

**INFLUENCE OF STRATEGY AND TECHNOLOGY ON PERFORMANCE OF
DEPOSIT TAKING SAVINGS AND CREDIT SOCIETIES IN KENYA**

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DECLARATION

This research project report is my original work and has not been presented for a degree or any award in any other University.

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This research projectreport has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This work is dedicated to my mother Mrs. Margaret Mbaabu and my late father Prof. Dan Andrew Mbaabu who have always inspired me to pursue greater heights in education since my early childhood years and the continuous encouragement. I am forever thankful to my entire family, my husband, brothers and sisters ; for the love and support that they have shown menot forgetting my nanny Beatrice Wambui for watching over my son , Andy while I concentrated on this project. Andy, you are my pride and joy, the twinkle in my eye and the reason I work so hard. I love you son.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBK	-	Central Bank of Kenya
DTS	-	Deposit Taking SACCOs
FOSAs	-	Front office Service Activities
FSD	-	Financial Services Deepening
IT	-	Information Technology
OECD	-	Organizations for Economic Co-operation Development
PM	-	Performance Management
RBV	-	Resource Based View Theory
R&D	-	Research and Development
ROA	-	Return on Assets
ROSE	-	Return on Shareholders' Equity
SACCOs	-	Savings and Credit Co-operative Societies
SASRA	-	SACCO Society Regulatory Authority
SPSS	-	Statistical Package for Social Science
WOCCU	-	World Council of Credit Unions

ABSTRACT

The business environment today is very dynamic and uncertain due to globalization, the ever changing customer needs, and the accelerating pace of technology among other market forces. Businesses are therefore compelled to keep changing and evaluating their strategies and acquire appropriate technologies to be able to survive and achieve superior performance. Nearly all Deposit Taking SACCOs (DTSS) in Kenya have adopted various strategies and technologies to drive up their performance. However, despite this, there are disparities in the financial performance of the DTSSs that can be observed. This scenario raises questions on whether the strategies and Technologies adopted by the DTSSs are actually enhancing their superior performance within the sector. The objective of this study was to establish to determine the role of Strategy and Technology in the DTSSs and to establish the relationship between Strategy, Technology and Performance of DTSSs in Kenya. The study adopted a descriptive cross-sectional survey research design. The study population comprised of 60 DTSSs in Kenya. A structured, self-administered questionnaire was utilized to collect primary data from 60 Branch Managers of study population of 60 DTSSs surveyed. The data collected from the study respondents was analyzed with the aid of Statistical Package for Social Scientists (SPSS) Version 20. Descriptive statistics was used to summarize the data and establish the distribution of the response variations on Strategy and Technology. The study established the DTSSs were good at creating and maintaining relationships with their members and continuously gathered and evaluated feedback to improve on their products and but were relatively low in relation to consistently introducing new products and services faster than main competitors. The study also established that the DTSSs continuously and in a timely manner responded to changes in technology in the business environment by adopting contemporary technology at the highest level but on the lower end, the DTSSs leveraged on technology with an expectation to increase market share and ultimately improve financial performance. Further, the study established that strategy and DTSSs performance were significantly and positively correlated and that technology is a positive correlate of DTSSs performance. Overall, strategy and technology positively affect DTSSs performance. The study concludes that market penetration, market development, product development and diversification strategies adopted by DTSSs in Kenya as well as technology deployment are positive correlates of DTSS performance. The study recommends that the management of DTSSs should focus on growth strategies that have the greatest potential to positively influence their key performance indicators through an integrated approach. The managers of DTSSs should also recognize that the relevance of technology in driving their organization's performance and strive to identify the salient features of technology that have the biggest influence on the key performance indicators and strategically invest in these aspects to obtain maximum performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The relationship between Strategy, Technology and Performance has attracted a lot of discussions as well as renewed attention from different scholars over the years. Debates on the effect of strategy and technology on Performance in the DTS sector need to be further analyzed. It is not clear whether this performance is as a result of changes in strategies or technological leveraging. Despite increased interests of the importance/relationship of Strategy/ Technology fit that contribute to superior performance, there is lack of well documented empirical literature (Adler, 1989; Capon & Glazer, 1987) hence the study. A successful strategy must align to the organizations external and internal capabilities, form a sustainable competitive advantage and advance the organization's performance, (Thompson *et al.*, 2007). Organizations are therefore compelled to find means of evaluating their strategies and technology on various dimensions of their performance.

This study is anchored on Resource Based Theory, Product –Market Grid Management Theory and Model and Cost Reduction Theory. Resource Based Theory (Penrose, 1959), stipulates the importance of resources and its implication on firm's performance (Simpeh, 2011). In addition, Product –Market Grid Management Theory and Model developed by (Ansoff, 1957) shows different corporate growth strategies that concentrated on the organizations current and impending products and customers/markets. The Theory of Cost reduction (Miller and Merton, 1986) argues that some innovations are aimed at reducing or avoiding cost. These theories are appropriate for this study because they have been clearly instrumental in the development of strategy as they provides firms with sources of competitive advantage (Barney, 1991; Srivastava *et al.*, 1998) and argue that a that a combination of the right strategy and technology both influences superior performance of the firms (Makadok, 2001; Morgan *et al.*, 2009).

With the introduction of Front Office Service Activities (FOSAs) in 2003 (SASRA, Press release, 2011), a number of SACCOs have been able to offer retail banking services to its members. The SACCOs that operate FOSAs are referred to as Deposit-

Taking SACCOs (DTSs), (The SACCO Societies Act, 2008). Due to the global competition in the financial sector, there is growing recognition of the important role that Strategy and Technology play in determining market success and superior performance (Council on Competitiveness, 1991). DTSs are then compelled to find means of evaluating their strategies and technology on various dimensions of their performance in a very dynamic and fast changing environment or risk deteriorating performance (Wetzel and Johnson, 2011).

1.1.1 Strategy and Technology

Scholars in the field of Strategic Management have divergent views in formulating a specific definition for Strategy. According to (Porter, 2010) strategy pertains to what a firm is doing to advance a sustainable competitive advantage. The author contends that the key concern of an organizations strategy is distinguishing the business areas in which a firm should participate in to maximize its long run profitability. In contrast, (Johnson and Scholes, 1999) assert that strategy is the direction and scope of an organization over a span of time. This yields benefit for the organization through its alignment of resources within a dynamic environment, to achieve its market needs and stakeholder demands. Implementation is the most challenging phase of a strategy, yet most important. Communication within the firm must be clear, resources availed, any cultural barriers managed and buy in by all stakeholders charged with implementation is very vital. Strategy is about winning.

According to Prahalad and Hamel (1994) companies respond strategically to environmental factors to be bearable since increased competition, further reduces the profitability of the players. Thus, companies should be proactive and formulate strategies that facilitate response to unexpected changes in the environment. According to Thompson and Stickland (1993), scanning the environment assists managers to recognize impending changes that could have an important impact on industry conditions. This will assist the managers to craft suitable marketing strategies such as segmentation, pricing, delivery, distribution, products and promotion.

Ansoff & McDonnell (2009) asserts that the building blocks of organizational capability as skills, technology, facilities, equipment, and shared knowledge and know how. Core

competences affirm the ability of an organization to meet the critical success factors of a particular customer segment in enhanced ways that are difficult to imitate, Johnson and Scholes (2009). The successes of organizations occur when there is a match between not only its strategy and environment, but also between the strategy and internal capability as well, Howe (2009). Bowman (1998) noted that a business strategy critically address the succeeding questions. What market should we be trying to compete in? How should we try to compete in those sectors? What key competencies do we need to build to realize their competitive strategy? What do we look like now? And lastly how can we move forward? By an organization responding to these questions, they are clearly able decide the response strategy to adopt.

Technologies are viewed as systems that bring together activities and techniques which plays within a social context of a firm in which the technologies are received, ran and applied (Kaplan, 2003). Technologies as a resource alone does not equate to superior performance ultimately, rather it is the ability to obtain and position organizations resources in ways that match the dynamic environment that leads to continuous competitive advantage and superior performance (Makadok, 2001; Morgan *et al.*, 2009). Technology may also broadly refer to the employment of computers and peripheral equipment. There has been an increase in growth in the use of technology in the service industries in the recent past. The most noticeable illustration is perhaps the financial industry and now being embraced by the DTSSs. In common, existing studies have established two positive effects regarding the relation between Technology and Organizational performance that is; Technology reduces operational costs (Bryjolfsson and Hitt (2006). Technology is therefore central to SACCO survival and growth today.

Technological changes are a strategic response by firms in responding to environmental challenges. Ansoff & McDonnell (2009) contends that organizations that fail to respond to technological changes timely risk losing the market share of which it enjoyed gainful existence, or being adversely affected resulting to closure. (Dent & Powell, 2007) purport that technology alone cannot produce long term performance benefits and rewards; while some organizations have gained competitive advantages by using these technologies, it has been with combined human, Information and Knowledge Management organizational resources. Technology changes affect firms both positively

and negatively. Positive effects include quality service, responsiveness, speed, collaboration, better market scanning, and ease of communication and enhanced operational efficiency that may provide firms with a competitive advantage. In contrast, technology is very expensive and requires substantial investment that deters firms from acquiring or modernizing their technology. A successful strategy is aligned with the organizational goals and objectives, the resources such as technology, capabilities and the external environment which in return contributes to superior performance.

1.1.2 Firm Performance

Firm performance may be classified into the financial and non-financial dimensions. On the financial dimension, a firm may look at profitability, growth and market value. The non-financial/ Strategic performance dimension looks at customer satisfaction, Employees' satisfaction, Environmental and Social performance (Rowe and Marrow, 1999). Firm performance is a contextual concept associated with the phenomenon being studied. The performance of a business, over a defined period of time is looked at in terms of total profits and losses made during that time. Organizations evaluate their financial performance to critic the results of the business strategies they have employed and to quantify activities of their strategies into monetary value. In the context of firms' financial performance, it is amount of change of the financial position or Information and Knowledge management or the financial results that that arise from decisions made by the managers and the application of those decisions by managers in the firm (Hofer, 1983). It is a subjective measure of how well an organization can utilize its assets from its natural form to create returns (Shaw, 2006).

Financial performance can be measured using different approaches, however, all the methods should be applied in aggregation. Line items such as cash flows from operations, operating income, and growth in membership, Asset growth, and efficiency that is, cost to income ratios, capitalization, increase in deposits can be used as well as total unit sales. The analyst may wish to look deeper into financial statements and seek out margin growth rates or any declining debts. The use of Ratio Analysis for evaluating financial performance is also an important tool (Karr, 2006). In the recent past, technological upgrading has become a crucial determinant of performance. Thus,

this study is informed by the role of Strategy and Technology as tools for driving major businesses in this epoch.

1.1.3 Deposit Taking SACCOs in Kenya

According to (International Labor Organization (ILO) report, 2015) Co-operatives are a very significant sector of the world of work. It is estimated that there are 100 million co-operative employees worldwide; this is 14 million more than the total number of workers employed in multinational corporations. It is also estimated that more than 50 per cent of the global agricultural output is marketed through cooperatives. According to WOCCU report (2015) the credit union movement is momentous in 100 countries, where more than 51,000 unions have nearly 200 million members. They have US\$ 1,563 billion in assets and more than 1,000 billion in loans.

Some of the largest banks in the world, including Dutch Rabobank, Credit Agricole and Credit Mutuel in France, and DG Bank in Germany are cooperatives. The UK has now has over 5900 cooperative enterprises, compared to 4800 three years ago. They range from the Co-operative Group, with £15bn turnover in food retailing, travel, pharmacy, banking and funeral care, to small co-ops of freelancers, taxi drivers, pubs and football clubs. Largely, there has been gradual but stable growth in the number and membership of DTSS in Kenya. From a membership of 992,844 in 2006, membership has grown to the current 2,644,205 in 2015 and is expected to continue growing as more and more Kenyans join SACCOs. In the same vein, there has been growth in the number of DTSS in the country since 2006 (KUSCCO, 2015). The growth in membership can therefore be attributed to aggressive efforts by existing DTSS to recruit new members (Atsiaya & Ngacho, 2014).

Strategic and Technological change are crucial change management strategies today. In the world of increasing competition due to globalization and increasing complexity of business environment, more demanding customers, investors and employees, challenges have increased for the DTSS sector. Only those DTSS that can accurately anticipate change and react in a timely manner will survive. The conventional wisdom is that most managers diagnose the wrong problems at the right time or right problems at the wrong time. Hence, to restore profitability, timely Strategic change is crucial.

This does not call for a degree in rocket science but shrewd and committed leadership, structures and strategies (Keith et al, 2011). The implication of all this is that good management practices, favorable change in strategy, change in external environment, change in internal business processes, technology and structure all contribute to improved SACCO performance.

1.2 Research Problem

The body of knowledge on Strategy, Technology and Performance has indicated significant academic and management interest and is currently utilized in many instances. Where almost all recent work on the concept is in agreement of the importance of both Strategy and Technology to influence performance of a firm, there is little documentation (Adler. 1989, Capon and Glazer, 1987). Another key area that requires attention is the lack of empirical evidence on the effect of change in strategy and technological upgrading on the financial bottom line in the DTS sector in Kenya. The current competitive environment is dynamic and uncontrollable in nature and therefore organizations are required to frequently adopt and change (George & Jones, 2008).

According to WOCCU (2015) SACCOs today are experiencing a reduction in their member numbers since established banking institutions are taking the challenge by investing in faster and more efficient systems that can satisfy their customers' needs. This is an area SACCOs cannot afford to ignore unless at the peril of being edged out of business. Ademba (2010), posits that SACCOs in Kenya encounter challenges such as; poor leadership and governance, lack of members' trust and confidence, among others. Thabo, et al., (2013) noted that SACCO societies encounter challenges in growing wealth due to poor financial management practices, under-capitalization, expensive credit or debt, and delayed member deposits or inflows. Munyiri (2006) asserts that such encounters would hinder the accomplishment of the SACCO's objectives and even lead to a drop in advancement of the SACCO's wealth. Compounded by the absence of specific strategic change model and metrics the SACCO sector still grapples with competition from banks, MFIs, Mobile telephony among others hence the gap.

Much of the research undertaken in Kenya has paid attention on competitive advantage, technology and legal frameworks of SACCOs in Kenya. However, very little has been done with regard to the effect of strategy and technology on DTSS in Kenya. Prior research on strategy and technology have been undertaken for instance; (Okiro & Ndungu, 2013) noted that SACCOs are embracing technologies to increase transactions, reduce cost of doing business and to increase more flexibility and overall, improve the performance. (Wanjiru Florence, 2012) observed the DTSS are adopting the mobile platform to enhance service delivery to its members and mobilizing more members hence increasing the deposits. Most of the studies concentrated on either technology or strategy individually in the context of manufacturing firms and in the banking industry. This study sought to evaluate both Strategy and Technology and answer the question: What is the effect of strategy and technology on the performance of the DTSS in Kenya?

1.3 Research Objectives

This study used the following objectives:

1. To determine the role of Strategy and Technology in the DTSS in Kenya.
2. To establish the relationship between Strategy, Technology and Performance of DTSS in Kenya.

1.4 Value of the Study

This study makes contribution in key areas such as: theory, academic, practice and policy. Theoretically, the link between Strategies, Technology theories on Performance have not been exploited fully in a developing country's context such as Kenya. Research studies show that change in strategy and technology improve efficiency and cut cost of operations and in the end improve financial profitability in the short term. The studies also depict that change in strategy and technology frees up resources that can be redeployed elsewhere, gain the support of stakeholders and raises external resources, (Yasi-Ardekani, 1997)

This study makes a contribution to the academic literature on different strategies adopted by a firm by showing a link between Strategy and Performance with Technology as a moderating variable. This is useful to scholars in bridging the gap in knowledge and identifying areas for further research and adding to the pool of knowledge. This study provides to Scholars information on strategic responses by the DTSS sector thereby expanding their knowledge on strategy-technology responses and identification of areas for further study.

The practitioners will also obtain knowledge of the cooperative movement's dynamics and the responses that are appropriate. DTSS Managers notes different incomes/ revenue streams alternative source of funds that will enable them to provide members with financial services at reasonable fees tailored to specific needs of their members. This in turn leads to sustainable growth of the DTSS. Policy makers would be able to formulate policies on the accessibility of financial services, which support adoption of financial innovations that seek to take financial services closer to the members, by innovating less expensive products and services leveraging technology. To other stakeholders, this study is invaluable in providing insights to appreciate the need to embrace strategy-technology nexus for effective DTSS performance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on the theoretical foundation of the study, empirical review on strategy, technology and performance and finally a summary of the literature review.

2.2 Theoretical Foundation of the Study

Different scholars have designed several theories to explain the influence of strategy and technology on performance. These include; Resource Based Theory, Product-Market Grid Management Theory and Model and Theory of Cost Reduction.

2.2.1 Resource Based Theory

Organizations resources were classified into three categories by early researchers: human, monetary and physical (Ansoff, 1965). These were further classified into organizational resources (skills and knowledge) and technology (technical know-how) (Hofer & Schendel, 1978). Resource Based theory of firm performance argues that, superior performance can only be ascribed to the inimitable resources and capabilities that are present within the organization. The theory continues to argue that an important focus of opportunity based on entrepreneurship and new venture growth, is the access of resources by the originators (Alvarez & Busenitz, 2001). Emphasis is put on all the resources that the organization holds (Aldrich, 1999) and proposes that the access to resources enhances the individual's ability to identify and act upon revealed opportunities (Davidson & Honing, 2003).

The inputs of the production process are the resources that are held by the organization which form the building blocks to an organizations' operations and performance (Hisrich, Peters & Shepherd, 2008). The authors continue to propose that the organization can deploy the use or resources in a way that it seems fit and may combine

the resources to enhance efficiency and achieve superior performance and growth. Capital, physical assets, technology and a skilled workforce are tangible and intangible resources that can be collectively applied by an organization to achieve competitive advantage. (Penrose, 1959) proposed that industry structure is secondary to the resources owned and used by the organization. (Simeh, 2011) noted the significance of resources and its impact on firm performance.

This theory purports that a when a firm’s manages its resources in a way that the end product or service cannot be replicated by competitors and is rare, then this creates competitive advantage hence superior performance (Ferreira, Azevedo & Fernandez, 2011). The theory elucidates that a firm’s competitive advantage is reached by virtue of its unique resources being rare, valuable, inimitable, non-tradable and non-substitutable as well as firm specific. The author proposes that a firm may achieve a sustainable competitive advantage through distinctive resources which it holds, and these resources cannot be easily bought, replicated, or transferred and concurrently, they add importance to the firm while being rare and unique. Firms differ in performance due to heterogeneity of assets as elaborated by this theory. Ultimately, firms that are able to leverage resources such as technology, people, finances to implement a value-creating strategy not which are not replicated by any existing or prospective competitor (Barney, 1991) can achieve competitive advantage which leads to superior financial performance.

2.2.1 Product –Market Grid Management Theory and Model

(Igor Ansoff, 1957) presented four strategic options that could be applied to any industry to help the organization or business determine their product and market growth strategies.

Table 2.1: Ansoff’s Matrix

	Existing Products	New Products
Existing Markets	Market Penetration	Product Development
New Markets	Market Development	Diversification

The Product-Matrix suggests that an organization endeavors to grow depending on whether it markets existing or new products in existing or new markets. In Market penetration, the organization seeks to achieve growth with existing products in its current market sector aiming to increase its market share. This strategy is considered least risky according to (Ansoff, 1957) as it leverages on many of the organization's existing capabilities and resources. He continues to argue that in a growing market, simply maintaining the market share will lead to growth. However, market penetration has its disadvantages in that, when the market approaches saturation, another strategy must be pursued if the organization is to continue to grow. In contrast, Market development proposes that firms seek progress by pursuing its existing products to new market sectors. It is perceived a good strategy if the organization's core competencies are associated more to the particular product than to its experience with particular market sectors.

Product development on the other hand requires the organization to develop new products targeted to its existing market segments. This is considered an ideal strategy if the organization's strengths are associated to specific customers rather than to specific products. Diversification allows the organization to venture into new business dealings by creating new products for new markets. This is considered the most risky of the four strategies as it combines both product and market developments and may be outside the core competencies of the firm. (Ansoff, 1957) illustrates that the diversification quadrant is a suicidal cell, however it may be argued that without high risk there wouldn't be a chance of a high rate of return. The advantages of diversification include a reduction of the overall business risk portfolio and the prospects of a much higher return.

Ultimately, firms that are able to leverage of the right growth strategy and resources such as technology, people and finances to implement a value creating strategy yield greater financial performance (Barney, 1991). Firms in the service industry therefore need to scan their environment where they seek to operate, use market segmentations and offer good customer service to attract and retain customers. While applying its

different resources, a firm needs to find new ways to increase profits and reach new customers by adopting the right strategy and applying the right technology to drive business growth.

2.2.2 Theory of Cost Reduction

Miller and Merton (1986) Cost reduction is however, an engaging exercise geared to reduce and manage cost to be at the minimum from whatever level they are. In cost reduction, anything goes and nothing is anticipated as ordinary, nor is anything acknowledged as ideal. All the elements are subject to thorough inspection, all procedures and process are analyzed to identify the ways and means of reducing costs. Further, cost reduction is not a one-time exercise but rather a continuous process. It is an attitude of mind, a habit, a philosophy. The approach for reduced cost must originate from the conviction of the need for it. Juhakam (2003) describe the theory of cost reduction as a driver for financial innovation. Some of the examples of reduction include;reducing wastages, refining processes of payment and service delivery, adopting technology or innovation to reduce on manpower and increase efficiency in financial services electronically to customers however, regulatory restriction and requirements are also a cost and some innovations are aimed at avoiding or reducing cost.

Technology changes affect firms both positively and negatively. Positive effects include: improved quality of service, responsiveness, speed, collaboration, better scanning, ease of communication and enhanced operational efficiency that may provide firms with competitive advantage and improved overall financial performance. Thus, competitive advantage is thus gained when firms can perform their operations and activities more cheaply or better than its competitors, (Porter, 2010). In contrast, technology is very expensive and requires substantial investment that deters firms from acquiring or modernizing their technology.

2.3 Empirical Review.

In the recent past, several studies have been conducted both locally and globally to establish the effect of Strategy and Technology on firm performance. A study conducted by Gupter (2008) on Woolworth's growth strategies, the company

concentrated on its customers' needs and improved its market share making it the leading food retailer of Australia. The company changed from being a company that was system driven to a company that others try to compete with. The company used innovation and customer satisfaction to become number one food retailer by early 1990s in Sydney Australia. The Company survived a scene when its unprofitable ventures almost led to bankruptcy. However its innovative initiatives that emphasized better shopping experience and reduction of prices to attract customers helped the company to tide over the crises and became a fortune.

According to Robert (2006) in the study of the Indian Biotech Pharmaceutical Company, the company applied organic growth through innovation on Information Technology model. These two strategies enabled the company scope great heights. The firm transformed from a small entity into the largest biopharma company in India. According to Conklin (2008) in a study of Richard Ivey School of Business Study of Bionade Soda Company, the company engrossed on marketing strategies of the highly innovative biological drink in Germany. The distributors declined to stock the Bionate Soda, as it was unknown product. Some media and advertising professionals, who frequented a small bar in Munich Germany, were delighted by the product and added the drink to his menu. With the help of low budget marketing techniques and below the line promotions Bionade Soda made a place for itself in the market. The sales of Bionade skyrocketed by 2007 and within a short span of time, its owners turned into millionaires. Following this unbelievable success in the German market, the makers of Bionade Soda hoped for international expansion. The scenarios above imply that there is no one best strategy to success but strategic choice depends on business scenario.

In Kenya, past studies have thus concentrated on cash flow challenges (Mbangi, 2005), Financial stewardship (Goto, 2004) member attitudes (Omweri, 1998) in the co-operative sector. (Manyara, 2003) observes that technology is made up of discoveries in science, product development and improvements in machinery, process, automation, and information technology. It also includes a combination of knowledge, information and ideas. Manyara also observes that the rate of technology adoption and its overall application in co-operatives in the region is generally low and that the main reasons for this include conservatism, costs and ignorance. The results and the situations also vary

in highly automated financial cooperatives and the completely non-automated agricultural primary co-operatives. The application of technology proved capable for improving the performance through improvements in planning and managing the business. It is also intended to have an ease of transaction activity, so that it can lower the operating costs (Siu, 2001).

The use of technology on the co-operative system is also expected to improve customer satisfaction and accuracy in decision making. However, it cannot be guaranteed that technology will be adopted or accepted by the employees of Credit Unions (CUs). The CUs' officials will adopt and use technology which is possibly determined by two factors, namely whether the technology is easy to use (ease of use) and whether the technology is useful (usefulness) for the performance of the organization (Maurer, 2004; Kusuma, 2008). The conceptualization of technology strategy is based on the following dimensions, namely type of technology; level of competence; timing of technology introductions; level of investment; organization and policies, and source of technology. Type of technology or technology selection is associated to the distinctiveness and the value of technologies that the firm specializes in. Level of competence refers to how specialized the firm is in its technologies. Timing of technology introduction equates to introducing a technology ahead of competitors. Level of investment is related to financial resource allocations whereas organization and policies are associated with implementation of strategy (Spital and Bickford, 2002). Source of technology on the other hand refers to mode of technology acquisition, whether it is internal R and D, external R and D or others. These are methods or ways to pursuing technology strategies (Spital and Bickford, 2002).

2.4 Summary of Literature Review

After an in depth review of literature from studies done locally and internationally; it is evident that most of these studies focused on the effect strategy and technology on the general performance of organizations. The findings of these studies showed that the adoption of both strategy and technology affected both the financial and non-financial performance measures in both positive and negative ways. Okiro and Ndung'u (2013), in their study conducted in Kenya, established a positive impact when SACCOs

embraced technologies that led to an increased speed in transacting, giving clients more flexibility and reducing the cost of doing the business. Technology led to transactions being easily auditable thus minimizing cases of fraud and improving efficiency through automation. Wanjiru Florence (2012), noted the negative effect of adopting technology due to the cost associated with it and also the resistant to change when it comes to implementing the new strategies in organizations.

Generally the literature shows that prior studies have reported varied results with respect to various dimensions of these strategies and organizational performance outcomes. The different scenarios as discussed in the Literature Review imply that there is no one best strategy to success but strategic choice depends on business scenarios. Firms must be proactive and formulate strategies that facilitate response to unexpected changes in the environment (Thomas and Stickland, 1993). (Ansoff and McDonnel, 2009) asserts that the building blocks of organizational capability as skills, technology, facilities, equipment and shared knowledge and know how. The successes of organizations occur when there is a match between not only its strategy and environment, but also between the strategy and internal capability as well, (Howe,2009). A successful strategy is aligned with the organizational goals and objectives, the resources and capabilities and the external environment. However, whilst most of the researches have shown that strategy and technology independently and significantly affect organizational performance, none of the studies have investigated the nexus between strategy, technology and performance jointly. This is the empirical gap that this study seeks to address and close.

CHAPTER THREE:RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design, study population, data collection procedures and a summary of data analysis procedures that was used to conduct the research.

3.2 Research Design

This study adopted a descriptive cross-sectional survey. According to (Polit and Beck, 2003) in a descriptive study, researchers observe, count, delineate, and classify. It helps answer questions of who, what, when and how. It is considered suitable for gathering information and generating appropriate conclusions with respect to the research questions (Mugenda & Mugenda, 2009). The descriptive cross-sectional survey design is most appropriate as the as the survey would be collecting data from DTSS across different regions and did not specialize in a specific regions or sections. The method was chosen since it is more precise and accurate since it involves description of events in a carefully planned way (Babbie, 2004).

3.3 Population of Study

The population of this study was therefore all the licensed DTSS in Kenya. According to the most recent SASRA Report (2016), there are 164 licensed DTSS in Kenya. SASRA is the regulator of all licensed DTSS in Kenya hence making it a most credible source of this data.

3.4 Sampling Technique and Sample Size

For the purpose of this study, the research picked out a random sample of 60 DTSS (Nassiuma, 2000) for data collection. Random sampling technique was applied because it involves the random selection of data from the entire population so that each possible sample is equally likely to occur. In contrast, stratified random sampling divides the population into smaller groups, or strata, based on shared characteristics. The tool used for sampling equally supports the use of Random Sampling. The researcher used random number generator table to select the sample of the DTSS.

3.5 Data collection

The study used primary data. This primary data was collected using questionnaires. This was triangulated using interview schedule on selected but accessible DTSs. The respondents included Branch Managers of each DTSs. The rationale for picking the Branch Managers in each branch is because they have a direct bearing of the study and are the ones who do the cascading of the main strategies at branch level and are therefore involved with the structuring and implementation of strategy at branch level. The questionnaire were designed and separated into three sections. The first section (A) of the questionnaire addressed the profile of the SACCO while section (B) addressed the study objectives and consisted of measuring the strategy and technology elements which include Market penetration, Market Development, Product Development and Diversification, Level of investment in technology, Choice and adoption of technology. In Section (C), the questionnaire items related to firm's performance relevant to the SACCOs, measuring Turnover, Membership growth, Profitability, Capitalization, Asset growth, Efficiency-Cost to Income Ratios of DTSs.

The research instrument was administered to sampled respondents after ensuring that all preliminary arrangements have been finalized. First, the researcher obtained approval to proceed with data collection from the graduate school of The University of Nairobi. Permission to collect data from the DTSs in Kenya was sought from the respective branch managers of these SACCOs. Once granted permission, the researcher made a brief introduction to the respondents before administering the questionnaires; researcher explained the nature and importance of the study to the respondents, assuring them of confidentiality through the letters of transmittal that will be attached to the questionnaires and emailed to them. The respondents were allowed two days to fill in their responses and the filled in questionnaires were collected or emailed back on the third day after administering the questionnaire.

3.6 Data Analysis Techniques

The first step after field data collection was data processing where the collected data was checked for completeness, then edited, coded and entered into the computer. Data analysis was done with the aid of Statistical Package for Social Scientist (SPSS).

Preliminary analysis involved the use of descriptive statistics (frequency distributions, percentages and measures of central tendency-mean and standard deviations) to summarize the data, establish characteristics of study population and describe response concentrations and variations in order to determine the influence of strategy and Technology on the performance of the DTSs in Kenya. The dependent variable will be performance of the DTSs in Kenya, while the independent variables were the strategy and technology. The results were tested to see the extent of relationship using the following linear regression equation model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where Y = DTSs performance

X₁= Strategy (Proxy-measures in existing or new markets and these include Market penetration, Product development, Market development, Diversification)

X₂= Technology (Choice and adoption of technology, level of investment in technology)

β₀ = Constant, the value of Y when the value of X is zero.

β_i (i= 1, 2, 3, 4) = is a regression coefficient of the independent variable. Coefficients of determinants of efficiency.

ε= Error term DTS performance = Output/ Input.

Where: Input = Savings and Total Expenses; Output = Loans and Total Income

Regression analysis will be done using SPSS version 20.0. The coefficients from the equation above represent the strength and direction of the relationship between the variables. Assuming that the error term ε in the linear regression model is independent of x, and is normally distributed, with zero mean and constant variance, the study will therefore decide whether there is any significant relationship between x and y at 0.05 significance level by testing the null hypothesis that β = 0. Due to large numbers of samples the study shall use Z test to test significance level.

3.7 Operationalization of Study Variables

The variables of the study was operationalized as shown in Table 3.1

Table 3.1: Operationalization of Study Variables

Variable	Proxy Measure/ Variable	Sub Measurement	Data Analysis Tool
Strategy (Independent)	<ul style="list-style-type: none"> • Product differentiation • Price differentiation • Change in growth strategy • Change in Leadership • Diversification 	Extent to which DTSSs are adopting the different sub variables and their impact	Means, Standard deviation and Regression Analysis
Technology (Independent)	<ul style="list-style-type: none"> • Level of Investment • Choice and adoption • Timing of Technology • Type of Technology introductions • Source of Technology • Level of Competence • Organization and Policies 	Extent to which the DTSSs are affected by the Sub Variables/ Proxy measures and their impact	Means, Standard deviation and Regression Analysis
Performance (Dependent)	<ul style="list-style-type: none"> • Turnover • Asset Base • Deposit Mobilization • Cost to Income Ratio • Return on Asset • Membership Growth 	Extent to which the sub variables/ proxy measures in the DTSSs are affected	Means, Standard deviation and Regression Analysis

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

As discussed in the introductory chapter, the objective of this study was to investigate the role of strategy and technology in the DTSSs and consequently establish the relationship between strategy, technology and performance of DTSSs in Kenya. The conceptual model of the study was designed to empirically test the structural relationships between the independent variables namely strategy and technology and firm performance. In this chapter therefore, the results of the study based on the data collected by deploying the methodology described in chapter three are presented and discussed. The chapter aims at first exploring and obtaining an initial understanding of the data collected and secondly, testing the relationships between the study variables using the regression model presented in the preceding chapter. The chapter is divided into: response rate; profile of the DTSSs in Kenya; performance of DTSSs; strategy and performance of DTSSs; technology and performance of DTSSs and; summary regression model analysis.

4.2 Response rate

The study targeted to reach branch managers of 60 DTSSs in Kenya. At the end of the survey, all the 60 sampled DTSSs had been reached and data collected from a total of 60 branch managers. This represented a 100% response rate. As advised by Champion(1993), that authors need to make reasonable effort to increase questionnaire return rates, the personalized interaction between the researcher and the targeted respondents that involved explaining the purpose of the study before administering the questionnaire enhanced the study' response rate.

4.3 Profile of Deposit Taking SACCOs in Kenya

The profile information of the DTSSs consists of age, number of branches, main target members and the main objectives of the SACCOs. To obtain this information, the respondents were asked to provide background information of their respective SACCOs by responding to respective profile questions that were based on nominal and ordinal scales. A summary of the DTSSs' profile characteristics is presented in Table 4.1.

Table 4.1: Profile of Deposit Taking SACCOs in Kenya

Variables	Categories	Frequency	Percentage
Age	2 - 5 years	1	1.6
	6 – 10 years	22	36.7
	More than 10 years	37	61.7
	Total	60	100.0
Number of Branches	1 - 5 branches	13	21.7
	6 - 10 branches	30	50.0
	11-15 branches	13	21.7
	More than 15 branches	4	6.7
	Total	60	100.0
Target Members	Energy Sector	5	8.3
	Business	22	36.7
	Agriculture	3	5.0
	Civil Servants	15	25.0
	Teachers	4	6.7
	Private Sector	3	5.0
	Groups	8	13.3
	Total	60	100.0
Main Objective of the SACCO	Profit	40	66.7
	Poverty reduction	18	30.0
	Easy credit access	47	78.3
	Resource mobilization	42	70.0

Age wise, about 62% of the DTSSs had been in operation for more than 10 years compared to 38% that had operated for between 6 and 10 years, while less than 2% had been in operation for 2-5 years. With regard to the number of branches, half of the DTSSs operated 6-10 branches while 22% un each case operated 11-15 and 1-5 branches. The remaining 7% had more than 15 branches. The largest percentage of the DTSSs (37%) primarily targeted business people, followed by 25% whose main target members comprised civil servants and 13% that mainly targeted groups. The DTSSs that mainly targeted members from the energy sector were 8% while 5% in each case had as their main targets members from the agriculture and private sectors. Most of the DTSSs had multiple objectives, with majority of them operating to provide easy access to

credit (78%) and resource mobilization (70%). Poverty eradication was the least important of the objectives of the DTSs as reported by 30% of the respondents.

4.4 Performance of Deposit Taking SACCOs in Kenya

Performance of DTSs was the main dependent variable in this study. Performance was measured using a subjective performance measurement scale comprising 8 items that covered turnover, asset base, deposit mobilization, cost to income ratio, return on asset and membership growth. The measurement scale items assessed the respondents' self-reported average performance of their SACCOs on these performance indicators over three years preceding the study. Thus, the respondents were asked to indicate their level of agreement with each performance indicator item on a five-point Likert scale ranging from strongly agree (5) to strongly disagree (1). Descriptive statistics for the performance of DTSs measurement scale are reported in Table 4.2.

Table 4.2: Descriptive Results of DTSs Performance Measurement Scale

Performance Indicator	N	Mean	Std. Dev
Over the last three years, the membership of our SACCO has increased significantly	60	4.52	.596
Return on Assets of our SACCO has significantly grown over the last three years	60	4.25	.571
Over the last three years, our SACCO has realized a significant growth in asset base	60	4.80	.443
Deposit mobilization has been consistently high over the last three years in our SACCO.	60	4.30	.591
The income to cost ratio has been consistently high in our SACCO over the last three years	60	4.30	.696
The turnover of our SACCO has been significantly high over the last three years	60	4.57	.593
Our shareholders have consistently been paid high returns/dividends on their shares	60	4.30	.646
Overall, our SACCO has consistently achieved set key performance targets the last three years	60	4.58	.619

As shown in the Table 4.2, the mean scores of the DTSs performance measurement items ranged between 4.25 (lowest) and 4.80 (highest). The respondents in this study expressed very strong agreement (M=4.80, SD=0.43) that on average, their respective SACCOs had realized significant growth in asset base, that overall, their SACCOs had consistently achieved set key performance targets within that period (M=4.58, SD=0.619), turnover of the SACCO had been significantly high (M=4.57, SD=0.593) and that membership had increased significantly (M=4.52, SD=0.596). They also agreed that on average, deposit mobilization had been consistently high over the last three years (M=4.30, SD=0.591), that income to cost ratio had been consistently high (M=4.30, SD=0.696), their respective shareholders had consistently been paid high returns/dividends on their shares (M=4.30, SD=0.646) and that return on assets of their SACCOs had significantly grown over the reference period (M=4.25, SD=0.571).

4.5 Influence of Strategy on Performance of Deposit Taking SACCOs in Kenya

This study sought to establish the role of strategy and technology in DTSs and consequently examine the relationship between Strategy, Technology and Performance of DTSs in Kenya. Under this section, findings are presented and discussed on the respondents' responses on the strategies adopted by the DTSs and deployment of technology in these DTSs, and the relationships between strategy, technology and performance.

4.5.1 Strategies Adopted by Deposit Taking SACCOs in Kenya

Strategy was the first independent variable whose influence on DTS performance was examined in this study. Strategy was operationalized by assessing the extent to which different strategies named product differentiation, price differentiation, change in growth strategy, change in leadership and diversification were adopted by the DTSs.

First, the respondents were required to indicate the type of growth strategies that their SACCOs focused on from a list of grown strategies that business organizations focus on to grow their markets/customer base. The results in Table 4.3 indicated that while some DTSs focused on a single strategy, others adopted multiple growth strategies to grow their market/customer base.

Table 4.3: Type of Growth Strategies Adopted by DTSSs to Grow Market/Customer Base

Growth Strategy	Frequency	Percentage
Market Penetration	36	60.0
Market Development	47	78.3
Product Development	39	65.0
Diversification	48	80.0

The results in Table 4.3 indicated that 80% of the respondents reported their SACCOs as adopting diversification strategy that allowed the DTSSs to grow by diversifying into new businesses through development of new products for new markets. This strategy was followed closely by market development as reported by 78% of the respondents, which implied that the DTSSs sought growth by targeting their existing products to new market segments. Product development was the third, most popular strategy as alluded to by 65% of the respondents while market penetration was reported by 60% of the respondents. While the DTSSs that adopt product development as a growth strategy aim to develop new products targeting their existing market segments, those that adopt market penetration growth strategy seek to achieve growth with existing products in their current market segments, aiming to increase their market share.

The respondents were further asked to indicate the extent to which they agreed with that their respective SACCOs adopted specific strategies listed to cultivate competitive advantage in the market. The respondents answers were measured on a five-point Likert scale ranging from '1' (strongly disagree) to '5' (strongly agree). The results were as shown in Table 4.4.

Based on the mean score for each item, the respondents demonstrated very strong agreement that their SACCOs were good at creating and maintaining relationships with their members and continuously gathered and evaluated feedback to improve on their products and services (M=4.60, SD=0.494) as they were equally flexible in responding to markets rapidly within a short period (M=4.60, SD=0.494), used market segmentation and positioning to target different groups of people with different demographic and economic profiles (M=4.57, SD=0.50) and consistently developed

new products and services targeted at existing and new members that create higher value for them (M=4.47, SD=0.70). In addition, the respondents in this study very strongly agreed that in their respective SACCOs, various departments coordinate their activities to enhance the quality of service (M=4.47, SD=0.596).

Table 4.4: Specific Growth Strategies Adopted by DTSSs to Cultivate Competitive Advantage

Strategy Statement	N	Mean	SD
We regularly use our strategic plan as a guide towards achieving organizational goals both short and long term and this is driven by the top leadership and involves everyone in the organization.	60	4.37	.920
We regularly identify business areas in which we operate and evaluate both internal and external environment in order to maximize our long run profitability.	60	4.30	.696
We have a good understanding of the competitive environment in which we operate and have invested a lot in R & D to keep abreast with changes in the market.	60	4.22	.666
We are good at creating and maintaining relationships with our members and continuously gather and evaluate feedback to improve on our products and services.	60	4.60	.494
We use market segmentation and positioning to target different groups of people with different demographic and economic profiles	60	4.57	.500
We consistently develop new products and services targeted at existing and new members that create higher value for them.	60	4.47	.700
We consistently introduce new products and services faster than our main competitors	60	4.17	.740
We always strive to maintain a match between strategy and resource allocation to ensure good performance.	60	4.40	.694
We offer fast and timely Financial Services to members/ customers	60	4.33	.877
We are flexible in responding to markets rapidly within a short period.	60	4.60	.494
In our SACCO, business processes are designed to enhance the quality of service to members.	60	4.33	.681
In our SACCO, various departments coordinate their activities to enhance the quality of service.	60	4.47	.596

The respondents further agreed that their SACCOs strived to maintain a match between strategy and resource allocation to ensure good performance (M=4.40, SD=0.694);

regularly used strategic plans to guide achievement of organizational goals (M=4.37, SD=0.92) and; offered fast and timely financial services to members/ customers (M=4.33, SD=0.877).

The respondents also agreed that in their respective SACCOs, business processes were designed to enhance the quality of service to members (M=4.33, SD=0.681), regularly identified business areas in which they operated and evaluated both internal and external environment in order to maximize our long run profitability (M=4.30, SD=0.696) as well as having good understanding of the competitive environment in which they operated through investing in research and development to keep abreast with changes in the market (M=4.22, SD=0.666) and consistently introducing new products and services faster than main competitors (M=4.17, SD=0.74).

4.5.2 Relationship Between Strategy and Performance of Deposit Taking SACCOs in Kenya

The study sought to examine the relationship between strategy and performance in order to determine whether strategy had a significant influence on the performance of DTSS in Kenya. Thus, in order to analyze the relationship between strategy and the performance of DTSS, summated scales for these variables were utilized. The summated scales were obtained by cumulating the scores for individual measurement scale items (12 for strategy and 8 for DTS performance) thus obtaining composite scores and computing the scale averages. The average scores for strategy and DTS performance were then used to compute the Pearson's Product Moment Correlation (PPMC) to determine the nature and magnitude of the relationship between strategy and performance of the DTSS. The findings were as shown in Table 4.5.

Table 4.5: Relationship Between Strategy and DTS Performance

		Strategy	DTS Performance
Strategy	Pearson Correlation	1	.473**
	Sig. (2-tailed)		.000
	N	60	60
DTS Performance	Pearson Correlation	.473**	1
	Sig. (2-tailed)	.000	
	N	60	60

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

As the results in Table 4.5 reflect, the PPMC analysis revealed that there was a significant, positive relationship between strategy and DTSs performance ($r=0.473$; $n=60$; $p<0.05$). The correlation was moderate in strength, implying that the more the DTSs adopted market penetration, market development, product development and diversification strategies, the more likely they were to exhibit good performance with respect to turnover, asset base, deposit mobilization, efficiency return on asset and growth in membership.

4.6 Influence of Technology on Performance of Deposit Taking SACCOs in Kenya

Technology gives organizations competitive advantage when operations and activities are accomplished through deployment of technology. Technology changes affect firms both positively and negatively. This study sought to examine the influence of technology on the performance of deposit taking SACCOs in Kenya. Under this section, the descriptive results of the respondents' views on deployment of technology as well as the relationship between technology and DTS performance are presented and discussed.

4.6.1 Deployment of Technology by Deposit Taking SACCOs in Kenya

Technology was operationalized as the extent to which DTSs in Kenya deployed technology in their operations and activities and comprised the following indicators: Level of investment in technology; choice and adoption of technology; timing of technology; type of technology introductions; source of technology; level of competence and organizational policy on technology. In this regard, the measurement scale for technology comprised 10 items that required the respondents to show their level of agreement with the statements related to the deployment of technology in their DTSs. The 10 items were measured by a five-point Likert scale and the descriptive results (means and standard deviations) obtained from the analysis of the respondents' responses were as shown in Table 4.6.

The mean scores of each item of the technology deployment measurement scale generally as presented in Table 4.6 indicate that respondents tended to strongly agree that their respective SACCOs continuously and in a timely manner responded to changes in technology in the business environment by adopting contemporary

technology (M=4.58, SD=0.53), since the staff in these SACCOs were seen to have the requisite skills, knowledge and competencies to deploy the technology in the SACCOs' operations (M=4.48, SD=0.596).

Table 4.6: Deployment of Technology by Deposit Taking SACCOs in Kenya

Deployment of Technology	N	Mean	SD
Our SACCO significantly invests in technology with the objective of enhancing and improving the quality of service delivery to our members.	60	4.43	.593
Our SACCO leverages on technology with an expectation to increase our market share and ultimately improve financial performance	60	4.22	.825
Our SACCO continuously and in a timely manner responds to changes in technology in the business environment by adopting contemporary technology	60	4.58	.530
Our staffs believe that application of technology is capable of improving firm performance through improvements in planning and managing the business	60	4.35	.685
Our staff have the requisite skills, knowledge and competencies to deploy the technology used in our operations	60	4.48	.596
Our SACCO's policy on technology supports the adoption of new business technologies in line with changing market trends as well as training of staff in the adopted technology	60	4.30	.591
Our SACCO continuously invests in enhancing the skills and knowledge of our staff in emerging business technology through targeted training to keep pace with changing technological business innovations	60	4.43	.767
Our staff consistently exhibit positive attitudes towards adoption of new business technologies, backed up by their actual and consistent use of adopted technologies in their operations	60	4.40	.616
We use both internal and external R&D to source for the impending technology and to make a selection of appropriate type of technology use	60	4.42	.591
Our SACCO always strives to be ahead of our competitors in acquiring, introducing, upgrading and keeping with the ever changing trends in technology	60	4.28	.825

The respondents largely agreed that their SACCOs significantly invest in technology with the objective of enhancing and improving the quality of service delivery to our members (M=4.43, SD=0.593) and enhancing the skills and knowledge of staff in emerging business technology through targeted training to keep pace with changing technological business innovations (M=4.43, SD=0.767). They also agreed that their organizations use both internal and external research and development to source for the impending technology and to select appropriate types of technology use (M=4.42,

SD=0.591), with staff consistently exhibiting positive attitudes towards adoption of new business technologies, backed up by their actual and consistent use of adopted technologies in their operations (M=4.40, SD=0.616). This was also supported by their agreement that staff in the DTSs believe that application of technology is capable of improving firm performance through improvements in planning and managing the business (M=4.35, SD=0.685).

The respondents vouched for their SACCOS' policy on technology support the adoption of new business technologies in line with changing market trends as well as training of staff in the adopted technology (M=4.30, SD=0.591), which probably encourages these organizations to always strive to be ahead of competitors in acquiring, introducing, upgrading and keeping with the ever changing trends in technology (M=4.28, SD=0.825). Generally, the respondents in this study agreed that their SACCOs leverage on technology with an expectation to increase market share and ultimately improve financial performance (M=4.22, SD=0.825).

4.6.2 Relationship Between Technology and Performance of Deposit Taking SACCOs in Kenya

The summated scale for technology was obtained by cumulating scores for the 10 individual measurement scale items for technology and computing the average scores for each respondent. The average scores for technology and DTS performance were then used to compute the PPMC to determine the nature and magnitude of the relationship between technology and performance of the DTSs. The findings were as shown in Table 4.7.

The PPMC analysis revealed that there was a significant, positive relationship between technology and DTSs performance ($r=0.63$; $n=60$; $p<0.01$). The correlation was very strong, indicating that DTSs that put invested significantly in technology, training of staff on technology, made appropriate choice of technology, nurtured positive staff attitudes towards technology adoption, had correct timing of technology adoption, possessed high technology competence among staff and generally had support organizational policies on technology were more likely to realize good performance

along performance indicators considered in this study including turnover, asset base, deposit mobilization, efficiencyreturn on asset and growth in membership.

Table 4.7: Relationship Between Technology and DTS Performance

		Technology	DTS Performance
Technology	Pearson Correlation	1	.625**
	Sig. (2-tailed)		.000
	N	60	60
DTS Performance	Pearson Correlation	.625**	1
	Sig. (2-tailed)	.000	
	N	60	60

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

4.7 Regression Analysis on Influence of Strategy and Technology on Performance of Deposit Taking SACCOs in Kenya

The study sought to determine the integrated influence of strategy and technology on the performance of DTSSs in Kenya. Consequently, the overall relationship between strategy, technology and DTSSs performance was examined by testing the linear regression model presented in Chapter three of this research project report. In the model, DTSSs performance was regressed against the strategy and technology as shown in the regression model below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where Y = DTSSs performance

X₁ = Strategy

X₂ = Technology

β₀ = Constant, the value of Y when the value of X is zero.

β_i (i= 1, 2) = is a regression coefficient of the independent variables.

ε = Error term DTSS performance = Output/ Input

When DTSS performance was regressed against strategy and technology, the ANOVA results indicated that the model was significant (ρ=0.000), with the independent

variables explaining 77.1% ($R^2 = 0.771$) of the variance in DTS' performance. The ANOVA results were as shown in Table 4.8.

Table 4.8: ANOVA Results for Regression Model

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.008	2	72.504	25.641	.000 ^b
	Residual	161.175	57	2.828		
	Total	306.183	59			

a. Dependent Variable: DTS Performance

b. Predictors: (Constant), Technology, Strategy

The regression model coefficient results for the independent variables (strategy and technology) were as shown in Table 4.9.

Table 4.9: Regression Coefficients for Strategy and Technology on DTS Performance

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-2.342	5.887		-.398	.692
1	Strategy	.330	.110	.305	3.005	.004
	Technology	.468	.090	.527	5.199	.000

a. Dependent Variable: DTS Performance

The multivariate correlation and regression analysis of the full model revealed that overall, at $p < 0.01$, strategy and technology positively influence DTSs performance. The resulting regression model would be:

$$DTs\ Performance = 0.305 (Strategy) + 0.527(Technology)$$

4.8 Discussion of Findings

The findings of this study show that DTSs in Kenya were good at creating and maintaining relationships with their members, continuously gathered and evaluated

feedback to improve on their products but were relatively low in relation to consistently introducing new products and services faster than main competitors. This way, the DTSSs were able to consolidate and allocate organizational resources uniquely to cultivate competitive advantage in the market and maintain long-term, viability. By doing so, the DTSSs were able to realize better performance, a relationship that is made manifest by the positive correlation between strategy and DTSSs performance as established by this study. These results are consistent with a large body of empirical evidence that suggests that strategy positively influences firm performance (Gupter, 2008; Kaya, 2004; Tehrani, 2003).

The study has shown that DTSSs adopt a variety of strategies (diversification) to cultivate competitive advantage. On the other hand, the DTSSs extensively deploy differentiation strategies that foster cost leadership product development and market penetration which translate to better performance. When DTSSs strive to implement clearly defined strategy, this implies satisfying compatible customer requirements and focusing on a definite dimension of competitiveness. Porter identifies three generic strategies for the development of a stable competitive position: cost leadership, differentiation and focus strategy which has two variations – focus on costs and on differentiation (Porter, 1985).

The results herein confirm Tehrani's (2003) findings that indicated that competitive strategies that included product differentiation, cost leadership, marketing differentiation and focus product differentiation, and focus low cost had significant influence on preeminent performance among sixteen segments of high-tech industries in the US and EU. Firms that adopt product differentiation, low cost and focus on product differentiation strategies have superior performance. Additionally, the findings herein are largely consistent with Kaya's (2004) study findings among advanced manufacturing technologies that concluded that competitive strategies and firm performance are positive correlates. The study showed that adoption of cost leadership and differentiation strategies are both positively and significantly influential on firm performance. However, there are also studies suggesting no relationship between strategy and performance (Campbell-Hunt, 2000).

The study further established that the DTSs that reported superior performance had organizational policies that supported technology strategy. In particular, the DTSs responded to technological advancements by responding to changes in technology in the business environment a timely, enhancing the competence of staff in technology, devoting substantial resources to technology to enhance service quality and utilization of internal and external research and development to source for the impending technology thus selecting appropriate types of technology for use. Having human resources that showed positive attitudes towards adoption of new business technologies was also found to be a source of competitive advantage. Consequently, the study established that technology strategy was a positive correlate of DTS performance. These findings concur with many studies other prior studies that have found technology strategy to improve competitiveness and thus improve firm performance (Cooper and Kleinschmidt, 1996; Muhammad *et al.*, 2008; Roberts, 2001).

This study affirms what the literature suggests on the link between technology strategy and firm performance, that firms with the capability to strategically link technology strategy with their business strategy are more competitive in the marketplace (Roberts, 2001), contributing to a firm's competitiveness that is pre-requisite to a firm's performance. Technology strategy represents the perspective from which management makes decisions regarding technological activities, equipment, materials and knowledge. The purpose of technology strategy is to identify, develop, and nurture those technologies that will be crucial for the firm's long run competitive position. Thus, organizations that fail to develop and integrate technology strategy and business strategy limit their organizational competitiveness.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The objective of this study was to examine the influence of strategy and technology on the performance of deposit taking savings and credit societies in Kenya. Thus, this chapter presents a summary of findings, conclusions and recommendations.

5.2 Summary of the Findings

The study achieved a 100% response rate. The highest percentage of the DTSs (62%) had been in operation for more than 10 years compared to less than 2% had been in operation for 2-5 years. With regard to the number of branches, half of the DTSs operated 6-10 branches, with up to 7% operating more than 15 branches. Most of the DTSs had multiple objectives ranging from providing easy access to credit, resource mobilization and poverty eradication.

In terms of DTSs performance, the study established that the mean performance rating ranged from 4.25 (lowest) to 4.80 (highest). The highest mean was related to realization of significant growth in asset base while the lowest performance was related to return on assets. The study established that in the view of 80% of the respondents, their SACCOs adopted diversification strategy followed by market development as reported by 78% of the respondents, product development (65%) and market penetration (60%).

The study further established that with regard to specific strategies, the SACCOs were good at creating and maintaining relationships with their members and continuously gathered and evaluated feedback to improve on their products and but were relatively low in relation to consistently introducing new products and services faster than main competitors. The study established that As strategy and DTSs performance were significantly and positively correlated ($r=0.473$; $n=60$; $p<0.05$).

On the role of technology in driving DTSs performance, the study established that the SACCOs continuously and in a timely manner responded to changes in technology in the business environment by adopting contemporary technology at the highest level but

on the lower end, the DTSSs leveraged on technology with an expectation to increase market share and ultimately improve financial performance. The PPMC analysis revealed that there was a significant, positive relationship between technology and DTSSs performance ($r=0.63$; $n=60$; $p<0.01$). Overall, the multivariate correlation and regression analysis revealed that at $p<0.01$, strategy and technology positively affected DTSSs performance.

5.3 Conclusions

Based on the findings of this study, the following conclusions were made:

First, the study concludes that diversification of strategy is critical to organizational performance. Nonetheless, other distinct strategies that come to light as adopted by DTSSs in Kenya include market penetration, market development and differentiation and product differentiation strategies. These strategies are important for DTSSs because they enable them cultivate competitive advantage and thus realize superior performance. Thus, these strategies have an integrative, positive influence on DTSS performance in Kenya.

Secondly, the study has shown the salient features of technology strategy to comprise favourable organization policies on technology, level of competence of staff in technology, positive attitudes, timing of technology introductions; investment in technology and; combined internal and external source of technology. A mix of these technology strategies confers a firm with a competitive advantage over competitors thus positively influencing firm performance. This explains the positive correlation between technology strategy and DTSS performance in terms of turnover, asset base, deposit mobilization, efficiency return on asset and growth in membership that this study has brought to the fore.

5.4 Recommendations

The following recommendations were made based on the study's findings:

Having identified the most important strategies for DTSSs in Kenya diversification market penetration, market development and differentiation and product differentiation

strategies this study recommends that Deposit taking SACCOs should focus on growth strategies that have the greatest potential to positively influence their key performance indicators. Nonetheless, it is important for the management of DTSs to integrate the various growth strategies to achieve maximum performance.

The managers of DTSs should recognize that the relevance of technology in driving their organization's performance. This study has identified the salient features of technology strategy to comprise organization policies on technology, staff competence, attitudes towards technology adoption, timing of technology introductions; investment in technology and; combined internal and external source of technology. Consequently, there is need to identify the salient features of technology that have the biggest influence on the key performance indicators and strategically invest in these aspects to obtain maximum performance.

5.5 Limitations of the Study

No study can be without limitations, which provide opportunities for further research. One of the limitations of this study was its focus on Deposit Taking SACCOs within the financial services but operating in different operational contexts, yet the study did not control for the influence of contextual factors on both strategy and technology as well as DTS performance. This denied the study an opportunity to test the moderating effects of such contextual and institutional variables, thus calling for judicious generalization of the study's findings.

The second limitations of this study is that it was based on a cross-sectional survey data to measure performance using subjective measures. In addition, the statistical procedures adopted in the analysis of the research data speak to a casual research, implying that the findings herein depict causality of DTS performance by service strategy and technology. Literature on research methodologies seems to strongly suggest that causality is implied in longitudinal data sets but can only be inferred from cross-sectional data.

5.6 Suggestions for Further Research

Based on the limitations of this study as highlighted in the preceding sub-section, it is suggested that further research adopting same variables as this study be conducted to examine the influence of contextual factors on the relationship between strategy, technology and DTS performance. In addition, further research may utilize longitudinal, panel data on DTS performance to allow for causal inferences on the relationship between strategy, technology and performance.

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APPENDICES

Appendix 1: List of SACCOs Licensed to Undertake Deposit-Taking Business in Kenya

a) The list of Sacco Societies which have been duly licensed to carry out deposit-taking Sacco business in Kenya in accordance with Section 26(1) of the Act for the financial year ending on 31st December, 2016 as appears in SCHEDULE I, and

b) The list of Sacco Societies granted restricted deposit-taking licenses in accordance with Section 26(3) of the Act for a period of six (6) months, ending on 30th June 2016 as appears in SCHEDULE II herein.

SCHEDULE I: LICENSED SACCO SOCIETIES FOR PERIOD ENDING DECEMBER 2016	
NO.	NAME OF SOCIETY AND POSTAL ADDRESS
01.	2NK SACCO SOCIETY LTD P.O BOX 12196-10100 NYERI
02.	AFYA SACCO SOCIETY LTD P.O.BOX 11607 – 00400, NAIROBI.
03.	AGRO-CHEM SACCO SOCIETY LTD P.O BOX 94-40107, MUHORONI.
04.	ALL CHURCHES SACCO SOCIETY LTD P.O BOX 2036-01000, THIKA.
05.	ARDHI SACCO SOCIETY LTD P.O. BOX 28782-00200, NAIROBI.
06.	ASILI SACCO SOCIETY LTD P.O.BOX 49064 – 00100, NAIROBI.
07.	BANDARI SACCO SOCIETY LTD P.O.BOX95011 –80104, MOMBASA.
08.	BARAKA SACCO SOCIETY LTD P.O.BOX 1548 – 10101, KARATINA.
09.	BARATON UNIVERSITY SACCO SOCIETY LTD P.O BOX 2500-30100, ELDORET.
10.	BIASHARA SACCO SOCIETY LTD P.O.BOX 1895 – 10100, NYERI.
11.	BINGWA SACCO SOCIETY LTD P.O.BOX 434 – 10300, KERUGOYA.
12.	BORESHA SACCO SOCIETY LTD P.O.BOX80–20103, ELDAMA RAVINE.
13.	CAPITAL SACCO SOCIETY LTD P.O BOX 1479-60200, MERU.
14.	CENTENARY SACCO SOCIETY LTD P.O.BOX 1207 – 60200, MERU.
15.	CHAI SACCO SOCIETY LTD P.O.BOX 47815 – 00100, NAIROBI.
16.	CHUNA SACCO SOCIETY LTD P.O.BOX 30197 – 00100, NAIROBI.
17.	COSMOPOLITAN SACCO SOCIETY LTD P.O.BOX 1931 – 20100, NAKURU.
18.	COUNTY SACCO SOCIETY LTD P.O.BOX 21 – 60103, RUNYENJES.
19.	DAIMA SACCO SOCIETY LTD P.O.BOX 2032 – 60100, EMBU.
20.	DHABITI SACCO SOCIETY LTD P.O.BOX 353 – 60600, MAUA.
21.	DIMKES SACCO SOCIETY LTD P.O.BOX 886 – 00900, KIAMBU.
22.	DUMISHA SACCO SOCIETY LTD P.O BOX 84-20600, MARARAL.

23. EGERTON SACCO SOCIETY LTD P.O.BOX 178 – 20115, EGERTON.
24. ELGON TEACHERS SACCO SOCIETY LTD P.O BOX 27-50203, KAPSOKWONY.
25. ELIMU SACCO SOCIETY LTD P.O BOX 10073-00100, NAIROBI.
26. ENEA SACCO SOCIETY LTD P.O.BOX 1836 – 10101, KARATINA.
27. FARIDI SACCO SOCIETY LTD P.O. BOX 448-50400, BUSIA.
28. FARIJI SACCO SOCIETY LTD P.O.BOX 589 –00216, GITHUNGURI.
29. FORTUNE SACCO SOCIETY LTD P.O.BOX 559 – 10300, KERUGOYA.
30. FUNDILIMA SACCO SOCIETY LTD P.O.BOX 62000 – 00200, NAIROBI.
31. GASTAMECO SACCO SOCIETY LTD P.O BOX 189-60101, MANYATTA.
32. GITHUNGURI DAIRY & COMMUNITY SACCO SOCIETY LTD P.O.BOX896–00216, GUTHUNGURI.
33. GOODWAY SACCO SOCIETY LTD P.O BOX 626-10300, KERUGOYA.
34. GUSII MWALIMU SACCO SOCIETY LTD P.O.BOX 1335 – 40200, KISII.
35. HARAMBEE SACCO SOCIETY LTD P.O.BOX 47815 – 00100, NAIROBI.
36. HAZINA SACCO SOCIETY LTD P.O.BOX 59877 – 00200, NAIROBI.
37. IG SACCO SOCIETY LTD P.O.BOX 1150 –50100, KAKAMEGA.
38. ILKISONKO SACCO SOCIETY LTD P.O BOX 91-00209, LOITOKITOK.
39. IMARIKA SACCO SOCIETY LTD P.O.BOX 712 – 80108, KILIFI.
40. IMARISHA SACCO SOCIETY LTD P.O.BOX 682 – 20200, KERICHO.
41. IMENTI SACCO SOCIETY LTD P.O.BOX 3192 – 60200, MERU.
42. JACARANDA SACCO SOCIETY LTD P.O. BOX 176744-00232, RUIRU
43. JAMII SACCO SOCIETY LTD P.O.BOX 57929 – 00200, NAIROBI.
NO. NAME OF SOCIETY POSTAL ADDRESS 44. JITEGEMEE SACCO SOCIETY LTD P.O. BOX 86937-80100, MOMBASA.
45. JUMUIKA SACCO SOCIETY LTD P.O. BOX 14-40112, AWASI.
46. KAIMOSI SACCO SOCIETY LTD P.O BOX 153-50305, SIRWA.
47. KATHERA RURAL SACCO SOCIETY LTD P.O BOX 251-60202, NKUBU.
48. KENPIPE SACCO SOCIETY LTD P.O.BOX 314 – 00507, NAIROBI.
49. KENVERSITY SACCO SOCIETY LTD P.O.BOX 10263 – 00100, NAIROBI.
50. KENYA ACHIEVAS SACCO SOCIETY LTD P.O. BOX 3080-40200, KISII.
51. KENYA BANKERS SACCO SOCIETY LTD P.O.BOX 73236 – 00200, NAIROBI.
52. KENYA CANNERS SACCO SOCIETY LTD P.O.BOX 1124 – 01000, THIKA.
53. KENYA HIGHLANDS SACCO SOCIETY LTD P.O.BOX 2085 – 002000, KERICHO.
54. KENYA MIDLAND SACCO SOCIETY LTD P.O BOX 287-20400, BOMET.
55. KENYA POLICE SACCO SOCIETY LTD P.O.BOX 51042 – 00200, NAIROBI.
56. JOINAS SACCO SOCIETY LTD P.O.BOX 669 – 00219, KARURI.
57. KIMBILIO DAIMA SACCO SOCIETY LTD P.O. BOX 81-20225, KIMULOT.
58. KINGDOM SACCO SOCIETY LTD P.O.BOX 8017 – 00300, NAIROBI.

59.	KIPSIGIS EDIS SACCO SOCIETY LTD P.O BOX 228-20400, BOMET.
60.	KITE SACCO SOCIETY LTD P.O.BOX 2073 – 40100, KISUMU.
61.	KITUI TEACHERS SACCO SOCIETY LTD P.O.BOX 254 – 90200, KITUI.
62.	KMFRI SACCO SOCIETY LTD P.O.BOX 80862, 80100 MOMBASA.
63.	KOLENGE TEA SACCO SOCIETY LTD P.O BOX 291-30301, NANDI HILLS.
64.	KONONIN SACCO SOCIETY LTD P.O.BOX 83 –20403, MOGOGOSIEK.
65.	KORU SACCO SOCIETY LTD P.O. BOX PRIVATE BAG-40100, KORU
66.	KWALE TEACHERS SACCO SOCIETY LTD P.O. BOX 123-80403, KWALE.
67.	KWETU SACCO SOCIETY LTD P.O BOX 818-90100, MACHAKOS.
68.	K-UNITY SACCO SOCIETY LTD P.O.BOX 268 – 00900, KIAMBU.
69.	LAMU TEACHERS SACCO SOCIETY LTD P.O. BOX 110-80500, LAMU.
70.	LAINISHA SACCO SOCIETY LTD P.O. BOX 272-10303, WANG’URU.
71.	LENGO SACCO SOCIETY LTD P.O.BOX 1005 – 80200, MALINDI.
72.	MAFANIKIO SACCO SOCIETY LTD P.O BOX 86515-80100, MOMBASA.
73.	MAGADI SACCO SOCIETY LTD P.O.BOX 13 – 00205, MAGADI.
NO.	NAME OF SOCIETY POSTAL ADDRESS
74.	MAGEREZA SACCO SOCIETY LTD P.O.BOX 53131 – 00200, NAIROBI.
75.	MAISHA BORA SACCO SOCIETY LTD P.O.BOX 30062 – 00100, NAIROBI.
76.	MARSABIT TEACHERS SACCO SOCIETY LTD P.O.BOX 90 – 60500, MARSABIT.
77.	MENTOR SACCO SOCIETY LTD P.O.BOX 789 – 10200, MURANG’A.
78.	METROPOLITAN NATIONAL SACCO SOCIETY LTD
	P.O.BOX 871 – 00900, KIAMBU.
79.	MILIKI SACCO SOCIETY LTD P.O.BOX 43582 – 10100 NAIROBI
80.	MMH SACCO SOCIETY LTD P.O.BOX 469 – 60600, MAUA.
81.	MOMBASA PORT SACCO SOCIETY LTD P.O.BOX 95372–80104, MOMBASA.
82.	MUDETE TEA GROWERS SACCO SOCIETY LTD
	P.O.BOX 221 – 41053, KHAYEGA.
83.	OLLIN SACCO SOCIETY LTD P.O BOX 83-10300, KERUGOYA.
84.	MURATA SACCO SOCIETY LTD P.O.BOX 816 – 10200, MURANG’A.
85.	MWALIMU NATIONAL SACCO SOCIETY LTD
	P.O.BOX 62641 – 00200, NAIROBI.
86.	MWIETHERI SACCO SOCIETY LTD P.O. BOX 2445-060100, EMBU.
87.	MWINGI MWALIMU SACCO SOCIETY LTD P.O BOX 489-90400, MWINGI.
88.	MUKI SACCO SOCIETY LTD P.O BOX 398-20318, NORTH KINANGOP
89.	MWITO SACCO SOCIETY LTD P.O.BOX 56763 – 00200, NAIROBI.
90.	NACICO SACCO SOCIETY LTD P.O.BOX 34525 – 00100, NAIROBI.
91.	NAFAKA SACCO SOCIETY LTD P.O.BOX 30586 – 00100, NAIROBI.
92.	NANDI FARMERS SACCO SOCIETY LTD P.O BOX 333-30301, NANDI HILLS

93. NANYUKI EQUATOR SACCO SOCIETY LTD P.O BOX 1098-CX10400, NANYUKI
94. NAROK TEACHERS SACCO SOCIETY LTD P.O.BOX 158 – 20500, NAROK.
95. NASSEFU SACCO SOCIETY LTD P.O.BOX 43338 – 00100, NAROBI.
96. NATION SACCO SOCIETY LTD P.O.BOX 22022 – 00400, NAIROBI.
97. NAWIRI SACCO SOCIETY LTD P.O BOX 400-16100, EMBU.
98. NDEGE CHAI SACCO SOCIETY LTD P.O.BOX 857 – 20200, KERICHO.
99. NDOSHA SACCO SOCIETY LTD P.O.BOX 532– 60401, CHOGORIA – MAARA. 100. NG'ARISHA SACCO SOCIETY LTD P.O.BOX 1199 – 50200, BUNGOMA. 101. NOBLE SACCO SOCIETY LTD P.O.BOX 3466 – 30100, ELDORET.
102. NRS SACCO SOCIETY LTD P. O BOX 575-00902, KIKUYU.
103. NUFAIKA SACCO SOCIETY LTD P.O BOX 735-10300, KERUGOYA.
NO. NAME OF SOCIETY POSTAL ADDRESS 104. NYAHURURU UMOJA SACCO SOCIETY LTD P.O BOX 2183-20300, NYAHURURU.
105. NYALA VISION SACCO SOCIETY LTD P.O BOX 27-20306, NDARAGWA.
106. NYAMBENE ARIMI SACCO SOCIETY LTD P.O.BOX 493 – 60600, MAUA.
107. NYATI SACCO SOCIETY LTD P.O. BOX 7601 – 00200, NAIROBI
108. NEW FORTIES SACCO SOCIETY LTD P.O.BOX 1939 – 10100, NYERI.
109. ORIENT SACCO SOCIETY LTD P.O.BOX 1842 – 01000, THIKA.
110. PATNAS SACCO SOCIETY LTD P.O BOX 601-20210, LITEIN.
111. PRIME TIME SACCO P.O. BOX 512 – 30700, ITEN
112. PUAN SACCO SOCIETY LTD P.O BOX 404-20500, NAROK.
113. QWETU SACCO SOCIETY LTD P.O BOX 1186-80304, WUNDANYI
114. RACHUONYO TEACHERS SACCO SOCIETY LTD P.O. BOX 147-40332, KOSELE.
115. SAFARICOM SACCO SOCIETY LTD P.O.BOX 66827 – 00800, NAIROBI.
116. SHERIA SACCO SOCIETY LTD P.O.BOX 34390 – 00100, NAIROBI.
117. SHIRIKA SACCO SOCIETY LTD P.O BOX 43429-00100, NAIROBI.
118. SIMBA CHAI SACCO SOCIETY LTD P.O.BOX 977 – 20200, KERICHO.
119. SIRAJI SACCO SOCIETY LTD P.O.BOX PRIVATE BAG, TIMAU.
120. SKYLINE SACCO SOCIETY LTD P.O.BOX 660 – 20103, ELDAMA RAVINE.
121. SMART CHAMPIONS SACCO SOCIETY LTD P.O BOX 64-60205, GITHINGO
122. SMART LIFE SACCO SOCIETY LTD P.O BOX 118-30705, KAPSOWAR.
123. SOLUTION SACCO SOCIETY LTD P.O.BOX 1694 – 60200, MERU.
124. SOTICO SACCO SOCIETY LTD P.O.BOX 959 – 20406, SOTIK.
125. SOUTHERN STAR SACCO SOCIETY LTD P.O BOX 514-60400, CHUKA
126. SHOPPERS SACCO SOCIETY LTD P.O. BOX 16 – 00507, NAIROBI
127. STAKE KENYA SACCO SOCIETY LTD P.O.BOX 208 – 40413, KEHANCHA.
128. STIMA SACCO SOCIETY LTD P.O.BOX 75629 – 00100, NAIROBI.
129. SUKARI SACCO SOCIETY LTD P.O BOX 841-50102, MUMIAS

130. SUBA TEACHERS SACCO SOCIETY LTD P.O. BOX 237-40305, MBITA.
131. SUPA SACCO SOCIETY LTD P.O.BOX 271 – 20600, MARALAL.
132. TAI SACCO SOCIETY LTD P.O.BOX 718 –00216, GITHUNGURI.
133. TAIFA SACCO SOCIETY LTD P.O.BOX 1649 – 10100, NYERI.
NO. NAME OF SOCIETY POSTAL ADDRESS 134. TARAJI SACCO SOCIETY LTD P.O.BOX 605 – 40600, SIAYA.
135. TEMBO SACCO SOCIETY LTD P.O.BOX 91 – 00618, RUARAKA NAIROBI.
136. TENHOS SACCO SOCIETY LTD P.O.BOX 391 – 20400, BOMET.
137. THAMANI SACCO SOCIETY LTD P.O.BOX 467 – 60400, CHUKA.
138. TRANSCOUNTIES SACCO SOCIETY LTD P.O. BOX 2965-30200, KITALE.
139. TRANS NATION SACCO SOCIETY LTD P.O.BOX 15 – 60400, CHUKA.
140. TIMES U SACCO SOCIETY LTD P.O.BOX 310 – 60202, NKUBU.
141. TOWER SACCO SOCIETY LTD P.O.BOX 259 – 20303, OL’KALOU.
142. TRANS- ELITE COUNTY SACCO SOCIETY LTD P.O BOX 547-30300, KAPSABET.
143. UFANISI SACCO SOCIETY LTD P.O BOX 2973-00200, NAIROBI.
144. UCHONGAJI SACCO SOCIETY LTD P.O. BOX 92503-80102, MOMBASA.
145. UKRISTO NA UFANISI WA ANGALICANA SACCO SOCIETY LTD P.O BOX 872-00605, NAIROBI.
146. UKULIMA SACO SOCIETY LTD P.O.BOX 44071 – 00100, NAIROBI.
147. UNAITAS SACCO SOCIETY LTD P.O.BOX 38791– 00100, NAIROBI.
148. UNI-COUNTY SACCO SOCIETY LTD P.O BOX 10132-20100, NAKURU
149. UNITED NATIONS SACCO SOCIETY LTD P.O.BOX 30552 – 00100, NAIROBI.
150. UNISON SACCO SOCIETY LTD P.O BOX 414-10400, NANYUKI.
151. UNIVERSAL TRADERS SACCO SOCIETY LTD P.O.BOX 2119– 90100, MACHAKOS.
152. VIHIGA COUNTY FARMERS SACCO SOCIETY LTD P.O BOX 309-50317, CHAVAKALI.
153. VISION POINT SACCO SOCIETY LTD P.O.BOX 42 – 40502, NYANSIONGO. 154. VISION AFRICA SACCO SOCIETY LTD P.O BOX 18263-20100, NAKURU. 155. WAKENYA PAMOJA SACCO SOCIETY LTD P.O.BOX 829 – 40200, KISII.
156. WAKULIMA COMMERCIAL SACCO SOCIETY LTD P.O.BOX 232 – 10103, MUKURWENI.
157. WANAANGA SACCO SOCIETY LTD P.O.BOX 34680 – 00501, NAIROBI.
158. WANANCHI SACCO SOCIETY LTD P.O.BOX 910 – 10106, OTHAYA.
159. WANANDEGE SACCO SOCIETY LTD P.O.BOX 19074 -00501, NAIROBI.
160. WASHA SACCO SOCIETY LTD P.O.BOX 83256–80100, MOMBASA.
161. WAUMINI SACCO SOCIETY LTD P.O.BOX 66121 – 00800, NAIROBI.
162. WEVARSITY SACCO SOCIETY LTD P.O BOX 873-50100, KAKAMEGA
163. WINAS SACCO SOCIETY LTD P.O.BOX 696 – 60100, EMBU.

164. YETU SACCO SOCIETY LTD P.O.BOX 511 – 60202, NKUBU.
SCHEDULE II: RESTRICTED LICENSES FOR THE PERIOD ENDING 30TH JUNE 2016
NO. NAME OF SOCIETY POSTAL ADDRESS
1. AIRPORTS SACCO SOCIETY LTD P.O. BOX 19001-00501, NAIROBI
2. AINABKOI SACCO SOCIETY LTD P.O. BOX 120, AINABKOI
3. ECO-PILLAR SACCO SOCIETY LTD P.O. BOX 48 – 30600, KAPENGURIA
4. GOOD FAITH SACCO SOCIETY LTD P.O. BOX 224 – 00222, UPLANDS
5. COMOCO SACCO SOCIETY LTD P.O. BOX 30135 – 00100, NAIROBI
6. TELEPOST SACCO SOCIETY LTD P.O. BOX 49557 – 00100, NAIROBI
7. NANDI HEKIMA SACCO SOCIETY LTD P.O. BOX 211 -30300, KAPSABET
8. NITUNZE SACCO SOCIETY LTD P.O. BOX 295 – 50102, MUMIAS
9. TRANSNATIONAL TIMES SACCO SOCIETY LTD P.O. BOX 2274 – 30200, KITALE
10. MOI UNIVERSITY SACCO SOCIETY LTD P.O. BOX 23 – 30107, MOI UNIVERSITY
11. NYAMIRA SACCO SOCIETY LTD P.O. BOX 633 – 40500, NYAMIRA
12. BANANA HILL SACCO SOCIETY LTD P.O. BOX 333 – 00219, KARURI

Appendix 2: Random Number Generator Table of Deposit Taking SACCOs

01	02	03	04	05	06	07	08	09	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164						

(Nassiuma's, 2000) formula was used to calculate the Sample size:

$$\frac{N \cdot C^2}{C^2 + (N-1)e}$$

(Where n= sample size, N=Population Size, e= tolerable error (5%), C= coefficient of Variation (0.5))

Appendix 3: Research Questionnaire

Introduction

This Questionnaire seeks to collect data that will be used to analyze the **Influence of Strategy and Technology on Performance of Deposit Taking SACCOs in Kenya**. You have been selected to assist in providing the required information, since your views are considered important to this study. I therefore kindly request you to answer the questions in the questionnaire as honestly as possible as per the guidelines indicated. Note that your answers to this questionnaire will be used for purposes of research only. All the information given will be treated with utmost confidentiality. You are not required to fill in your names.

Instructions

Please fill in the blanks or ticks in the boxes/spaces to provide information requested for on the spaces provided.

SECTION A: Profile of the SACCO

1. Name of your SACCO _____

2. For how long has your SACCO been in operation in Kenya?

Less than 1 year.

6 to 10 years.

2 to 5 years.

More than 10 years.

3. How many branches does your SACCO have countrywide? _____

4. Who are your main target members? Tick whichever applies

Energy Sector

Civil Servants

Business

Teachers

Diaspora

Private Sector

Agricultural

Groups

Others _____

5. What are the objectives of this SACCO? (Tick all that apply)

€ Profit

€ Resource Mobilization

€ Poverty Eradication

€ Others, Please Specify _____

€ Easy Credit access

SECTION B: ROLE OF STRATEGY AND TECHNOLOGY IN THE SACCO

6. The statements below explain the different growth strategies that Organizations focus on to grow their markets/ customer base. Please tick the most applicable/appropriate strategy or any that applies in your SACCO.

€ Market Penetration where the firm seeks to achieve growth with existing products in their current market segments, aiming to increase its market share.

€ Market Development where the firm seeks growth by targeting its existing products to new market segments.

€ Product Development where the firm develops new products targeted to its existing market segments.

€ Diversification where the firm grows by diversifying into new businesses by developing new products for new markets.

7. The statements in the following tables relate to your views on various strategies adopted by your SACCO to cultivate competitive advantage. Please show the extent to which you agree with each statements by circling the number that best describes your views on the right side of the table. You should rank each statement as follows:

1-Strongly disagree; 2- Disagree; 3-Neither agree nor disagree; 4-Agree; 5-Strongly Agree.

Statement	Response				
1. We regularly use our strategic plan as a guide towards achieving organizational goals both short and long term and this is driven by the top leadership and involves everyone in the organization.	1	2	3	4	5
2. We regularly identify business areas in which we operate and evaluate both internal and external environment in order to maximize our long run profitability.	1	2	3	4	5
3. We have a good understanding of the competitive environment in which we operate and have invested a lot in R & D to keep abreast with changes in the market.	1	2	3	4	5
4. We are good at creating and maintaining relationships with our members and continuously gather and evaluate feedback to improve on our products and services.	1	2	3	4	5
5. We use market segmentation and positioning to target different groups of people with different demographic and economic	1	2	3	4	5

profiles					
6. We consistently develop new products and services targeted at existing and new members that create higher value for them.	1	2	3	4	5
7. We consistently introduce new products and services faster than our main competitors	1	2	3	4	5
8. We always strive to maintain a match between strategy and resource allocation to ensure good performance.	1	2	3	4	5
9. We offer fast and timely Financial Services to members/customers.	1	2	3	4	5
10. We are flexible in responding to markets rapidly within a short period.	1	2	3	4	5
11. In our SACCO, business processes are designed to enhance the quality of service to members.	1	2	3	4	5
12. In our SACCO, various departments coordinate their activities to enhance the quality of service.	1	2	3	4	5

8. To what extent do you agree with the following statements regarding deployment of technology in your SACCO?

1-Strongly disagree; 2- Disagree; 3-Neither agree nor disagree; 4-Agree; 5-Strongly Agree.

Statement	1	2	3	4	5
1. Our SACCO significantly invests in technology with the objective of enhancing and improving the quality of service delivery to our members.	1	2	3	4	5
2. Our SACCO leverages on technology with an expectation to increase our market share and ultimately improve financial performance.	1	2	3	4	5
3. Our SACCO continuously and in a timely manner responds to changes in technology in the business environment by adopting contemporary technology	1	2	3	4	5
4. Our staffs believe that application of technology is capable of improving firm performance through improvements in planning and managing the business	1	2	3	4	5
5. Our staff have the requisite skills, knowledge and competencies to deploy the technology used in our operations.	1	2	3	4	5
6. Our SACCO's policy on technology supports the adoption of new business technologies in line with changing market trends as well as training of staff in the adopted technology					
7. Our SACCO continuously invests in enhancing the skills and knowledge of our staff in emerging business technology through targeted training to keep pace with changing technological business innovations	1	2	3	4	5
8. Our staff consistently exhibit positive attitudes towards adoption of new business technologies, backed up by their actual and					

consistent use of adopted technologies in their operations					
9. We use both internal and external R&D to source for the impending technology and to make a selection of appropriate type of technology to use.	1	2	3	4	5
10. Our SACCO always strives to be ahead of our competitors in acquiring, introducing, upgrading and keeping with the ever changing trends in technology	1	2	3	4	5

SECTION C: DTS PERFORMANCE

9. The statements in this part relate to the average performance of your SACCO in the last three years along various performance measures. Please read the statements carefully and indicate the extent to which you agree or disagree with the statements by circling a number that represents your response on the right hand side of each statement. (If it is hard to recall, your best estimate is fine). You should rank each statement as follows:

1-Strongly disagree; 2- Disagree; 3-Neither agree nor disagree; 4-Agree; 5-Strongly Agree.

Statement	Response				
1. Over the last three years, the membership of our SACCO has increased significantly	1	2	3	4	5
2. Return on Assets of our SACCO has significantly grown over the last three years	1	2	3	4	5
3. Over the last three years, our SACCO has realized a significant growth in asset base	1	2	3	4	5
4. Deposit mobilization has been consistently high over the last three years in our SACCO.	1	2	3	4	5
5. The income to cost ratio has been consistently high in our SACCO over the last three years	1	2	3	4	5
6. The turnover of our SACCO has been significantly high over the last three years.	1	2	3	4	5
7. Our shareholders have consistently been paid high returns/dividends on their shares	1	2	3	4	5
8. Overall, our SACCO has consistently achieved set key performance targets the last three years	1	2	3	4	5

Thank you for taking your time to participate in this survey.