6.60	8.78	2.18
Org6	0.02	0.02	0.00
Org7	1.35	1.35	0.00
Org8	3.70	0.25	-3.45
Org9	1.23	1.30	0.06
Org10	0.18	0.20	0.02
Org11	5.53	9.31	3.78
Org12	4.31	4.31	0.00
Org13	2.58	2.71	0.12
Org14	0.53	0.31	-0.22
Org15	3.95	5.67	1.72
Org16	0.06	0.00	-0.05
Average	**2.22**	**2.43**	

4.6.7.2 Asset Turnover Ratio

The asset turnover ratio is an efficiency ratio that measures a company's ability to generate sales from its assets by comparing net sales with average total assets (Aripin, Tower, Taylor, Tower, & Taylor, 2014; Delen et al., 2013). In other words, this ratio shows how efficiently a company can use its assets to generate sales. The total asset turnover ratio calculates net sales as a percentage of assets to show how many sales are generated from each KES of the organizations assets. The average turnover ratio for the state corporations under study is presented in table 4.20 was 0.345 in 2013/2014 and 0.304 in 2014/2015 which shows a declined. Furthermore,

all the organizations had an assets turnover ratio of less than 1. This imply that the state corporations were not using their assets efficiently which indicates that most likely have management or production problems (Faello, 2015).

4.6.7.3 Debt to Assets Ratio

Debt to assets ratio measures the extent of a company's or consumer's leverage. The debt ratio is defined as the ratio of total long-term and short-term debt to total assets. Debt ratio can be interpreted as the proportion of a company's assets that are financed by debt (Faello, 2015). From a risk perspective, lower ratios (0.4 or lower) are considered better debt ratios. Since the interest on a debt must be paid regardless of business profitability, too much debt may compromise entire operations if cash flow dries up. Figure 4.5 shows that most organizations had stability in their ratios between fiscal years 2013/2014 and 2014/2015.

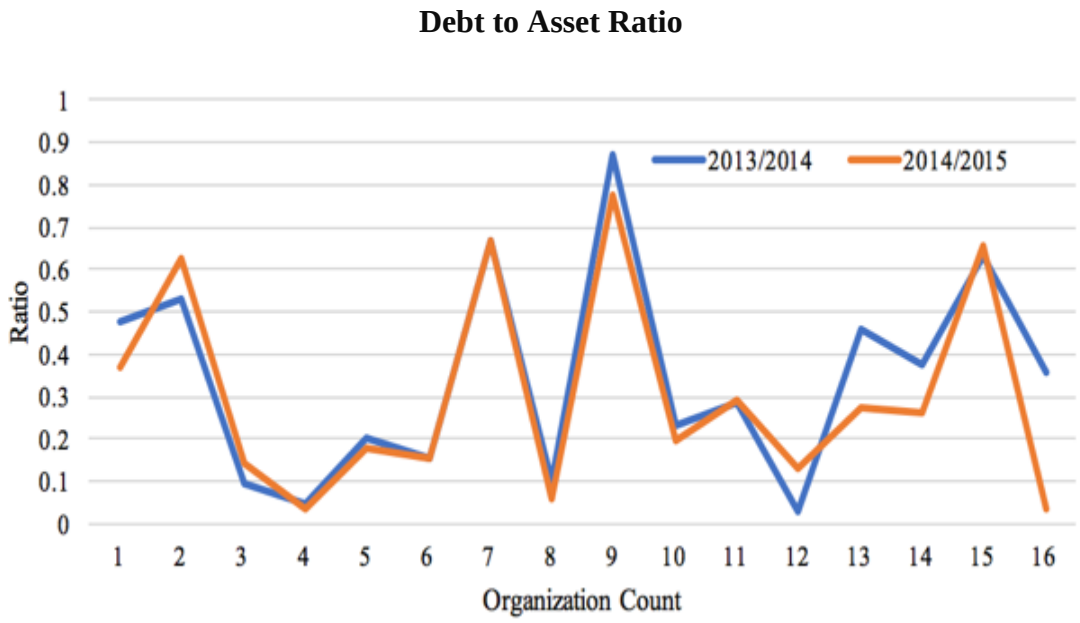


Figure 4.7: State Corporations' Debt to Asset Ratio

The results highlighted in table 4.20 show that the average debt ratio was 0.695 in 2013/2014 and 0.494 in 2014/2015 suggesting a significant improvement in debt management within the state corporations under study. Despite the improvement, the

ratio remained higher than the recommended threshold of 0.4. The low debt ratio thus indicates that the state corporations are at high risk since they must pay their debts. The implication of the high debt ratio is that state corporations are forced to commit a significant portion of its ongoing cash flow to the payment of principal and interest on this debt. This could explain the inability of state corporations to resource important activities such as staff training and development as noted in the quantitative and qualitative interviews as well as from the literature review (Robert, Weru, Iravo, & Sakwa, 2013).

4.6.7.4 Return on Assets

The return on assets (ROA) ratio illustrates how well management is employing the company's total assets to make a profit. The higher the return, the more efficient management is in utilizing its asset base. Most investment and finance professionals consider ROA of 5% or higher as appropriate (Faello, 2015). Table 4.20 shows that the average ROA for more 63% of the state corporations under study was lower than the recommended threshold of 5%. This suggests that 63% of the firms are not efficient at utilizing their asset base. As (Aripin et al., 2014), ROA for public companies can vary substantially and will be highly dependent on the industry. Therefore, it is essential to compare it against a company's previous ROA numbers or against a similar company's ROA.

Considering that there was no improvement in ROA in the two financial cycles under study, the study can conclude that the state corporations were not effectively utilizing their assets to generate income. This phenomenon was also highlighted by other authors. Mwaura (2007) highlighted issues around ownership and control of state corporation assets noting that property rights theorists attribute the poor performance of state corporations to a lack of individual stakes in the assets of the enterprises. These results are also in tandem with results of quantitative interviews which showed that only 52% of the participants interviewed viewed their organizations as more profitable than their competitors in the same industries.

Table 4.25: 2013/2014 and 2014/2015 State Corporations' Financial Ratios

	2013/2014			2014/2015		
Code	**Asset turnover**	**Debt to assets**	**Return on Assets**	**Asset turnover**	**Debt to assets**	**Return on Assets**
Org1	0.478	0.865	-0.069	0.366	1.052	-0.126
Org2	0.533	0.249	0.259	0.628	0.262	0.074
Org3	0.092	0.896	0.000	0.143	0.886	0.003
Org4	0.046	0.837	0.013	0.037	0.832	0.007
Org5	0.203	0.011	0.008	0.176	0.013	-0.026
Org6	0.156	2.688	-0.309	0.156	2.688	-0.309
Org7	0.671	0.085	0.066	0.671	0.085	0.066
Org8	0.101	0.087	-0.084	0.059	0.064	-0.064
Org9	0.874	0.372	0.022	0.777	0.393	0.009
Org10	0.234	0.069	0.006	0.193	0.080	-0.026
Org11	0.286	0.141	0.101	0.290	0.111	0.098
Org12	0.030	0.041	0.010	0.133	0.041	0.001
Org13	0.456	0.292	0.099	0.276	0.542	0.064
Org14	0.373	0.379	-0.130	0.259	0.511	-0.153
Org15	0.634	0.015	0.113	0.657	0.063	0.132
Org16	0.356	4.091	-0.214	0.034	0.274	-0.013
Average	**0.345**	**0.695**	**-0.007**	**0.304**	**0.494**	**-0.016**

4.7 Inferential Analysis and Hypothesis Testing

The study sought to test the hypotheses proposed in chapter one. Hypothesis associated with the relationship between the independent variables and the depending variable were done through linear regression analysis using SPSS version 21 software. Hypothesis associated with the intervening effected of rate of learning were tested using structural equation modeling using AMOS software. Table 4.26 shows the descriptive statistics and variable correlations for the study variables. The correlation between all the independent variables and the dependent variables was

found to be positive and statistically significant, $p < .01$, two-tailed. The highest correlation was between learning process and competitive advantage $r = +.67$, $p < .01$, two-tailed while the weakest correlation was between leadership and competitive advantage $r = +.52$, $p < .01$, two-tailed.

A key assumption for multiple linear regression analysis is no multicollinearity which assumes that the independent variables are not highly correlated with each other. High correlation among variables (> 0.80) indicates multicollinearity (Garson, 2009). Results from table 4.26 affirm all the correlation figures are below the threshold set by Garson (2009) hence there was no multicollinearity among the independent variables. These correlation results indicate that the variables warrant further tests including regression and mediation analysis.

Table 4.26: Descriptive Statistics and Variable Correlations

	Mean	**SD**	**CA**	**LC**	**L**	**LP**	**ST**
Competitive Advantage	3.38	.82	1				
Leaning Culture	3.49	.70	.616**	1			
Leadership	3.44	.70	.519**	.622**	1		
Learning Processes	3.46	.62	.665**	.710**	.622**	1	
Systems Thinking	3.55	.82	.597**	.582**	.482**	.648**	1

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

4.7.1 Effect of Learning Culture on Competitive Advantage

The study sought to test the following null hypotheses in assessing the effects of learning culture on competitive advantage.

H_{O1}: There is no effect of learning culture on competitive advantage of state corporations in Kenya

The study conducted a bivariate Pearson Correlation analysis to determine the linear relationship between learning culture and competitive advantage. The results in table 4.27 shows that learning culture and competitive advantage were significantly correlated, r = .616, p < .05. The magnitude, or strength, of the association is moderate (.3 < | r | < .5). After confirming a positive and significant linear relationship between learning culture and competitive advantage, the study went ahead to employed linear regression analysis using SPSS to assess if the learning culture significantly predicted competitive advantage of state corporations. The results of the regression indicated that learning culture explained 94.9% the variance (R – Square =.38, F (1,197) =120.06, p<.000). For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. The model used had an R square value of 0.38 thus indicating that the model accounted for 38% of the change in the dependent variable, competitive advantage, for every change in the independent variable, learning culture. This is a strong prediction model for the intended analysis.

Table 4.27: ANOVA Table for Learning Culture and Competitive Advantage

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	50.913	1	50.913	120.062	.000
Residual	83.115	196	.424		
Total	134.029	197			

Table 4.28 shows that learning culture was significantly associated with competitive advantaged (p<.000). Therefore, the study rejected the Null hypothesis and concluded that there exists a relationship between learning culture and the competitive advantage of state corporations in Kenya. Based on these results, for

every one-unit change in learning culture, a corresponding change of .945 units occurred in the competitive advantage of state corporations. The findings suggest that state corporations with a high levels of learning culture have higher chances gaining competitive advantage over their counterparts that have lower levels of learning culture.

Table 4.28: Learning Culture and Competitive Advantage Coefficients Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.022	.132		15.361	.000
Learning Culture	.451	.041	.616	10.957	.000

These results are similar to findings by Dension and Mishra (1995), who found that different cultural characteristics have different impact on organizational performance, leading to the conclusion that cultural differences can lead to competitive advantage. This conclusion was also reached by Chan (2004). More specifically, Garvin et al. (2008), identified psychological safety, appreciation of differences, and openness to new ideas as essential components of a supportive learning environment. Weihong, Caitao, and Dan, (2008) also demonstrated through their study that openness of the organizational culture had a significant impact on the enterprise sustainable competitive advantage. This shows that learning culture has a positive and significant effect on competitive advantage and that managers seeking to gain competitiveness need to invest in nurturing a learning culture.

4.7.2 Effect of Leadership Practices on Competitive Advantage

The study sought to test the following hypotheses in assessing the effects of leadership on competitive advantage.

H_{O2}: There is no effect of leadership practices on competitive advantage of state corporations in Kenya

The study conducted a bivariate Pearson correlation analysis to determine the linear relationship between leadership practices and competitive advantage. Based on the results, the study established that leadership practices and competitive advantage had a statistically significant positive linear relationship, r = .612, p < .001. The direction of the association suggests that a higher measure of leadership actions is associated with greater competitive advantage. Strength of the association was high (.5 < | *r* | < .1).

A simple linear regression was calculated to predict the effect of leadership practices on competitive advantage of state corporations. From Table 4.29, the results of the regression indicated that a significant regression equation was found (F(1,197)= 72.45, p<.05) with an R^2 of .27. For the no-intercept model, R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. The model had an R square value of 0.27 thus indicating that the model accounted for 27% of the change in the depending variable, competitive advantage, for every change in the independent variable, learning culture. This is a strong prediction model for the intended analysis.

Table 4.29: Leadership Practices and Competitive Advantage ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.
Regression	36.171	1	36.171	72.447	.000
Residual	97.858	196	.499		
Total	134.029	197			

The results showed that Y = 2.128 + 0.355(L) + *e* where Y is the dependent variable (competitive advantage), L is the dependent variable (leadership practices) and *e* is the error term. Leadership practices was a significant predictor of competitive advantage, p<.005.

Therefore, the study rejected the null hypothesis and concluded that there exists a relationship between leadership and competitive advantage of state corporations in Kenya. The means that competitive advantage of state corporations increased by .355

units for each unit increase in leadership practices.

Table 4.30: Leadership Practices on Competitive Advantage Coefficients Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.128	.154		13.778	.000
Leadership Practices	.355	.042	.519	8.512	.000

The effect of leaders' behavior on firm performance has been researched in the past. According to Waddell and Pio (2014), organizational learning is influenced by the behavior of leaders within the organization. The positive effect of leadership practices on competitive advantage was also found by Garvin et al. (2008), who considered leadership as essential for organizational learning. García-Morales, Llorens-Montes, and Verdú-Jover, (2006) also found a positive relation between transformational leadership and organizational performance while Amitay, Popper, and Lipshitz, (2005) affirmed the central role of organizational leaders in determining the effectiveness of organizational learning. In Kenya, Koech and Namusonge (2012) also established a strong and positive correlation between the transformational-leadership factors and organizational performance ratings were high.

4.7.3 Effectiveness of Learning Processes on Competitive Advantage

The study sought to test the following hypotheses in assessing the effects of learning processes on competitive advantage.

H_{O4}: There is no effect of learning processes on competitive advantage of state corporations in Kenya.

Bivariate Pearson correlation analysis to determine the linear relationship between learning processes and competitive advantage established that leadership and competitive advantage had a statistically significant positive linear relationship, r = .683, p < .001. The direction of the association suggests that a higher measure of learning processes score is associated with greater competitive advantage score. The strength of the association was high (.5 < | *r* | < 1). A simple linear regression was calculated to predict the influence of leadership on competitive advantage of state corporations. From Table 4.31, the results of the regression indicated that a significant regression equation was found (F (1,197)= 155.22, p<.05) with an R^2 of .442. For the no-intercept model, R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. The model had an R square value of 0.442 thus indicating that the model accounted for 44.2% of the change in the depending variable, competitive advantage, for every change in the independent variable, learning culture. This is a strong prediction model for the intended analysis.

Table 4.31: Learning Processes and Competitive Advantage ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	59.233	1	59.233	155.217	.000
Residual	74.796	196	.382		
Total	134.029	197			

The results showed that Y = .385(LP) + *e* where Y is the dependent variable (competitive advantage), LP is the independent variable (Learning Processes) and *e* is the error term. Therefore, the study rejected the null hypothesis and concluded that there exists a relationship between learning processes and competitive advantage of state corporations. The means that competitive advantage of state corporations increased by .385 units for each unit increase in leadership. The independent variable, Learning Processes, was a significant predictor of competitive advantage, p<.05.

Table 4.32: Learning Processes and Competitive Advantage Coefficients Table

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.835	.131		14.024	.000
Learning Processes	.383	.031	.665	12.459	.000

The positive effect of learning processes on competitive advantage was also discussed by Garvin et. al. (2006) who pointed out that concrete learning processes and practices ensures that the team and company values to experiment with new offerings, to gather intelligence on competitors, customers, and technological trends and solving problems. They further explained that to achieve maximum impact, knowledge should be shared in systematic and clearly defined ways among individuals, groups, or whole organizations. Similarly, Sangari, Hosnavi and Zahedi (2015) results also showed that knowledge management processes have a significant impact on supply chain performance. Daud and Yusuf (2008) also note that implementing knowledge management processes as part of daily business activities, organizations can confidently compete and sustain in the competitive markets. Therefore, it is essential for managers to nurture and promote learning processes and practices in organizations in their efforts to grow a competitive learning organization.

4.7.4 Effect of Systems Thinking on Competitive Advantage

The study sought to test the following hypotheses in assessing the effects of systems thinking on competitive advantage.

H_{O4}: There is no effect of systems thinking on competitive advantage of state corporations in Kenya.

Bivariate Pearson correlation analysis to determine the linear relationship between learning processes and competitive advantage established that leadership and competitive advantage had a statistically significant positive linear relationship, r =

.631, p < .001. The direction of the association suggests that a higher measure of learning processes score is associated with greater competitive advantage score. The strength of the association was high (.5 < | *r* | < 1). A simple linear regression was calculated to predict the influence of leadership on competitive advantage of state corporations.

From Table 4.33, the results of the regression indicated that a significant regression equation was found (F(1,197)= 108.41, p<.000) with an R^2 of .356. For the no-intercept model, R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. The model had an R square value of 0.961 thus indicating that the model accounted for 35.6% of the change in the depending variable, competitive advantage, for every change in the independent variable, learning culture. This is a strong prediction model for the intended analysis.

Table 4.33: Systems Thinking and Competitive Advantage ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	47.731	1	47.731	108.407	.000
Residual	86.298	196	.440		
Total	134.029	197			

The results showed that Y = .470(ST) + *e* where Y is the dependent variable (competitive advantage), ST is the dependent variable (Systems Thinking) and *e* is the error term. Therefore, the study rejected the null hypothesis and concluded that there exists a relationship between systems thinking and competitive advantage of state corporations in Kenya. The means that competitive advantage of state corporations increased by .470 units for each unit increase in leadership. The independent variable, Systems Thinking, was a significant predictor of competitive advantage, p<.05.

Table 4.34: Systems Thinking and Competitive Advantage Coefficients Table

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.198	.122		17.984	.000
Systems Thinking	.470	.045	.597	10.412	.000

The results of this study reinforced results of other scholars who regarded systems thinking as the conceptual cornerstone of a learning organization (Alegre and Chiva, 2008; Alegre et al., 2013). For example, Kim, Akbar, Tzokas, and Al-Dajani (2013) found that systems thinking had a positive effect in the absorptive capacity of high-tech small and medium-sized enterprises form South Korea with an overall impact on firm performance. Akhtar et al., (2013), points out that a systems thinker can understand the interrelationship of activities happening inside the organization. Systems thinking produces major impacts on organizational learning and change (Fullan, 2004). In fact, Kumar et al. (2005) emphasizes that an individual must utilize systems thinking to become a decision-maker. These results indicate the need for firms to invest in improving their systems thing practices. Fortunately, it is possible to train people on systems thinking. Cooper (2005) suggests that systems thinking can be taught, and as such, it should become a requirement for all employees to acquire for better coping with constant changes. Seligman (2005) affirms Cooper's suggestion by confirming that some organizations provide systems thinking training for their staff to improve the quality of their performance.

4.7.5 Effect of Rate of Learning on Competitive Advantage

Bivariate Pearson correlation analysis to determine the linear relationship between rate of learning and competitive advantage established that rate of learning and competitive advantage had a statistically significant positive linear relationship, $r = .609$, $p < .001$. The direction of the association suggests that a higher measure of learning processes score is associated with greater competitive advantage score. The strength of the association was high ($.5 < | r | < 1$). A simple linear regression was

calculated to predict the influence of leadership on competitive advantage of state corporations.

From Table 4.35, the results of the regression indicated that a significant regression equation was found ($F(1,197)= 53.09$, $p<.05$) with an R^2 of .213. For the no-intercept model, R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. The model had an R square value of 0.213 thus indicating that the model accounted for 21.3% of the change in the depending variable, competitive advantage, for every change in the independent variable, learning culture. This is a strong prediction model for the intended analysis.

Table 4.35: Rate of Learning and Competitive Advantage ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	28.566	1	28.566	53.090	.000
Residual	105.462	196	.538		
Total	134.029	197			

The results showed that Y = 2.4 +1.93(RL) + *e* where Y is the dependent variable (competitive advantage), RL is the dependent variable (rate of learning) and *e* is the error term. The means that competitive advantage of state corporations increased by .1.933 units for each unit increase in rate of learning. The independent variable, rate of learning, was a significant predictor of competitive advantage, $p<.05$.

Table 4.36: Rate of Learning and Competitive Advantage Coefficients Table

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.400	.143		16.769	.000
Rate of learning	1.933	.265	.462	7.286	.000

Despite the limited empirical research on rate of learning, the few studies available are in agreement with the results of this study. Garvin et al. (2008) suggested that if an organization's rate of learning in faster than the rate of change, it is likely to win in a competitive market. Investment in research and development has been found to increase the rate of learning among firms in the chemical processing industry. Similarly, Sinclair, Klepper, and Cohen (2000), found that research and development contributed to the productivity gains of firms. The current study goes beyond ways of increasing rate of learning and establishes that rate of learning has a positive effect on competitive advantage.

4.7.6 Multivariate Linear Regression Analysis for Competitive Advantage

A multiple linear regression analysis was used to model the relationship between all independent variables and competitive advantage that were found significant in simple linear regression stage. The regression model took the following equation:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where:

Y is competitive advantage variable measured by profitability growth, percentage sales, market share and customer satisfaction

β_0 is the constant

X_1 is Systems thinking (ST)

X_2 is Learning Processes (LP)

X_3 is Leadership (L)

X_4 is Learning Culture (LC)

ε is the error term

From Table 4.37 shows that model had an R square value of 0. 956 thus indicating that 95.6% of the change in the depending variable, competitive advantage, was accounted for by the changes in the independent variables. In this model, R Square measures the proportion of the variability in the dependent variable about the origin

explained by regression. The model had an R square value of 0.956 thus indicating that 95.6% of the change in the depending variable, competitive advantage, was accounted for by the changes in the independent variables.

To test the assumption of autocorrelation, the study conducted the Durbin-Watson test was performed. The Durbin-Watson d = 1.582, which is between the two critical values of 1.5 < d < 2.5. Therefore, we can assume that there is no first order linear auto-correlation in our multiple linear regression data (Johnson & Wichern, 2006). These results show that the model was good for regression analysis as it accounted for a high percentage of change in the dependent variable.

Table 4.37: R Square Statistics of Regression Analysis Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978[a]	.956	.955	.73526

a. Predictors: ST, L, LC, LP

A multiple regression was calculated to predict competitive advantage of state corporations based on four independent variables namely: learning culture (LC), leadership (L), learning processes (LP) and systems thinking (ST). Table 4.37 shows that the results of the regression still showed a significant regression equation ($F(4,194)= 1054.319$, $p<.05$) with an R^2 of .956.

Table 4.38: Competitive Advantage Multiple Regression ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2279.867	4	569.967	1054.319	.000
Residual	104.877	194	.541		
Total	2384.744[d]	198			

Similar to the model with the constant, the tolerance values and the VIF was used to further assess multicollinearity after dropping the constant. Hair et al. (2006), recommend that a very small tolerance value (0.10 or below) or a large VIF value (10 or above) indicates high collinearity. For this model, all the tolerance values were below 0.1 and all the VIF were above 10 showing that there were possible signs of multicollinearity.

To check the significance of multicollinearity, the study used the suggestion by Klein (1962) who posits that R_K^2 exceeds R^2 of the regression model. In this vein, if VIF is greater than $1/(1-R^2)$ or a tolerance value is less than $(1 - R^2)$, multicollinearity can be considered as statistically significant. Considering this, the threshold for tolerance value is .04 while the threshold for VIF is 25. Table 4.42 shows that none of the tolerance values were below 0.04 and none of the VIF was above 25, hence there was no significant multicollinearity in the model. Based on the analysis, the study found that all the four independent variables positively and significantly influenced competitive advantage of state corporations in Kenya.

Table 4.39: Competitive Advantage Multiple Regression Coefficients Table

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Learning Culture	.220	.071	.202	3.105	.002	.053	18.728
Leadership	.238	.055	.253	4.324	.000	.066	15.153
Learning Processes	.272	.058	.334	4.661	.000	.044	22.631
Systems Thinking	.264	.067	.206	3.938	.000	.083	12.022

The results presented by the coefficients table 4.42 showed that Y = .220(LC) + .272(LP) + .238(L)+ .264(ST) where Y is the dependent variable (competitive advantage), LC is learning culture, LP is learning processes, L is leadership and ST

is systems thinking. Competitive advantage increased 0.22o for each unit of learning culture, 0.272 for each unit of learning processes, 0.238 for each unit of leadership and 0.264 for each unit of systems thinking. The independent variables, learning culture ($P<0.002$), learning processes ($P<0.000$) and systems thinking ($P< 0.000$) were all significant predictors of competitive advantage at $p<0.005$.

The results of multiple regression are affirmative to all the theoretical underpinnings utilized in the study. First, all the factors that Garvin et al., (2008), proposed as the building blocks of a learning organization had positive and significant effect to the competitive advantage of state corporation. These include learning processes, leadership practices and learning culture. Functional learning processes assure generation, collection, interpretation, and dissemination of information within an organization is happening at optimal levels. When looking at interpretation, it is paramount to consider the importance of unlearning in order to learn effectively (Leal-Rodríguez, Eldridge, Roldán, Leal-Millán, & Ortega-Gutiérrez, 2015). This happens when individuals within organizations begin to challenge their mental models and see issues from a 'refined' lens thus allowing them to have an objective judgment.

Similarly, systems thinking, as proposed by (Senge, 2006) had a positive and significant effect on competitive advantage of state corporation. This affirms that the theoretically assumed factors that are necessities of a learning organizations influence competitive advantage of state corporations. Results of Skaržauskiene, (2010), using correlational and regression analyses revealed that systems thinking was associated with higher organization performance hence also support Senge's theoretical proposition. Systems thinkers possess essential competencies that enable them to look at the organization in a broader context. These competencies include dynamic thinking, interactivity, systems logic, process orientation, continuous learning and understanding of mental models. Particularly, mental models enable individuals to challenge their underlying assumptions and make decisions from a more objective point of view.

4.7.7 Mediating Role of Rate of Learning

The study hypothesised a mediation role of rate of learning on the relationship between each of the independent variables and competitive advantage of state corporations. To validate this hypothesis, the study developed and tested four sub-hypotheses. The study fitted different structural models to test the three different types of mediating effects that were hypothesized using Amos. The hypotheses were as follows:

Ho5a: Rate of learning does not mediate the relationship between leadership practices and competitive advantage of state corporations in Kenya.

Ho5b: Rate of learning does not mediate the relationship between learning culture and competitive advantage of state corporations in Kenya.

Ho5c: Rate of learning does not mediate the relationship between learning processes and competitive advantage of state corporations in Kenya.

Ho5d: Rate of learning does not mediate the relationship between systems thinking and competitive advantage of state corporations in Kenya.

4.7.7.1 Mediating Effect of Rate of Learning on the Relationship Between Systems Thinking and Competitive Advantage

The process proposed by Mathieu and Taylor, (2006) was used to run a series of regression analyses to investigate the null hypothesis that rate of learning does not mediate the effect of systems thinking on competitive advantage. Using the no directs model, the study fit a 'systems thinking' model by adding a path from systems thinking to competitive advantage. The model exhibited satisfactory fit indices [Chi-Square (19)=56.590, $p<0.01$; GFI=0.942; CFI=0.954). The fit indices were an improvement to the 'no direct' model [Chi-Square (20) = 83.062, $p < 0.01$; GFI = 0.922; CFI = 0.923]. Figure 4.7 shows the coefficients and significance of each path tested during the regression process.

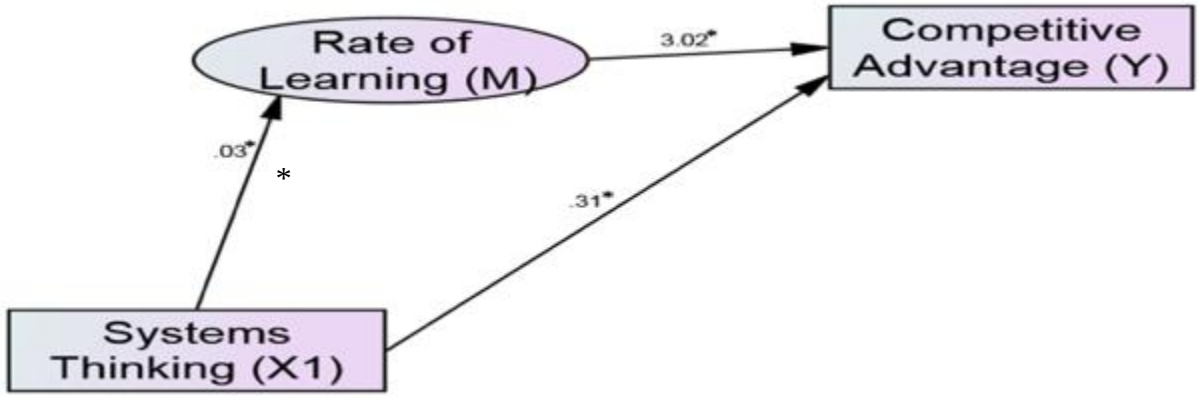


Figure 4.8: Path Diagram for Mediation for Systems Thinking and Rate of Learning

The results indicated that systems thinking was a significant predictor of rate of learning, X1→M = 0.26, SE = .010, p < .05, and that rate of learning was a significant predictor of competitive advantage, M→Y = 3.023, SE = 0.742 p <.05. Systems thinking was a significant predictor of competitive advantage after controlling for the mediator, rate of learning, X1→Y = .306, SE = .052 p <.05. The results are further detailed in table 4.43 which shows that all the paths were significant (P<.05).

Table 4.40: Systems Thinking, Rate of Learning and Competitive Advantage

Relationship			Estimate	S.E.	S. Estimate	C.R.	P
Systems Thinking(X_1)	→	Rate of Learning (M)	.026	.010	.251	2.553	0.011
Rate of Learning (M)	→	Competitive Advantage (Y)	3.023	.742	.397	4.076	0.000
Systems Thinking (X_1)	→	Competitive Advantage (Y)	.306	.052	.388	5.871	0.000

The direct effect of systems thinking to competitive advantage was significant ($\beta yx1.m$ = 0.384, p<0.05). Similarly, the indirect effect of systems thinking to

competitive advantage via rate of learning was significant (Sobel=2.192, SE=0.036, p<0.05). The indirect effect was further tested using a bootstrap estimation approach with 2000 samples (Shrout & Bolger, 2002). These results indicated the indirect coefficient was significant, (β = .078, SE = .041, p<.05). The indirect (mediated) effect of systems thinking on competitive advantage was .078. That is, due to the indirect (mediated) effect of systems thinking on competitive advantage, when systems thinking goes up by 1 unit, competitive advantage goes up by 0.078. This is in addition to any direct (unmediated) effect that systems thinking may have on competitive advantage.

Table 4.41 shows the boot strapping results confirming the partial mediation effect of rate on learning in the relationship between systems thinking and competitive advantage. The results show the direct, indirect and total effects of mediating effect of rate of learning on the relationship between systems thinking and competitive advantage.

Table 4.41: Bootstrapping for Systems Thinking and Rate of Learning

Systems thinking	**Direct Effects**	**Indirect Effects**	**Total Effects**
Regression weights	0.306	0.078	0.384
Standard Error	0.083	0.041	0.062
Bootstrapping P-value	0.032	0.004	0.001
Result	Significant	Significant	Significant
Type of Mediation	Partial		

The results show that indirect effect of systems thinking to competitive advantage via rate of learning was significant showing the presence of a mediation relationship. Furthermore, the direct relationship was significant. These results demonstrate that rate of learning partially mediates the effect of systems thinking on competitive advantage of state corporations (p < 0.05). These results suggest that systems thinking predict competitive advantage, and it does so by strengthening rate of learning within the state corporation. This results are in agreement with the study

done by Skaržauskiene, (2010) whose correlational and regression analyses revealed that systems thinking was associated with higher organization performance. Skaržauskienefurther notes that systems thinking approach allows the realization of various interrelations and working schemes in the organization and aids to identify regularities of the organizational development. These results are similar to what Akhtar et al. (2013) who did regression analysis and found a positive and significant relationship between systems thinking and competitive advantage. Therefore, it is essential for state corporations to invest in systems thinking in their efforts to increase rate of learning and impact competitive advantage.

4.7.7.2 Mediating Effect of Rate of Learning on the Relationship Between Learning Processes and Competitive Advantage

The process proposed by Mathieu and Taylor (2006) was used to run a series of regression analyses to investigate the null hypothesis that rate of learning does not mediate the effect of learning processes on competitive advantage of state corporations. Using the no directs model, the study fit a 'learning process' model by adding a path from learning process to competitive advantage. This model exhibited satisfactory fit indices [Chi-Square (19)=33.823, n.s; GFI=0.964; CFI=0.982]. The fit indices were a large improvement to the 'no direct' model [X^2 (20) = 83.062, $p < 0.01$; GFI = 0.922; CFI = 0.923]. Figure 4.8 shows the coefficients and significance of each path tested during the regression process.

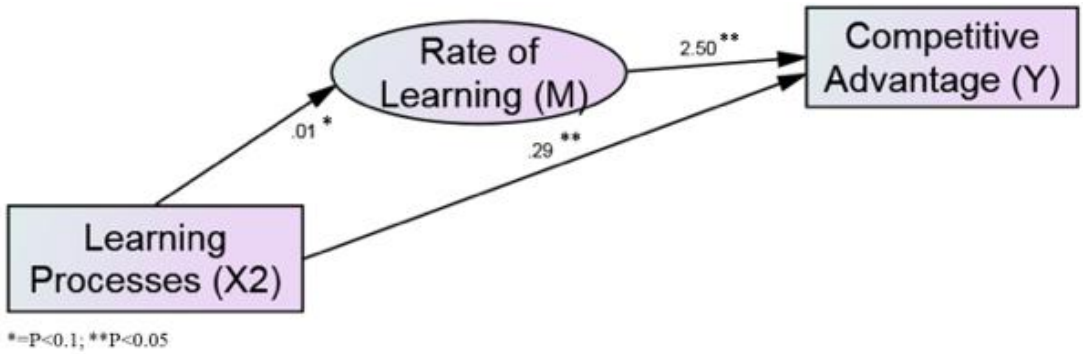


Figure 4.9: Path Diagram for Mediation of Learning Process and Rate of Learning

The results indicated that learning process was a significant predictor of rate of learning, X2→M = 0.014, SE = .008, p < .1, and that rate of learning was a significant predictor of competitive advantage, M→Y = 2.502, SE = 0.667 p <.05. Learning process was a significant predictor of competitive advantage after controlling for the mediator, rate of learning, X2→Y = .287 SE = .036 p <.05. The results are further detailed in table 4.45 which shows that all the paths were significant (P<.05).

Table 4.42: Learning Process, Rate of Learning and Competitive Advantage

Relationship		Estimate	S.E.	S. Estimate	C.R.	P
Learning Process (X2)	→ Rate of Learning (M)	.014	.008	.189	1.686	.092
Rate of Learning (M)	→ Competitive Advantage (Y)	2.502	.667	.324	3.751	.000
Learning Process (X2)	→ Competitive Advantage (Y)	.287	.036	.498	8.065	.000

From the results, the direct effect of learning processes to competitive advantage was significant (βyx2.m = 0.287, p<0.05). The study conducted Sobel test to test the indirect effect of learning processes to competitive advantage via rate of learning and found that it was not significant (Sobel=1.586, SE=0.022, P=0.113 n.s).

The indirect effect was further tested using a bootstrap estimation approach with 2000 samples (Shrout & Bolger, 2002) and the results affirmed that the indirect effects were not significant (β =.035, SE = .023, n.s). This shows that the mediated effect of learning process on competitive advantage was 0.035. That is, due to the mediated effect of learning process on competitive advantage, when learning process goes up by 1 unit, competitive advantage goes up by 0.035. This is in addition to any direct (unmediated) effect that learning process may have on competitive advantage. In summary, the direct effect (byx.m) was significant while the indirect effect (bmx_bym) was not significant.

The lack of significance of the indirect effects indicate that leads to the acceptance of the null hypothesis. Therefore, the study concluded that rate of learning did not mediate the effect of learning processes on competitive advantage of state corporations (p < 0.05). Table 4.46 shows the boot strapping results confirming the full mediation effect of rate on learning in the relationship between learning process and competitive advantage.

Table 4.43: Bootstrapping for Learning Processes and Rate of Learning

Learning Processes	**Direct Effects**	**Indirect Effects**	**Total Effects**
Regression weights	0.287	0.035	0.322
Standard Error	0.035	0.023	0.040
Bootstrapping P-value	0.001	0.069	0.001
Result	Significant	Significant	Significant
Type of Mediation	Indirect is < 0.1 therefore partial mediation hypothesis		

These results show that learning processes have a positive effect on competitive advantage by increasing rate of learning. The effect of learning processes on increasing rate of learning has been observed by other researchers. Clark, Huckman, and Staats (2013) found that that variety in an individual's customer experience may increase the rate of individual learning from customer-specific experience for a focal task. These experiences are best learnt where there are functional learning processes then facilitate capturing, reflecting and making adjustments as a result of the experiences. Voolaid (2013) recommends that educating and developing people to cope with the unknown will probably build on learning processes. Studies have also shown a link between learning processes and competitive advantage. Hernaus et al. (2008) also found a link between organizational learning processes and performance and concluded that organisations which develop their learning processes congruently will increase their performance. Therefore, to increase rate of learning and ultimately affect competitive advantage, it is essential for organizations to invest in learning processes.

4.7.7.3 Mediating Effect of Rate of Learning on the Relationship Between Learning Culture and Competitive Advantage

The process proposed by Mathieu and Taylor (2006) was used to run a series of regression analyses to investigate the null hypothesis that rate of learning does not mediate the effect of learning processes on competitive advantage of state corporations. Using the no directs model, the study fit a 'learning culture' model by adding a path from learning culture to competitive advantage. This model exhibited satisfactory fit indices [Chi-square (19)=42.652, n.s.; GFI=0.956; CFI=0.971]. The fit indices were an improvement to the 'no direct' model [$X^2(20) = 83.062$, $p < 0.01$; GFI = 0.922; CFI = 0.923]. Figure 4.9 shows the coefficients and significance of each path tested.

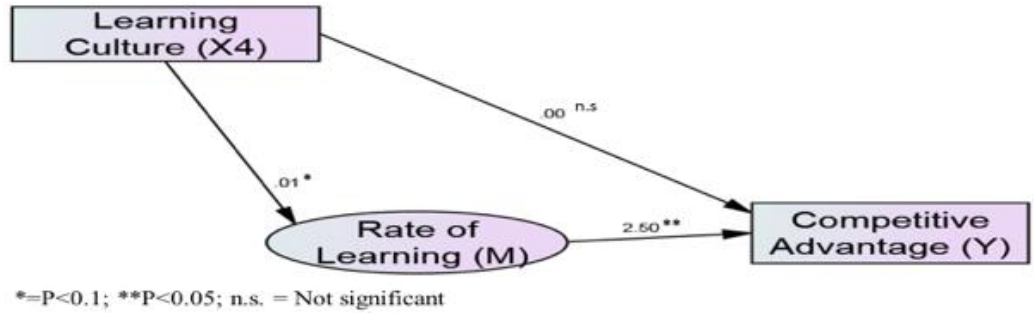


Figure 4.10: Path Diagram for Mediation of Learning Process, and Rate of Learning

The results indicated that learning culture was not a significant predictor of rate of learning, X4→M = 0.014, SE = .008, (n.s.), rate of learning was a significant predictor of competitive advantage, M→Y = 3.063, SE = 0.712 p <.05. Learning culture was a significant predictor of competitive advantage after controlling for the mediator, rate of learning, X4→Y = .318 SE = .044 p <.05. The results are further detailed in table 4.47 which shows that all the paths were significant (P<.05).

Table 4.44: Learning Culture, Rate of Learning and Competitive Advantage

Relationship			Estimate	S.E.	S. Estimate	C.R.	P
Learning Culture	→	Rate of learning	.002	.010	.026	.256	0.798
Rate of learning	→	Competitive Advantage	3.063	.712	.400	4.303	0.000
Learning Culture	→	Competitive Advantage	.318	.044	.434	7.215	0.000

The direct effect of 'learning culture' to competitive advantage was significant ($\beta yx3.m = 0.318$, $p<0.05$). On the contrary, Sobel test found the indirect effect of learning culture to competitive advantage via rate of learning was not significant (Sobel=0.200, SE=0.031, n.s.). The study further tested the indirect effect using boot

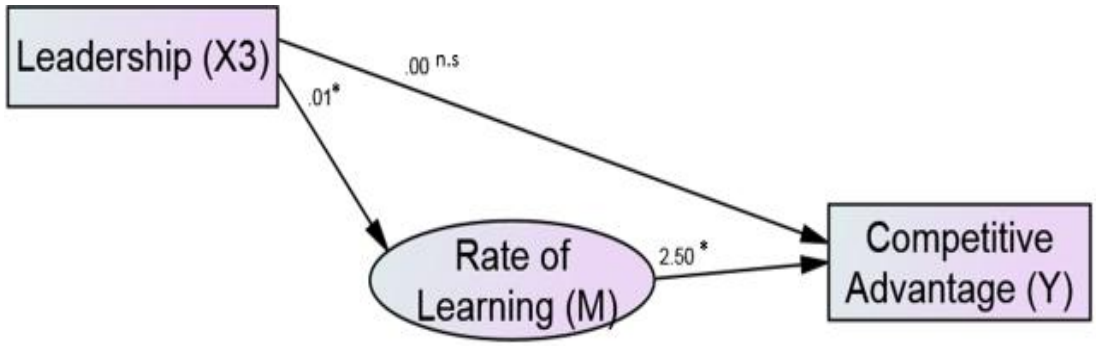
strapping and confirmed that effects of learning culture to competitive advantage through rate of learning was not significant in this model (β = .008, SE = .031, 95%, n.s.). These results indicate that there was no mediating effect of rate of learning on the relationship between learning culture and competitive advantage of state corporations. Table 4.48 presents the boot strapping results testing the mediation effect of rate of learning on the relationship between learning culture and competitive advantage.

Table 4.45: Bootstrapping for Learning Culture and Rate of Learning

Learning Culture	Direct Effects	Indirect Effects	Total Effects
Std. coefficients	0.318	0.008	0.325
Standard Errors	0.050	0.031	0.059
P-values	0.002	0.699	0.001
Result	Significant	Not Significant	Significant
Type of Mediation	Indirect is > 0.05 therefore No Mediation		

4.7.7.4 Mediating Effect of Rate of Learning on the Relationship Between Leadership practices and Competitive Advantage

The process proposed by Mathieu and Taylor (2006) was used to run a series of regression analyses to investigate the null hypothesis that rate of learning does not mediate the effect of leadership practices on competitive advantage of state corporations. Using the no directs model, the study fit a 'leadership' model by adding a path from leadership to competitive advantage. The 'leadership practices' model exhibited excellent fit indices, [Chi-square (19)=62.257, p<0.01; GFI=0.937; CFI=0.947] that were an improvement over the no direct model [Chi-square (20) = 83.062, p < 0.01; GFI = 0.908; CFI = 0.923]. Figure 4.10 shows the coefficients and significance of each path tested during regression.



*=P<0.1; **P<0.05; n.s. = Not significant

Figure 4.11: Path Diagram for Mediation of Leadership and Rate of Learning

The results indicated that leadership was not a significant predictor of rate of learning, X3→M = 0.014, SE = .008, (n.s.), rate of learning was a significant predictor of competitive advantage, M→Y = 3766, SE = 0.798 p <.05 and leadership was a significant predictor of competitive advantage after controlling for the mediator, rate of learning, X2→Y = .215 SE = .042 p <.05. Following the process by Mathieu and Taylor, (2006), the results show that rate of learning did not play a mediation role in the relationship between leadership and competitive advantage. The results are detailed in table 4.49 which show the different paths and their p-values.

Table 4.46: Regression for Leadership, Rate of Learning and Competitive Advantage

Relationship			**Estimate**	**S.E.**	**Std. Estimate**	**C.R.**	**P**
Leadership	→	Rate of Learning	.002	.008	.017	.196	0.845
Rate of Learning	→	Competitive Advantage	3.766	.798	.496	4.717	0.000
Leadership	→	Competitive Advantage	.215	.042	.315	5.109	0.000

The results were further checked using a bootstrap of 2000 samples. The results indicate that even though the direct effect of leadership to competitive advantage was significant (βym.x=0.215, p<.05.), the indirect effect of leadership to competitive advantage via rate of learning was not significant in this model (βmx*βym.x=0.06, Sobel=0.250, SE=0.030, n.s. The study further tested these indirect effects using bootstrapping technique. The results confirmed that the direct effect was significant (bym.x =.215, p<.005) while the indirect effects of leadership to competitive advantage through rate of learning was not significant in this model (β = .006, SE = .037, 95% CI = -.078, .063, n.s.). These results are consistent with a no mediation hypothesis. Table 4.50 details results from bootstrapping to test the mediating effect of rate of learning on the relationship between leadership practices and competitive advantage.

Table 4.47: Bootstrapping for Leadership and Rate of Learning

Leadership	**Direct Effects**	**Indirect Effects**	**Total Effects**
Bootstrapping results	.215	.006	0.047
Standard Error	0.071	0.037	0.044
Bootstrapping P-value	0.022	0.859	0.231
Result	Significant	Not Significant	Not Significant
Type of Mediation	No Mediation		

4.8 Summary of Mediation Tests

From the analysis in the above section on mediation tests, and as summarized in Table 4.51 the direct and indirect effects of rate of learning on the relationship between systems thinking and competitive advantage and learning processes and competitive advantage were positive and significant. These results are consistent with a partial mediation hypothesis. Therefore, the study concludes that rate or learning partially mediates the relationship between systems thinking and

competitive advantage and the relationship between learning processes and competitive advantage. This shows that systems thinking just like learning processes increases the competitive advantage by increasing the rate of learning in the organization.

Other studies have found similar results with systems thinking. These include Skaržauskiene, (2010) whose correlational and regression analyses revealed that systems thinking was associated with higher organization performance and Akhtar et al., (2013) who also found similar results when they did regression analysis and established a positive and significant relationship between systems thinking and competitive advantage. Learning processes has also been studied with similar conclusions. Clark, Huckman, and Staats, (2013) found that that variety in an individual's customer experience may increase the rate of individual learning from customer-specific experience for a focal task. Voolaid, (2013) recommends that educating and developing people to cope with the unknown will probably build on learning processes. Hernaus et al. (2008) also found a link between organizational learning processes and performance and concluded that organisations which develop their learning processes congruently will increase their performance.

On the other hand, even though the direct effects for the relationship between leadership, rate of learning and competitive advantage and the relationship between learning culture, rate of learning and competitive advantage were positive and significant, the indirect effects for these two relationships were positive but not significant. These results show that the rate of learning did not play mediation role in the relationship between leadership, rate of learning and competitive advantage and the relationship between leadership, rate of learning and competitive advantage.

Table 4.48: Summary of Mediation Effect of Rate of Learning

Path	Direct		Indirect		Interpretation
	Beta	**P –value**	**Beta**	**P –value**	
X1→M→Y	0.306	0.032**	0.078	0.004**	Partial mediation
X2→M→Y	0.287	0.001**	0.035	0.069*	Partial mediation
X3→M→Y	.215	0.022**	.006	0.859 (n.s)	No Mediation
X4→M→Y	0.318	0.002**	0.008	0.699 (n.s)	No Mediation

*=P<0.1; **P<0.05; n.s. = Not significant

Note: X1 = Systems Thinking; X2 = Learning Processes; X3 = Leadership; X4= Learning Culture; M=Rate of learning; and Y = Competitive Advantage

The series of model tests illustrated the chain of evidence required for different types of intervening effects in a multivariate situation. The results suggest that managers need to increase the rate of learning within their organizations if they are to attain competitive advantage. Similar to studies by Linz and Resch (2010) also show that managers need to focus on double loop learning which will help them challenge their strategies and adopt their management approaches as in line with changes in their context. In summary, the results above have shown the type of mediating effects that rate of learning has on the relationship between the antecedents and competitive advantage. Systems thinking and learning processes were partially mediated by rate of learning. No mediation existed between in the relationship between leadership and competitive advantage and learning culture and competitive advantage.

4.9 Re-Examination of the Priori Model

As shown in Figure 5.1 of the revised model, all the four hypothetical casual paths were fully support in the multiple linear regression model. This implies that leadership that reinforces learning, learning culture, learning processes, and systems thinking practices were found to be have a positive and significant influence on

competitive advantage. The results validated findings of previous studies (Senge, 2006; Garvin et al., 2008; Bell, 2013; Ollows & Moro, 2015).

Results from mediation analysis found that two of the four paths were not supported. This shows that rate of learning did not mediate the effect of leadership and learning culture on competitive advantage. On the other hand, the results showed that rate of learning partially mediated the relationships between learning processes and systems thinking practice on competitive advantage. This means that both learning processes and systems thinking practice influence competitive advantage by increasing rate of learning. The results also show that learning culture only had direct effect on competitive advantage and did not have to effect rate of learning to affect competitive advantage. The results are consistent with findings by Donate and Sánchez de Pablo (2015) who found that knowledge management processes had a positive and significant effect confirm performance.

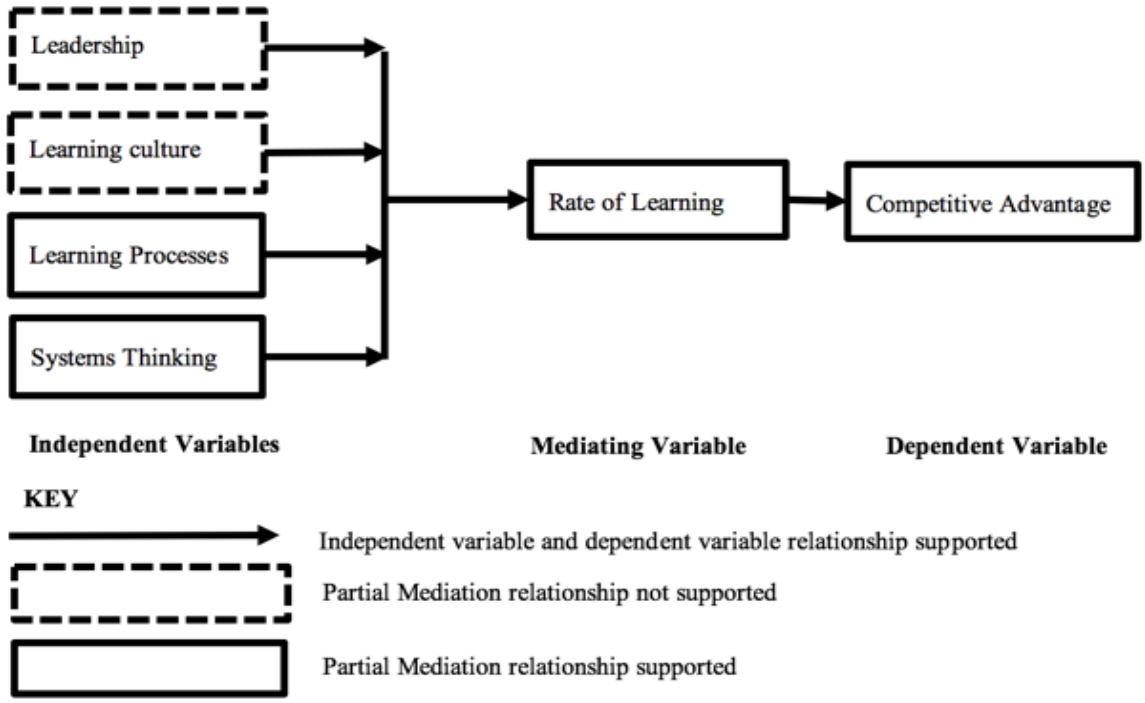


Figure 4.12: Revised Overall Model Based on Study Results

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the key findings of the study, the relevant discussions, conclusion and the necessary recommendations. The study examined the effect of organizational learning in achieving competitive advantage of state corporations in Kenya. It tested the mediating effect of rate of learning in the relationship between the independent variables and competitive advantage. The study focused on four independent variables: learning culture, leadership, learning processes and systems thinking. The mediating variable was rate of learning. The following is the specific breakdown summarizing the major findings based on the output of the descriptive and inferential statistical analyses, guided to answer the five research questions of the study.

5.2 Summary of the Major Findings

This study examined the mediating effect of learning performance in the relationship between learning processes and competitive advantage, among state corporations in Kenya. The study employed a descriptive, cross-sectional research design, alongside both quantitative and qualitative methods to gather data from 198 staff based in 35 state corporations. These respondents included senior managers, middle managers, and non-management staff. The following is a summary of the results by key research questions.

In assessing leadership practices within state corporations, results of the study showed that very few respondents agreed that their leadership supported organization learning. Areas where leadership was functioning in support of learning were listening attentively, promotion and articulation of organizational vision, creating an environment for responsible employee behavior and teamwork. Areas where respondents felt leadership was not supportive of learning included handling

differences in views, acknowledging their limitations in knowledge, information, or expertise, and promotion of learning from experience by tolerating mistakes. Considering that employees are adult learners and rely more on a leader's actions than words, when a manager fails to acknowledge their limitations, employees are likely to follow suit, and learning within the organization reduces drastically. These views were echoed by the respondents in the qualitative interviews. The dominant change proposed by interviewed respondents to improve leadership practices, was the use of multiple perspectives by leaders when making decisions. The majority of respondents interviewed felt that some employees, especially the non-management staff, were left out of the decision-making processes and in some instances, suppressed when they had new and perceived innovative ideas. This suppression inevitably impedes the willingness of junior employees to innovate.

The study established that the learning culture within state corporations was weak with only few respondents saying that culture within their departments supported learning and innovation. Areas where there was strong culture of learning included open discussions of mistakes, giving of open feedback and ready access to information. Areas of weak learning culture were weak reward systems, support to requests for learning opportunities, and recognition of people for taking initiative. These results imply that despite the positive efforts to encourage a culture that supports learning, state corporations have not adequately resourced these efforts hence it is difficult to effectively nurture a learning culture. Similar perspectives were heavily reinforced from the qualitative interview data. When respondents were asked for suggestion that could help enhance learning and performance of their departments, the main issues they raised included equal and fair opportunities for learning, need to provide rewards and recognition of innovation and performance and resources for learning. In fact, some respondent suggested that leaders should encourage staff to go back to school and gather more skills that would help them perform on their jobs better.

Similar to learning culture, learning processes within the state corporations were also weak, with few of the respondent agreeing that learning processes implemented within their organizations were effective. Weak learning processes included training

systems, particularly, employees switching to new roles, and weak or non-existent mechanisms to foster sharing of emerging, good, and best practices across departments. Failure to share good practices and lessons learning limits learning from failure and success, a situation that can cripple organizational learning efforts. The gaps in the learning processes to help staff gain required knowledge and skills to learn and implement new ideas was also noted in the qualitative responses. Over half of responses indicated that key recommendations needed to be around training processes content and targeting. Among the challenges noted include lack of training included the lack of focus on training needs, limited involvement of staff in making training decisions, lack of participation by junior staff in trainings, and irrelevant training content.

Systems thinking practices within their organizations were also weak compared to industry standards, with only a few of the respondent agreeing that their organizations adopted systems thinking practices. The stronger areas of systems thinking were leaders ensuring that organization's actions were consistent with its values and the organization working together with the outside stakeholders to meet mutual needs. Areas of lower score included organizations considering impact of decisions on employee morale and encourage people to get answers from other departments when solving problems. This indicates weak internal collaboration which stifles efforts to nurture a learning organization. The limited focus on the impact of decisions on employee morale was reinforced in the qualitative responses. The most salient issues among these suggestions was the need to ensure employees are genuinely involved in decision making processes and that departments are working together in a way that motivate employees.

Rate of learning within state corporations was assessed by the frequency with which these entities acted on feedback from formal and informal sources including staff, customers and other stakeholders. The results showed that on average each state corporation acted issues in a year. The state corporations that reported the least number of learning actions had four while the highest had 24. As expected there were higher rates of learning for the single loop when compared to double loop. Qualitative interviews with staff on rate of learning within the state corporation

indicated that majority of the suggestion provided by the staff pointed to a need for leadership to prioritize alternative methods of offering goods and services to clients with of the respondent giving specific suggestions in this regard. The suggestions indicate that majority of the staff felt the need for a self-reflection within the organization on how they conduct their day-to-day businesses.

In assessing the competitive advantage of state corporations, respondents did not find these institutions to be highly competitive when compared to similar organizations in their sectors. The biggest threat to competitiveness was the consistent loss of market share and the consequent inability to retain essential customers with only of the respondents noting that their organizations had excelled in each of these two constructs. Surprisingly, despite the low score on customer retention and market share, the respondents felt that their organizations were offering greater value than their customers. This inconsistency is explained by the fact that most of them noted that low investing in marketing and promotion of their products which makes it difficult for their clients to access. The private sector was seen as a more aggressive in the market front even though they offered similar products to clients.

The pessimistic view of state corporations' competitive advantage, from the perspective of employees, was corroborated by the analysis of key financial ratios. Most of state corporations reviewed had current ratio of less than the recommended 1.5, suggesting that they could not effectively cover their debts using one year of their current assets. State corporations were not using assets efficiently, which indicates that SCs could have management or production problems. Despite an improvement, debt ratio remained higher than the recommended thresholds indicating that the state corporations are at high risk since debts must be paid. Average ROA for more majority of state corporations under was lower than the recommended threshold, suggesting the firms are not efficient at utilizing their asset base. These weak ratios indicate that the financial situation of state corporations was not desirable and could partially explain the hesitance in resourcing learning opportunities since they are on a 'tight' budget.

5.2.1 Effect of Learning Culture on Competitive Advantage

Linear regression results revealed that learning culture, as an independent variable, had a significant and positive influence on the competitive advantage of state corporations. This influence remained positive and significant in a multiple regression analysis showing that learning culture played a vital role with the three other variables in influencing competitive advantage. These results are consistent with Weihong et al. (2008), who found that openness of the organizational culture and the organizational learning capability has a significant impact on the enterprise sustainable competitive advantage. Similarly, the result are supported by Gbenro and Agboola, (2015), whose study found that trust was an important aspect of organizations, which predicted the willingness of workers to share and use tacit knowledge. Indeed, Sanz-Valle et al. (2011) confirmed that organizational culture can foster both organizational learning and technical innovation.

The study found that organizations that consistently possessed the attributes of a learning culture also scored highly on the competitive advantage scale. The degree of tolerance towards adventurous spirit, democratic participation and innovation activities, which drive organizations to accept new things, discover new needs better and faster, then make a first-mover advantage strategy is positively associated with competitive advantage. Therefore, leaders of state corporations should nurture and build organizational culture that encourages people to openly discuss mistakes to learn from them and give and receive open and honest feedback. Additionally, they should develop a reward system that recognizes individuals and team who take initiative and exploring new ways of working. Lastly, leaders should nurture a culture of learning and efficiently resource training of staff.

5.2.2 Effect of Leadership Practices on Competitive Advantage

The study also established, through linear regression, that leadership had a positive and significant effect on competitive advantage. The relationship remained positive and significant in a multiple regression analysis. The higher the ability of the organizations to demonstrate a leadership that reinforces learning, the higher the

competitive advantage. This requires organizational leaders to demonstrate a willingness to entertain alternative viewpoints, signal the importance of spending time in problem identification, knowledge transfer, and reflection and engage in active questioning and listening. This type of leadership is instrumental due to its role in fostering a learning culture that allows employees the freedom and pleasure to learn without the fear of making mistakes.

study established that there was widespread recognition that organizational learning is strongly influenced by the behavior of leaders. The positive link between leadership and competitive advantage has established by research conducted by Garvin et al. (2008), who considered leadership as essential for organizational learning. Similar results have been echoed by García-Morales, Llorens-Montes, and Verdú-Jover, (2006), who found a positive relationship between transformational leadership and organizational performance. Amitay, Popper and Lipshitz (2005) also attested to the central role of leaders in determining the effectiveness of organizational learning. In Kenya, Koech and Namusonge (2012) also established a strong and positive correlation between the transformational-leadership factors and organizational performance ratings were high.

When managers challenge their employees by asking probing questions and actively listening to them, they prompt dialogue and debate, thus, encouraging staff to learn (Garvin et al., 2008). By encouraging their employees to seek and utilize multiple perspectives while taking decisions and actions, the leader ensures an environment of continuous learning and evidence generation. Furthermore, employees start valuing their contribution and feel emboldened to offer suggestions and solutions to problems and they appreciate that management recognizes their contribution to decision-making process of the organization.

Leaders that consistently reinforce the importance of learning from experience and tolerating mistakes up to a certain point, encourage staff to spend time on problem identification and solving, and facilitate an environment where staff feel safe to fail and learn from their failures. Often, they allow these behaviors to flourish. Managers who acknowledge their limitations in knowledge, information, or expertise and act to

addressing them have a positive effect of motivating their staff to adapt similar attitudes. Managers who model responsible employee behavior and recognize team efforts stand a better chance of nurturing a learning spirit within their departments.

5.2.3 Effect of Learning Processes in Fostering Competitive Advantage

In determining the effectiveness of learning processes in fostering competitive advantage, the study found that a positive and significant relationship existed in both single and multiple linear regression analysis. In fact, learning process had the highest strength of association to the competitive advantage compared to the other three independent variables. This affirms the positive and significant role that concrete learning processes play in influencing the performance and competitive advantage of state corporations. Like the result of Garvin et al. (2008), this found that for organizations to learn effectively and attain the desired competitive advantage, they need to have more effective and comprehensive knowledge management processes than their competitors.

When an organization masters the processes and practices of generation, collection, interpretation, and dissemination of information, it sets itself up for successful competition. Encouraging employees to join formal or informal networks made up of people from outside the organization ensures that there is continuous generation of information from within and outside the organization and helps create forums for meeting with and learning from experts from outside the organization. Interpretation of information is essential and this can be achieved by the conduct of regular post-audits, after-action reviews as well as executing formal mechanisms for sharing of best practices among the different activity fields.

During discussions, staff need to engage in productive conflicts and debates while intentionally seeking out dissenting views. Employees also need to revisit well-established perspectives during discussions, in addition to identifying underlying assumptions that might affect key decisions. Most importantly, organizations should pay critical attention to and act on different views during discussions since they offer opportunity for new learning.

The results of the study emphasized the importance of state corporations to have concrete formal processes for generating, collecting, interpreting, and disseminating information. As Garvin et. al. (2006) pointed out, concrete learning processes and practices ensures that the team and company values to experiment with new offerings, to gather intelligence on competitors, customers, and technological trends and solving problems. State corporations that attain competitive advantage prioritizes developing employees' skills because it appreciates that it is when employees grow that organizations grow.

Therefore, learning processes ensure that the capacity of employees is continuously strengthened to meet the work needs. These efforts targets both the experience employees, new employees, and employees switching to new positions. The study has demonstrated that when organizations consistently and systematically invests in training and growth of staff by availing time for education, training and mentorship activities of staff, they lay a strong foundation for competitiveness.

Based on the high significance of the rate of learning on the attainment of competitive advantage, the study concluded that concrete learning processes are the cornerstone of a learning organization. Blended with a system's thinking approach to analyzing issues and a supportive learning environment that is driven by an open and flexible culture, learning processes had the potential of transforming the competitive value of state corporations.

However, it is important to appreciate that the mere establishment of a variety of learning processes is not a sufficient condition to nurturing a learning organization and attaining competitive advantage. Effective and efficient utilization of the learning processes by intended users is the primary ingredient for acquiring value from concrete learning processes. In ensuring sustained utilization of learning processes, the study identified what it considered as core barriers to concretizing learning processes in state corporations: unnecessary bureaucracy that largely excluded junior employees from reflection and decisions associated with goods and service provision; and perpetual victimization of employees based on finding from formal feedback mechanisms without intensive analysis and reflection to explore

truth and root causes of feedback points. Bureaucracy and victimization limited the acquisition of objective and timely feedback from junior employees despite the widespread recognition that they were closest to most of the clients. Victimization makes it difficult for employees to support and promote the use of feedback mechanisms.

5.2.4 Effect of Systems Thinking on Competitive Advantage

Systems thinking had a strong positive and significant effect on competitive advantage, both in a single linear as well as in multiple regression equations. The results of this study reinforced results of other scholars who regarded systems thinking as the conceptual cornerstone of a learning organization (Alegre and Chiva, 2008; Alegre et al., 2013). Higher scores of systems thinking scale were associated with high scores in competitive advantage. Organizations that have cultivated strong systems thinking practice encourage people to think beyond their individual and departmental roles and responsibility and look at how others' roles and responsibilities affect their work.

Organizations that nurture systems thinking approach issues from a stakeholder perspective and work with the outside stakeholders to meet mutual needs. When leaders ensure that organizations actions are consistent with its values and considers organizations actions on employee morale, and when they encourage people to seek answers from across the organizations, the organization benefits from multiple perspectives and achieve a high sense of ownership that smoothens implementation of strategic choices to realize better success. These are fundamental ingredients to building a learning organization and achieving a sustained competitive advantage.

5.2.5 Mediating Effect of Rate of Learning on Competitive Advantage

Mediation analysis using structural equation modeling was instrumental in determining the mediating effect of rate of learning on the relationship between each of the independent variables and the competitive advantage. The results showed that systems thinking and learning processes were partially mediated by rate of learning. This means the systems thinking and learning processes affected competitive

advantage by increasing rate of learning within state corporations. These results are instrumental in testing the theoretical underpinning that rate of learning is associated with superior competitive advantage (Garvin et. al., 2006). The results showed that learning processes and systems thinking influenced a firm's competitive advantage by increasing the rate of learning.

The results of the study were also supported by researchers who theorized that single loop learning was more frequently experienced in organizations than double loop learning. Single loop learning, which is said to occur when a mismatch gets corrected by altering behavior or actions was more frequent in state corporations than double loop learning, which happens when the organizations change their underlying values and adopts new actions (Mitchell et al., 2012).

These results suggest that most state corporations are focusing on efficiencies by answering the question, "are we doing things in the right way?" Thus, they eschew the double loop, which is concerned with effectiveness and answers the question, "are we doing the right things?" The study found that the rate at which organizations apply both single-loop and double-loop learning positively mediate the relationship between systems thinking and competitive advantage and learning processes and competitive advantage. State corporations in Kenya need to invest in improving both double loop and single loop learning if they are to achieve competitive advantage and they can realize this by improving learning processes as well as increasing systems thinking practice.

Considering the confirmatory results of a partial mediation effect on the rate of learning, the study concluded that for a state corporation to achieve competitive advantage, it needs to increase its rate of learning from external and internal sources. However, merely increasing the rate of learning is not sufficient to attaining competitive advantage – organizations need to be conscious and competent at diagnosing the type of learning required within their organizations by determine whether to focus on single loop learning, double loop learning or both. In fact, the study showed that organizations that invested in both single loop and double loop learning were more competitive than organization that only invested in single loop

learning. This suggests that organizations should be concerned by learning efficiencies, 'doing things right' and learning effectiveness, 'doing the right things'. Hence, a mix of single loop learning, which focuses on efficiency and double loop learning which focuses on effectiveness is necessary to the attainment of competitive advantage among state corporations.

With single-loop learning, firms will measure outcomes against existing organizational norms and expectations, and focus on doing things in the right way. This will help firms achieve superior efficiencies, a deeply rooted challenge in state corporations in Kenya, by helping organization to question whether their processes are functioning optimally and make timely, corrective actions geared towards optimization by exploring more productive approaches, cheaper ways of doing business, and exploring alternative methods of the achieving the same objectives.

Being more comprehensive, the double loop learning will take the state corporations a notch higher by challenging current operating assumptions, and even changing existing norms, practices and objectives where necessary. Single loop learning allows organizations to ask and answer the 'How?' questions while double loop learning allows organizations to pose and answer the more fundamental 'why?' questions - both kinds of questions and the resultant actions are critical to performance of state corporations. Therefore, optimizing both single loop and double loop learning will allow firms to diagnose and fix efficiency and effectiveness gaps within their systems and even change processes that are redundant or dysfunctional by posing, challenging their nature and execution of their strategies.

5.2.6 Effect of Organizational Learning on Competitive Advantage

Multiple linear regression analysis was used to develop a model for predicting competitive advantage from learning culture, leadership, learning processes and systems thinking. The results showed that all the independent variables – learning culture, learning processes and systems thinking – had a positive and significant ($p < .05$) zero-order correlation on competitive advantage. Learning processes, systems thinking, and leadership had most significant effect on competitive advantage. These

results are consistent with findings by Garvin et.al (2008) and lay emphasis on the need to invest resources in establishing concrete learning processes within the organization. The results are also supported by Senge,(2006) who emphasizes the importance of systems thinking in building a learning organization.

Based on this analysis, it is recommended that departments should lay more emphasis on improving a leadership that reinforces learning, an enabling culture for learning, concrete and systematic learning processes and systems thinking practices, within the organization. Leaders should reinforce messages and practices that encourage learning within the organization.

5.3 Conclusion

Based on the findings, it can be concluded that organizational learning facilitates the achievement of competitive advantage by increasing the rate of learning within the organization. Particularly, the study concluded that the effect of leadership, learning culture, learning processes and systems thinking practices, were necessary preconditions to attaining competitive advantage. Learning culture provides an enabling environment that allows employees to experiment, use learning processes and challenge their underlying assumptions.

Learning processes account for system, structure and resources that facilitate employees to learn and experiment with new ideas. System's thinking provides a framework for employees to see inter-relationships that underlie complex situations and interactions rather than simplistic and often inaccurate linear cause-effect chains. It helps organizations to understand systems at a deeper level in order to see the paths available to bring about changes more effectively. Systems thinking enables teams to unravel hidden subtleties, influences, leverage points and intended or unintended consequences of change plans and programs and leads to deeper, more complete awareness of the interconnections behind changing any system.

The study also concluded that the effect of organization learning in achieving competitiveness is accounted for in the way it fosters higher rates of learning. In fact, organizations that take an intentional approach to learning by investing in concrete

learning processes, fostering systems thinking practices and nurturing a culture that allows experimentation, and questioning attain better results associated with competitive advantage.

Leadership, learning culture, learning processes and systems thinking, were found to be critical and necessary preconditions for ensuring the attainment of competitive advantage by increasing the rate of learning in organizations. Learning processes that ensured information and knowledge was easily accessible from both outside the organization and from within the organization were effective in ensuring learning occurs. Systems thinking ensures that diagnosis of problems, analysis and decision making was made from the systems perspective rather than focusing on a part of the system. Learning culture provided the enabling environment needed to utilize learning processes using system's thinking lenses. Leadership ensured that learning the messaging of learning is reinforced and modeled within the organization.

5.4 Recommendations

Based on the findings and conclusions from the study, the following key recommendations were made by the researcher.

5.4.1 Organizations Managers and Leaders

To nurture learning organizations, the leader needs to entertain alternative viewpoints, reinforce the importance of spending time on problem analysis, engage in knowledge transfer, and reflecting on in active questioning and active listening. Leaders are expected to continuously promote a shared vision for learning in the organization.

To improve learning processes, managers need to make intentional efforts and invest in concrete learning processes for maximum impact. These efforts include experimentation to develop and test new products and services; intelligence gathering to keep track of competitive, customer, technological and other contextual trends; rigorous analysis and interpretation of data to identify and address problems;

and education, training and mentorship to develop both new and established employees.

To achieve systems thinking, managers need to form intensive social networks that will create a family within the organization. Managers need to invest in helping each employee to understand and appreciate how their individual or actions influence the whole system and seeks for ways that will ensure collective employee actions lead to synergy of results. Job rotations, team building events and common reflection evens are some ways that managers can help entrench the practice of systems thinking within the organization.

To nurture a learning culture, managers are encouraged to promote organizational culture that ensure support for learning and creates appropriate and safe learning environment. A learning culture should encourage psychological safety, appreciation of differences, and openness to new ideas. These factors will guarantee employees the safety needed to be creative, encourage to challenge their own assumptions without fear of being out-casted.

5.4.2 State Corporations

State corporations need to nurture learning competencies at all levels of the organization. Considering that the study established a significant and positive effect of all the independent variables on competitive advantage, state corporations need to focus on growing employees who possess the competencies that will help them to forge a learning organization that competes in the industry. Garvin et al. (2008), noted a lack of concrete prescriptions and tools to help nurture a learning organization and the limited evidence on whether organizational learning influences organization performance and competitive advantage. In addition to this study, there is a lot of work on learning competencies that state corporations need to start utilizing in their human resource practices (Arias & Solana, 2013; Skaržauskiene, 2010).

Learning processes were found to favor learning within the organization, and sometimes, between inter-state corporations. Therefore, managers need to promote

inter-sectoral partnerships to facilitate cross-learning. Considering the gains made by private sector in growing learning in their organizations, the learning curve for state corporations will be steeper if they do not work closely with private sector. Majority of literature associated learning has been focused on private sector organizations in comparison to the public sector. This partially explains the higher rates of learning in private-sector organizations as compared to public sector organizations. For example, Voolaid, (2013) noted that average learning rate of privately owned business schools as organizations (4.8) was higher than that of state-owned and public business schools (4.5). There, state corporations should set-up learning processes that allow them to learn from within the organization and outside the organization and particularly other sectors and industries.

Considering the importance of learning processes, as evidenced by this variable having the highest coefficient from the regression analysis, it is essential the state corporations develop formal knowledge management strategies and tactics that will ensure efficient and effective generation, collection, interpretation, and dissemination of information. As Garvin et al. (2008) points out, a learning organization is not cultivated effortlessly. Instead, it arises from a series of concrete steps and widely distributed activities that ensure smooth flow and utilization of knowledge. This needs to happen at individual organization level and recruitment and staff development decisions and actions need to be guided by this perspective. Secondly state corporations need to review, strengthen their staff development policies and procedures and be held accountable to execute them. Training research and development is fundamental to achieving *V*ision 2030 and state corporation are important vehicle for the same (Government of Kenya, 2007). Policies and procedures should not only ensure prioritization of training and development, but also assure the consistent resourcing of the initiatives.

5.4.3 Research and Academic Community

There are limited training opportunities on organization learning, hence, employees from state corporations who have interest in this topic lack adequate access to learning resources. For example, the scheduled courses on offer at the Kenya School of Government (KSG) for 2017/2018 did not have any item on organizational learning (Kenya School of Government, 2017). This makes impartation of organizational learning competencies difficult for public institutions, hence, public servants fail to access the required education to grow their organizational learning competencies. This also deepens the challenge of lack of tools and resources for learning that were pointed out by Garvin et al. (2008). Therefore, the KSG and other institutions of higher learning need to make intentional efforts to integrate organizational learning in their curricula and course offerings. Research institutions can complement the curriculum development efforts by providing evidence base on approaches that work and approaches that do not work for integrating individual, team and organizational learning in state corporations.

5.4.4 Policy Makers

Rewarding learning in state corporations is key to nurturing a learning atmosphere and getting the optimum benefits of a learning organization. The salaries and remuneration commission (SRC), with its vision of equitable and sustainable remuneration and benefits for state and public officers in Kenya, needs to develop remuneration structures that encourage individual, team and organizational learning. Systems thinking, learning culture and learning processes are all highly collaborative variables and competencies. If leaders reinforce the message of teamwork without rewarding team successes, the people will continue to pursue individualized objectives which reduces potential for team learning and thus negatively impact on rate of learning. This was also observed by Zhang, Chong, Pezeshki, Moran, and Howard (2012) when they assessed the rate of learning in hierarchical social networks.

Both studies found that inadequate financial resources for learning was a challenge to implementing policies and other initiatives associated with learning at organizational level. To address this challenge, there are various actions recommended to state corporations and other actors. First, state corporations need to improve their financial management practices for better financial outcomes. The review of financial statements and the subsequent calculation of financial rations showed imprudent financial management characterized by undesirable current, asset turnover, debt to assets, return on assets ratios. This situation limits the ability of state corporations to prioritize staff training and development thus affecting rate of learning within state corporations. Therefore, more stringent financial management policies need to be introduced and executed to save majority of state corporations from their financial challenges. This will eventually free-up more resources to invest in staff training and development.

To ensure effective implementation of suggested technical and policy recommendations, the practice of accountability within state corporations needs to be improved. In 2012, a comprehensive state corporation performance report was published (Performance Contracting Department, 2012). This was a noble effort that supported evaluation and correction of state corporations. Similar initiatives are recommended by respective regulatory institutions to ensure the plans of state corporations are evaluated and improved. As the old adage goes *"what gets measured gets done"* and *"to measure is to know"* it is essential to measure the progress and outcome of learning initiatives and competencies within organization.

5.4.5 Theoretical Implications of the Study

This study contributes to the existing literature in two main respects. First, the study adds a measure of the rate of learning to previous measures. Authors have used different measures to estimate rate of learning in organizations including the dimensions of a learning questionnaire use by Song et al., (2009)and the version modified by Voolaid (2013), to suit business schools. According to Garvin et al. (2008), a concrete conception of organizational learning must include change, such that an organization can be said to learn only when its actions have been modified

because of reflection on new knowledge or insight. Therefore, in measuring learning in organizations, it is important to look at actions taken by an organization considering new knowledge and insights. Tools previously used to measure rate of learning left out the actual changes within the organization. This study makes an important theoretical contribution by estimating actions taken within organization, thereby calculating actual rate of organizational learning.

The second theoretical contribution is by determining the mediating effect of the rate of learning on the relationship between various variables and competitive advantage of state corporations. The study established that the rate of learning partially mediates the relationship between learning processes and the competitive advantage, systems thinking as well as competitive advantage. Garvin et al. (2008), noted that some key reasons for weak adoption of learning within organization included lack of concrete prescription to nurture a learning organization. By establishing the mediating effect or rate of learning, the study makes significant contribution to theory by explaining how learning processes and systems thinking effect to competitive advantage.

5.6 Proposed Areas for Further Study

The study proposes a deeper analysis into the role of leadership in increasing the rate of learning. The current study focused on actions of a leader in achieving competitive advantage. It is important to note that other studies have shown that different types of leadership tend to achieve different results. This means that it is possible to increase the effectiveness of leaders in reinforcing learning if they model the contextually 'right' type of leadership. However, little research has been done on this topic. Therefore, there is a need for future studies to examine the role of leadership styles in increasing a leader's effectiveness to reinforce learning in varying contexts. Additionally, more studies need to critically assess the various leadership styles within state corporations and assess their effectiveness in influencing rate of learning.

Furthermore, state corporations have witnessed unprecedented changes in top leadership through reshuffles, resignations and forced departures. It is essential to engage in further research on the influence of these changes on the effectiveness and style of leadership within these organizations. Considering the frequency of leadership changes, studies that adopt a longitudinal design within state corporations will be instrumental in detecting and concluding causal pathways in a more rigorous manner.

From qualitative results, most key informants suggested a link between resources, rate of learning and competitive advantage, which the current study did not intentionally assess. The study proposes further research to establish the role of resources in influencing the rate of learning and competitive advantage. Research into resource allocation, resource stewardship and quality of investment in learning is likely to bring out interesting perspectives as to whether and how resources can be invested to influence learning and competitiveness of state corporations.

Lastly, the study focused on whether learning was important for state corporations as well as on whether state corporations learn and the determinants of learning in state corporations. More research may be done to establish how state corporations learn with an understating that learning how to learn is key to increasing learning.

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APPENDICES

Appendix 1: Letter of Introduction 1

SUBJECT: REQUEST FOR INTERVIEW FOR DOCTORAL RESEARCH

Dear Sir or Madam:

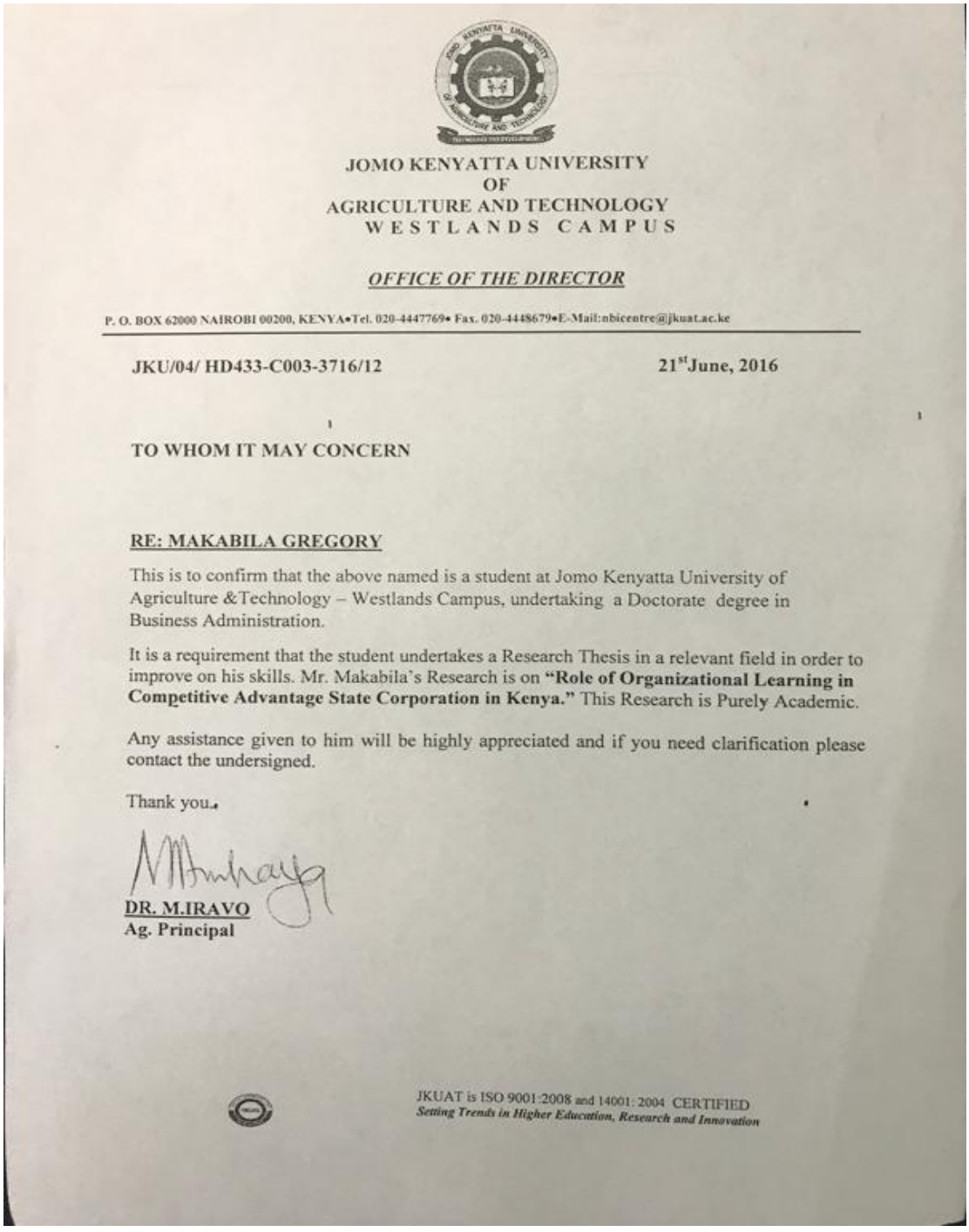
I am a doctoral candidate in the Doctorate in Business Administration at Jomo Kenyatta University of Agriculture and Technology. I am in the process of writing my doctoral thesis and am collecting data for that purpose. For my doctoral dissertation, I am very interested in examining the role of organizational learning on the competitive advantage of state corporations in Kenya. I will focus the study on learning processes, corporate culture and leadership practices and how they affect the rate of organizational learning and subsequently competitiveness of state corporations.

The purpose of this letter is to request for your assistance as an employee of a state corporation in Kenya by agreeing to be a participant in this study. Please ask any questions that you have about participating in this project at any time. Any information you provide for this study will confidential and only used for the fulfillment of the requirements for the doctorate. If you wish, I will bring you a copy of the findings so that you can use it for your decision-making at your organization.

Yours faithfully,

Gregory Makabila

Appendix 2: Letter of Introduction 2



JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY
WESTLANDS CAMPUS

OFFICE OF THE DIRECTOR

P. O. BOX 62000 NAIROBI 00200, KENYA•Tel. 020-4447769• Fax. 020-4448679•E-Mail:nbicentre@jkuat.ac.ke

JKU/04/ HD433-C003-3716/12 21st June, 2016

TO WHOM IT MAY CONCERN

RE: MAKABILA GREGORY

This is to confirm that the above named is a student at Jomo Kenyatta University of Agriculture &Technology – Westlands Campus, undertaking a Doctorate degree in Business Administration.

It is a requirement that the student undertakes a Research Thesis in a relevant field in order to improve on his skills. Mr. Makabila's Research is on **"Role of Organizational Learning in Competitive Advantage State Corporation in Kenya."** This Research is Purely Academic.

Any assistance given to him will be highly appreciated and if you need clarification please contact the undersigned.

Thank you.

DR. M.IRAVO
Ag. Principal

JKUAT is ISO 9001:2008 and 14001: 2004 CERTIFIED
Setting Trends in Higher Education, Research and Innovation

Appendix 3: NACOSTI Research Permit

THIS IS TO CERTIFY THAT:
MR. GREGORY PETI MAKABILA
of JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, 55452-200 Nairobi,has been permitted to conduct research in *Nairobi County*

on the topic: *ROLE OF ORGANIZATIONAL LEARNING IN ACHIEVING COMPETITIVE ADVANTAGE OF STATE CORPORATIONS IN KENYA*

for the period ending:
23rd June,2017

Permit No : NACOSTI/P/16/12502/12167
Date Of Issue : 23rd June,2016
Fee Recieved :ksh 2000

.....
Applicant's Signature

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

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 9749

CONDITIONS: see back page

Appendix 4: Research Questionnaire

Part A: State Corporation's Background Information

A1. What is the name of the state corporation?

_____

A2. Which of the following sectors does state corporation belong? (Tick only one option)

[ ] Finance
[ ] Regulatory
[ ] Tertiary Education & Training
[ ] Regional Development
[ ] Service Corporations
[ ] Training and Research
[ ] Public Universities
[ ] Commercial & Manufacturing
[ ] Other (specify)
_____

Part B: Respondent's Background Information

B1. Name of respondent (Optional) _____

B2. Gender of respondent Male [ ] Female [ ]

B3. What is your role in this organization (tick as only one applicable option)?

[ ] Senior Manager
[ ] Middle-level Manager
[ ] Non-Management staff
[ ] Other (Specify) _____

B4. Which department or unit do you mainly work under (tick as only one applicable option)?

[ ] Production/Services
[ ] Purchasing
[ ] Human Resource Management
[ ] Other (Specify) _____
[ ] Research and Development (R&D)
[ ] Marketing (including the selling function)
[ ] Accounting and Finance.

B5. Which age bracket do you fall in (tick only one appropriate age bracket)?

[ ] 18 - 25 [ ] 46 - 55

[ ] 26 - 35 [ ] 56 - 65

[ ] 36 - 45 [ ] 66 and above

B6. How long in years have you worked with this organization? _____

B7. What is the highest level of education that you have attained?

Primary [ ] Post-secondary Certificate [ ]

Secondary School [ ] Post-secondary Diploma [ ]

Master Degree or higher [ ] PHD or higher [ ]

Other (specify) _____

Part C: Learning Culture

To what extent do you agree with the following statements about learning culture within your organization? (SD = Strongly Disagree, D = Disagree, N = Neutral, A= Agree, SA = Strongly Agree)

Statement	**SD**	**D**	**A**	**SA**	**N**
C1. In mydepartment, people openly discuss mistakes to learn from them	SD	D	A	SA	N
C2. In mydepartment, people give open and honest feedback to each other.	SD	D	A	SA	N
C3. In mydepartment, people are rewarded for exploring new ways of working	SD	D	A	SA	N
C4. Mydepartment enables people to get needed information at any time quickly and easily	SD	D	A	SA	N
C5. Mydepartment recognizes people for taking initiative.	SD	D	A	SA	N
C6. In mydepartment, leaders support requests for learning opportunities and training.	SD	D	A	SA	N

C7. What main suggestion do you have for improving the learning culture of your department?

_____

_____

Part D: Leadership

To what extent do you agree with the following statements about your organization's leadership? (SD = Strongly Disagree, D = Disagree, N = Neutral, A= Agree, SA = Strongly Agree, N/A = Not applicable.)

Statement	**SD**	**D**	**A**	**SA**	**N**
D1. My managers ask probing questions.	SD	D	A	SA	N
D2. My managers listen attentively.	SD	D	A	SA	N
D3. My managers continuously articulate and promotes a shared vision	SD	D	A	SA	N
D4. My managers encourage multiple points of view.	SD	D	A	SA	N
D5. Managers promote learning from experience and tolerates mistakes up to a certain point.	SD	D	A	SA	N
D6. My managers have been creating an environment for responsible employee behavior and teamwork	SD	D	A	SA	N
D7. My managers criticize views different from their point of view.	SD	D	A	SA	N
D8. Managers promote learning from experience, tolerating mistakes up to a certain point.	SD	D	A	SA	N
D9. My managers acknowledge their limitations on knowledge, information, or expertise	SD	D	A	SA	N

D10. What main suggestion do you have to nurture leadership that promotes learning in your unit?

_____

_____

Part E: Learning Processes

To what extent do you agree with the following statements about learning processes within your organization? (SD = Strongly Disagree, D = Disagree, N = Neutral, A= Agree, SA = Strongly Agree)

Statement	**SD**	**D**	**A**	**SA**	**N**
E1. Mydepartment systematically collects information on technological trends	SD	D	A	SA	N
E2. Mydepartment encourages its employees to join formal or informal networks made up of people from outside the organization*	SD	D	A	SA	N
E3. Mydepartment has forums for meeting with and learning from experts from outside the organization	SD	D	A	SA	N
E4. Mydepartment regularly conducts post-audits and after-action reviews.*	SD	D	A	SA	N
E5. Mydepartment has formal mechanisms to guarantee sharing of best practices among the different activity fields*	SD	D	A	SA	N
E6. Mydepartment engages in productive conflict and debate during discussions	SD	D	A	SA	N
E7. Mydepartment seeks out dissenting views during discussions.	SD	D	A	SA	N
E8. Mydepartment revisits well-established perspectives during discussions	SD	D	A	SA	N
E9. Mydepartment frequently identifies and discusses underlying assumptions that might affect key decisions.	SD	D	A	SA	N
E10. Mydepartment pays attention to different views during discussions	SD	D	A	SA	N
E11. Experienced employees in mydepartment receive periodic training and training updates*	SD	D	A	SA	N
E12. Experienced employees in mydepartment receive training when switching to a new position*	SD	D	A	SA	N
E13. In mydepartment, training is valued.	SD	D	A	SA	N
E14. In mydepartment, time is made available for education and training and mentorship activities.	SD	D	A	SA	N

E15. What key suggestion do you think should be implemented in your department to improve learning processes in your department's?

Part F: Systems Thinking

To what extent do you agree with the following statements about systems orientation within your organization?

(SD = Strongly Disagree, D = Disagree, N = Neutral, A= Agree, SA = Strongly Agree)

Statement	**SD**	**D**	**A**	**SA**	**N**
F1. My organization encourages people to think from a community/stakeholders perspective	SD	D	A	SA	N
F2. My organization works together with the outside community/stakeholders to meet mutual needs	SD	D	A	SA	N
F3. In my organization, leaders ensure that the organization's actions are consistent with its values	SD	D	A	SA	N
F4. My organization considers the impact of decisions on employee morale	SD	D	A	SA	N
F5. My organization encourages people to get answers from across the organization (other departments and staff) when solving.	SD	D	A	SA	N

F6. What key suggestions would you consider as necessary in ensure better internal and external alignment within your organization?

_____

Part G: Rate of Learning

GA. In the past one year, how many suggestions or other kinds of information to make changes or take other action so that you are able to offer better goods and services *(tick only in one box per statement).*

Suggestion statement	**Number of suggestions**			
GA1. Suggestions to use alternative methods or strategies to offer same products or services in better ways.	0-1	2-3	4-5	6 or more

Suggestion statement	Number of suggestions			
GA2. Suggestions or other information to start offering different, more creative and innovative products or services.	0-1	2-3	4-5	6 or more
GA3. Suggestions or information to modify our policies or procedures so that we can offer better products or services.	0-1	2-3	4-5	6 or more
GA4. Suggestions to reach a different client or customer base.	0-1	2-3	4-5	6 or more

GA5. What other key suggestions or other information did you receive either individually or in your unit that required you or your unit to make decisions or take any action to improve the quality of goods and service delivery?

_____

GB. In the past one year, how often did you or your department use suggestions or other information to make the following decisions/ actions? (**N**ever = 0 -1 times; **R**arely = 2-3 times; **S**ometimes = 4-5 times; **V**ery **O**ften = 6 or more)

Decision Statements	N(0/1)	R(2/3)	S(4/5)	VO(6+)
GB1. In my department, we used suggestions or information to use alternative methods/strategies to offer same products or services in better ways.	N	R	S	VO
GB2. In my department, we used suggestions or information to start offering different, more creative and innovative products or services.	N	R	S	VO
GB3. In my department, we used suggestions or information to modify our policies or procedures to help us offer better products or services.	N	R	S	VO
GB4. In my department, we used suggestions or information to make decision or take action to reach a different client or customer base.	N	R	S	VO

G5. What other main suggestion did you or your unit take action or make decisions aimed at improving quality of goods and service delivery over the past one year?

_____

Part H: Competitive Advantage

To what extent do you agree with the following statements regarding the comprtititve position of your organization in comparison to your main competitors? (SD = Strongly Disagree, D = Disagree, N = Neutral, A= Agree, SA = Strongly Agree)

Statement	**SD**	**D**	**A**	**SA**	**N**
H1. The organization has achieved profitability higher than that of key competitors.	SD	D	A	SA	N
H2. The organization has obtained sales growth in its main products/services higher than that of key competitors.	SD	D	A	SA	N
H3. The organization has obtained greater market share for priority products than its key competitors.	SD	D	A	SA	N
H4. The organization has achieved greater customer satisfaction than its key competitors	SD	D	A	SA	N
H5. The organization offers greater value to customers than its competitors	SD	D	A	SA	N
H6. The organization has retained its customers more than competitors	SD	D	A	SA	N

H7. Please provide any comments or suggestions for improving competitive advantage of your organization?

_____

THANK YOU FOR TAKING TIME TO ANSWER THE QUESTIONS ABOVE

Appendix 5: Interview Guide

Part A: Background Information

A1. Name of respondent (Optional) _____

A2. Gender of respondent Male [ ] Female [ ]

A3. What is your role in this organization (tick as only one applicable option)?

[ ] Senior Manager [ ] Middle-level Manager

[ ] Non-Management staff [ ] Other (Specify) _____

A4. What is the name of the state corporation? _____

A5. Which of the following sectors does state corporation belong?

Part B: Learning culture

B1. What are the key actions that your unit takes to encourage the practice open communication among employees? (If none exist probe for why they do not exist)

B2. Which actions are more effective and why? Which ones are less effective and why?

B3. What actions does your unit take to empower individual employees and teams? (If none exist probe for why they do not exist)

B4. Which actions are more effective and why? Which ones are less effective and why?

Part C: Leadership

C1. What actions has your unit taken to ensure individuals have shared vision of success?

C2. Which actions are more effective and why? Which ones are less effective and why?

C3. What actions has your unit taken to help individuals and teams view their work results are partly determined by the efforts of other employees in the team?

C4. Which actions are more successful and why? Which ones are less successful and why?

C5. What strategies your unit implemented to ensure that individuals and teams have time set aside for learning?

C6. Which strategies are more effective and why? Which ones are less effective and why?

Part D: Learning processes

D1. What are some of the processes (formal and informal) that your unit implements to systematically gather information from within and outside the organizations?

D2. Which processes are more effective and why? Which processes are less effective and why?

D3. Once information is gathered, what are some of the processes or events in your unit for ensuring the information is distributed to other individuals within your unit?

D4. Which processes are more effective and why? Which processes are less effective and why?

D5. What processes or events does your unit implement to ensure employees reflect on new knowledge and insights to draw conclusions and take action?

D6. Which of these processes do you consider as more effective and why? Which ones do you consider as least effective and why?

Part E: Taking action from new knowledge and insights

E1. What processes or events does your unit implement to ensure employees make necessary changes or decisions to reflect new knowledge and insights?

E2. Which of these processes or events are most effective and why? Which ones are less effective and why?

E3. Overall, what actions do you think your unit needs to take to improve processes facilitate learning among individuals and teams?

E4. Do you have any comments or suggestion regarding any of the topics discussed above?

THANK YOU FOR TAKING YOUR TIME TO ANSWER THIS QUESTIONNAIRE

Appendix 6: List of State Corporations That Took Part in the Study

Finance

1. Consolidated Bank
2. Industrial Development Bank
3. Kenya National Assurance Co.
4. Kenya Post Office Savings Bank
5. Kenya Re-Insurance Corporation
6. National Hospital Insurance Fund
7. National Social Security Fund

Tertiary Education & Training

8. Cooperative College of Kenya
9. Kenya College of Communications Technology
10. Kenya Medical Training College
11. Kenya Utalii College

Public Universities

12. Egerton University
13. Jomo Kenyatta University of Agriculture and Technology
14. Kenyatta University
15. Maseno University
16. University of Nairobi

Commercial & Manufacturing

17. Chemelil Sugar Company
18. East African Portland Cement Company
19. Jomo Kenyatta Foundation
20. Kenya Airports Authority
21. Kenya Electricity Generating Company
22. Kenya Literature Bureau
23. Kenya Ports Authority
24. Kenya Power and Lighting Company
25. Kenya Railways Corporation
26. Kenya Seed Company Limited
27. Kenya Wine Agencies
28. Kenyatta International Conference Center
29. National Cereals and Produce Board
30. National Housing Corporation
31. Nzoia Sugar Company
32. Postal Corporation of Kenya
33. School Equipment Production Unit
34. South Nyanza Sugar Company
35. Telkom Kenya Limited

Appendix 7: Summary of Reliability Estimates and Item-Total Correlations

Competitive Advantage	Cronbach's Alpha	Item- Correlations
Competitive Advantage (CompAd)	.876	
CompAd1		.580**
CompAd2		.694**
CompAd3		.688**
CompAd4		.713**
CompAd5		.702**
CompAd6		.727**
Learning Culture (LearnC)	.804	
LearnC1		.630**
LearnC2		.606**
LearnC3		.531**
LearnC4		.597**
LearnC5		.573**
LearnC6		.429**
Leadership (Lead)	.811	
Lead2		.696**
Lead3		.620**
Lead4		.450**
Lead5		.558**
Lead6		.550**
Lead7		.551**
Learning Processes (LearnP)	.848	
LearnP1		.606**
LearnP2		.559**
LearnP3		.639**
LearnP4		.593**
LearnP5		.505**
LearnP6		.564**
LearnP7		.477**
LearnP9		.411**
LearnP11		.416**
LearnP12		.529**
LearnP14		.558**
Systems Thinking (SyThink)	.846	
SyThink1		.551**
SyThink2		.686**
SyThink3		.712**
SyThink4		.670**
SyThink5		.650**

*Note, ** item-total correlation is significant at the p<0.05 level (2-tailed).*