

**CHALLENGES TO REGULATION COMPLIANCE BY  
DEPOSIT TAKING SAVINGS AND CREDIT  
CO-OPERATIVE SOCIETIES IN KENYA**

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**Challenges to Regulation Compliance by Deposit Taking Savings and  
Credit Co-operative Societies in Kenya**

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**A Thesis Submitted in Partial Fulfilment for the Degree of Doctor of  
Philosophy in Business Administration in the Jomo Kenyatta  
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## DECLARATION

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

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## **DEDICATION**

This work is dedicated to my mother, M/s Fatma Abeyd Anyanzwa and to the loving memory of my Father, Mr. Daniel Eshuchi Anyanzwa. My parents' efforts and sacrifices moulded me into the person I am.

## **ACKNOWLEDGEMENT**

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## **ABSTRACT**

With the introduction of the SACCO Societies Regulatory Authority (SASRA) in Kenya there is optimism that the SACCOs will control most of the financial services in the country. This is because SACCOs are strategically placed and are member owned. This is demonstrated by the membership served by the SACCOs, which in December 2013 was at 3.3 million. This is in addition to 12 million that indirectly benefited from the subsector as family members of the households. In the same period total assets for the sector was Ksh.335 billion which was funded by member deposits (70.5%) and capital. The total number of SACCOs in Kenya stood over 6,000 as at December 2013. The SACCO sector comprised of over 5,785 non-Deposit Taking SACCOs (non-D.T.S) and 215 Deposit Taking SACCOs (D.T.S). The D.T.S contributed more than 70% of the assets, member deposits, loans and 78% turnover of the total sector. The main objective of this study was to assess the challenges to regulation compliance by D.T.S in Kenya. This research incorporated a descriptive research design in soliciting information. The study collected data from 139 D.T.S using questionnaires that were administered by mailed questionnaires or the drop and later pick method. A composite index of measuring each of the operationalised constructs as a percentage of the indicator was provided. Since the variables were dichotomous in nature, binary logistic regression was done. Study findings indicated that in order of significance the most challenging factors to regulation compliance were; the legal environment, resource availability, senior management skills, corporate governance and management information skills. Secondly it was found that SACCO size had a significant intervening influence in this relationship with both large and medium SACCO size being significant in regulation compliance, however, small SACCO size was not found to be significant. The study recommends that SACCOs need to; separate the role of the B.O.D from that of the C.E.O, have dynamic MIS systems with regular updates, embrace capacity building and training of senior management, ensure all internal stakeholders adhere to the relevant Acts, regulations and by-laws, mobilise members to increase savings, grow members deposit portfolio and to operate and adhere to the regulators set standards.

## **CHAPTER ONE**

### **INTRODUCTION**

This chapter looks at the background of the study, the Savings and Credit Co-operative Societies (SACCOs) context and the concept of regulation compliance. It also presents the statement of the problem, objectives of the study and research hypotheses. Lastly the chapter provides the justification, scope and limitations of the study.

#### **1.1 Background of the Study**

This study seeks to understand the challenges of compliance on regulatory guidelines. To achieve this, the study focuses on the Savings & Credit Co-operative Societies (SACCO) sector. In particular, the study's focal point is the Deposit Taking SACCOs (D.T.S) compliance of the SACCO Societies Regulatory Authority (SASRA) regulations in Kenya. It is envisaged that the D.T.S have various challenges to regulation compliance.

For the purpose of this study the challenges envisaged are corporate governance, management information systems, senior management skills, legal environment and resource availability. The study utilised the stakeholder theory in order to understand the corporate governance influence on compliance of SASRA regulations. Of importance to this study was how B.O.D structure, Chief Executive Officer (C.E.O) duality, political interference and directors' capacity affect regulation compliance.

The research studied the management information systems as an independent variable through the diffusion theory which is also known as the diffusion of innovations theory. The theory is concerned with the spread of innovation, ideas and technology through culture(s). This study thus looked at the networked systems, computer systems and banking software.

In the case of this study it explained on the diffusion of the management information system and the degree of adoption of management information systems within the D.T.S. Social cognition theory was used to study the senior management skills. The social cognitive theory is a widely recognised theory that describes factors that affect and determine behaviour. This study thus utilised it to gauge participative and human resource skills, competition and control skills and entrepreneurship skills.

Legal environment was looked at through the lens of the logic of appropriateness: normative theories. At the broadest level, questions on compliance are questions about behavioural motivations. This refers to what leads a state, firm, or individual to act in compliance with laws. This study thus looked at interested groups, rules and regulations, common bond and rewards and punishments. The four aforementioned independent variables (corporate governance, management information systems, senior management skills and legal environment) require resources to be fully harnessed, hence the need to have an overall theory for this study. Furthermore all SACCOs require resources to develop these variables. The study thus utilised the Resource Based View (RBV) theory to expound on the resource availability variable. Of concern was the liquidity, financial investments (both capital and property) and the intangible assets. This study thus expanded the available knowledge base on challenges to regulation compliance by researching on a contextual different study as compared to previous studies on D.T.S.

### **1.1.1 Savings and Credit Co-operative Societies (SACCOs)**

The International Cooperative Alliance (ICA) defines a co-operative as an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled Enterprise (ICA, 1995). SACCOs have a significant role in empowering their members Socio-Economic Status all over the world. To mention some, in Western Europe there are around 11,000 local and regional saving and credit cooperatives banks, with over

56,000 outlets, a 33 million strong membership and a staff of more than 400,000. Their market share is 17 percent of savings, ranking third after the commercial and savings banks (Shaw, 2006).

The French SACCO, Agricole, is the largest bank in the world outside of Japan. Ireland has a strong SACCOs or Credit unions movement, with 1.6 million people (44 percent of the population) in membership. Canada has one of the highest concentrations of SACCOs. In the French-speaking Quebec region, there are 1300 SACCOs, with five million members and more outlets than the banks. They have more than a third of the region's savings on deposit, and make a third of all consumer loans. In English-speaking Canada, specifically in Saskatchewan 57 percent of the population belong to SACCOs or Credit Unions (Tache, 2006)

In the USA, some very large cooperative banks account for about a quarter of the credit needs of US agriculture. Credit Unions are also well established; there are over 18,000 Credit Unions, serving 70 million members and with more than \$300 billion in assets. They have 13 percent of the consumer credit market and eight percent of consumer savings (Tache, 2006). According to Kuria (2011) with almost half of the World's people living on less than two dollars a day, alleviation of poverty has become the biggest challenge to the human society. In response, the global campaign against poverty has gained momentum, with various development actors suggesting the use of the Cooperative movement to alleviate poverty.

There is emerging consensus among many actors, including the United Nations (UN), the International Labour Organisation (ILO), the International Co-operative Alliance (ICA) and the European Union (EU), that the co-operative enterprise is one of the few forms of organisation that can meet all dimensions of poverty (Kuria, 2011).

According to ILO (2013) in the aftermath of the global financial crisis, the successes of financial cooperatives provide a credible alternative to the investment-owned banking system. Furthermore, there are more than 55,952 credit unions in at least 101 countries in the globe (WOCCU, 2012b).

These credit unions have a combined membership in excess of 200 million people. Their penetration rate is at 7.72%, which is calculated by dividing the total number of reported credit union members by the economically active population age 15-64 years old. The total global savings/shares, loans, reserves and assets in US dollars are 1.3 trillion, 1.1 trillion, 162 billion and 1.7 trillion respectively (WOCCU, 2012b). Canada, the United States, Australia and Ireland have the most established co-operative movements (SACCOL, 2014). North America, consisting of Canada and United States, are the major players and contribute 80% of global savings and 79% of global loans (WOCCU, 2012a).

The African Confederation of Co-operative SACCOs (ACCOSCA) was formed in 1968 to empower SACCOs in Africa through financial, social and technical assistance so as to improve the livelihood of people living in Africa in accordance with cooperative principles. ACCOSCA is the Pan African confederation of national associations of SACCOs. ACCOSCA has currently developed programs aimed at improving social-economic needs of Africa through saving and credit unions, partnering with various government bodies, development agencies and research institution so as to contribute towards mitigating challenges facing Africa in the 21st century aimed at effectively supporting members and working on bringing services to the people not generally served by the formal sector (ACCOSCA, 2014).

Regionally at least 28 countries in Africa have established Credit Unions (SACCOL, 2014). According to WOCCU statistical report on 101 countries surveyed in 2012, Africa has a membership of 16 million making it third in membership size after North



America and Asia which have 105 million and 41 million respectively. The continent's SACCO membership of 16 million constitutes 8% of the entire world membership of 200 million. Africa has a total of 20,831 Credit Unions or 37% and is second only to Asia that has 21,934 Credit Unions or 39% (WOCCU, 2012b).

The first SACCOs were registered in Kenya in 1964 after the country became independent in 1963. The Kenyan sector is by far the largest SACCO sector in Africa with several of Kenya's largest SACCOs having capital large enough to rival banks (Owen, 2007). Ademba (2010) noted that the SACCO movement has evolved in the past 40 years into a formidable force for the social and economic transformation of Kenyan people with about 63% of the Kenya population directly and indirectly depending on the co-operative related activities for their livelihood.

The SACCO sector has also mobilised over Kes 200 billion in savings which is about 31% of the national savings and 70% of the total Africa continental portfolio is Kenyan, which is ranked seventh worldwide, with Kenya sitting in the group of the 10 largest co-operative movement (G10) members countries. According to WOCCU (2012b), of the total savings mobilised by SACCOs in Africa and loans advanced, Kenya contributes 62% of the savings and 69% of the SACCO loans.

According to Ondieki, Okioga, Okwena, and Onsase (2011) the Kenya co-operative sector plays a significant role in the Kenyan financial sector as it contributes 45% of the country's GDP. The total number of SACCOs in Kenya stood over 6,000 as at December 2013, this comprised of over 5,785 non-D.T.S and 215 D.T.S. (SACCO, 2013). The D.T.S are licensed and regulated by SASRA while non-D.T.S are supervised by the Commissioner for Co-operatives (SASRA, 2012).

### ***Deposit Taking Savings & Credit Co-operative Societies (D.T.S)***

Owen (2007) noted that a major innovation in the development of the sector in Kenya was the development of Front Office Saving Activities (FOSAs) or D.T.S which offered banking services to members and non-members. A D.T.S is a SACCO authorised to operate FOSA. FOSAs are typically SACCOs carrying out banking services to both internal and external members. The D.T.S provide a wide array of financial products including demand savings account, ATM and custodial services.

According to WOCCU (2012a) in 2008 Kenya and South Africa became the first African nations to enact SACCO-specific regulation designed to strengthen the safety and improve the performance of deposit-taking financial cooperatives. Of Kenya's more than 4,000 SACCOs, about 220 take withdrawable deposits in addition to share-based savings. At the law's passage, authorities expected only 25% of those institutions to be able to comply with licensing standards (WOCCU, 2012a). In Kenya, D.T.S account for over 70 percent of the sector's assets, member deposits, loans and advances as shown in Table 1.1.

**Table 1.1 Performance of D.T.S in 2013**

Year	Assets	Member deposits	Loans & advances	Turnover
2013 <sup>a</sup>	241,622	172,526	184,539	33,715
2012 <sup>b</sup>	207,291	149,169	157,144	28,403
Change %	16	16	17	32
Industry share %	72	72	73	78

*Note.* Adopted from SACCO supervision report p.14 & p. 18, by SASRA, 2013.

<sup>a,b</sup>Amount is in Kes. Millions

According to SACCO (2013) 215 D.T.S were under the supervision of SASRA in the year 2013. This was a very unique year for these SACCOs as it marked the last stretch to the end of the four years transition period upon which all D.T.S were expected to fully comply with the SACCO Societies Act 2008 and the accompanying SACCO Societies regulations 2010. A number of SACCOs strived to meet these requirements in order to obtain the license resulting into an increase of the number of fully compliant SACCOs from 124 reported in 2012 to 135 in 2013, which is an improvement of 8.9%. Equally SACCOs that were yet to be licensed embarked on aggressive strategies of fulfilling the requirements.

### **1.1.2 The Concept of Regulation Compliance**

Worldwide the cooperative movement is facing serious and fundamental challenges which include basic concepts as the nature and aim of the co-operative, as well as its structure and the principles on which it operates leading to calls of regulating the industry. The World Council of Credit Unions (WOCCU) is the leading international trade association and development agency for credit unions that equips cooperatives with the tools and techniques necessary to strengthen their financial management and deliver fairly priced financial services to large numbers of poor and low-income people (WOCCU, 2014a). WOCCU also builds national credit union networks, which enable safe and sound institutions to reach greater efficiencies of scale, through working closely with credit union leaders, national government officials and policy makers to create appropriate and effective regulatory environments for credit unions.

WOCCU has a long and successful history working with multinational, bilateral and private partners to develop and strengthen member-owned credit unions and their national/regional systems around the world. For example WOCCU advocates before the Basel Committee on Banking Supervision, an international standards setting body that was established by the Bank for International Settlements to formulate policy on prudential standards and best practices among financial regulators globally (WOCCU,

2014a). According to ILO (2013) in the economically developed countries, the recent banking crisis led inevitably to increased regulation of the banking system by government under a tightened ‘Basel III’ regime. From the point of view of cooperatives that have already proved their soundness, there is the threat of too much regulation. In contrast in developing countries there is often a lack of effective regulation from governments unable to supervise thousands of small societies. Here the threat is of too little regulation. In both scenarios, there is the threat of inappropriate regulation by governments that do not understand the ‘cooperative difference’ (ILO, 2013).

According to Fonteyne (2007) in the past the regulators have proved largely unaware of cooperatives. For example, Basel II had no mention of cooperatives, despite its large share of the European market. In addition cooperatives can either be very large, and able to deal with new requirements without their costs increasing too much or very small, and here inappropriately detailed requirements will impose costs that will damage their competitiveness. In the United States, regulators have recognized this issue by exempting community banks from some of their requirements. In other countries, micro-finance laws regulate small cooperatives while large ones come under the banking system (ILO, 2013).

WOCCU also played a key role in the formation of the International Credit Union Regulators’ Network (ICURN) in 2007. The purpose of the Network is to share information and ideas on topics of common interest among credit unions and financial cooperative supervisors and to undertake research on specific issues or topics related to financial cooperatives and their oversight. Membership in the ICURN is open to all entities that have statutory supervisory authority for credit unions and financial cooperatives in their respective jurisdictions. A steering committee of representatives from several regions across the world leads the Network and WOCCU serves as the Secretariat. The steering committee’s role is to help coordinate the network and to assist WOCCU in organizing the annual Regulators’ Roundtable (WOCCU, 2014b).

According to Ademba (2012b) Co-operatives in Africa are important tools for providing financial services to marginalised communities and must be harnessed to help alleviate poverty. However SACCOs, like other many business entities in Africa, are faced with challenges in their quest towards survival and growth hence the need for regulation. In most of the African countries, regulation and supervision of SACCOs are under the Banking Supervisory Authority (Central Banks) with the exception of South Africa and Kenya who have acts targeted specifically at SACCOs (SASCCO, 2010).

Many countries in Africa have focussed attention on the legislation of microfinance and non-banking financial institutions, some have adopted prudential standards specific to SACCOs while others use existing banking laws to regulate SACCOs. Others such as Kenya and South Africa have independent regulators with specific regulations- SACCO Societies Act and Co-operative Banking Act respectively (Ademba, 2010). In South Africa for example, WOCCU in 1991 did an assessment of the viability of the movement and found that only three of the existing 47 SACCOs were viable. This resulted in a shift in the movement towards a more business oriented approach focused on developing strong and sound SACCOs with the long-term interests of members in mind, rather than short-term gains. In 1993 the Savings and Credit Co-operative League of South Africa (SACCOL), a self-regulatory body for all SACCOs in the country, was thus formed (SACCOL, 2014).

According to Makori (2013) various players in the Kenyan financial sector are under regulatory oversight that is vested in the various authority arms. Listed companies fall under the Capital Markets Authority (CMA), insurance companies under the Insurance Regulatory Authority (IRA), the Retirement funds under the Retirement Benefits Authority (RBA) and the commercial banks regulated by the Central Bank of Kenya (CBK). SACCOs are the latest to be brought to the regulatory fold under the SASRA.

SASRA was inaugurated in 2009 and was charged with the prime responsibility to licence and supervise D.T.S in order to protect the interests of SACCO members and ensure that there is confidence in the public towards the SACCOs. According to Ademba (2012b), of the 19 million Kenyan adult population 22.5% are served by commercial banks and micro financial institutions (MFI) while 17.6% are served by SACCOs. It is therefore due to the combination of providing retail services to the low income population and having a large coverage that SACCOs must be regulated.

There are challenges to regulation compliance by D.T.S in Kenya. These relate to corporate governance, management information systems, senior management skills, legal environment and resource availability. These five challenges to regulation compliance are summarised as follows.

### ***Corporate Governance***

Governance relates to all processes of governing, whether undertaken by a government, market or network, whether over a family, tribe, formal or informal organisation or territory and whether through laws, norms, power or language. The word governance is used in a variety of contexts, but at a general level, it refers to all forms of social coordination and patterns of rule (Bevir, 2013). According to FRC (2012) corporate governance is the system by which companies are directed and controlled.

The shareholders' role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place but the primarily responsibility for the governance still remains with the boards of directors. The responsibilities of the board include setting the organisation's strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship. The board's actions are subject to laws, regulations and the shareholders in general meeting.

Governance in this study shall be through the lenses of corporate governance which describes the manner in which boards direct a SACCO, the laws, customs and rules applying to that direction and the relationships among the stakeholders and the SACCO goals. The principal players include the shareholders, management, and the board of directors.

### ***Management Information Systems***

Management Information System (MIS) is a system that manages information, collects, processes, stores, analyses and distributes it to users for a specific purpose or objective. Management information systems are distinct from other information systems in that they are designed to be used to analyse and facilitate strategic and operational activities in the organisation (O'Brien, 1999). A MIS thus provides information that is needed to manage organisations efficiently and effectively. Management information systems are not only computer systems these systems encompass three primary components: technology, people (individuals, groups, or organisations), and data/information for decision making.

According to Turban, Volonino, and Wood (2013) there are six components of an information system; hardware, software, data, network, procedures and people. Hardware relates to a set of devices such as monitor, keyboard and mouse, software are the programs that act as processor to process data or inputs, data is the information collected, network is the telecommunication system such as phones or internet, procedures relate to a set of instructions about how to combine the hardware, people are those individual who work with the system, interface with it or use it output (Turban, et al., 2013). MIS provide information organisations require to manage themselves efficiently and effectively and are distinct from other information systems because they are used to analyse and facilitate strategic and operational activities (O'Brien, 1999).

### ***Senior Management Skills***

According to Reilly (2013), there are action items that help managers cultivate senior management skills. These include developing a strategic frame of reference, using a SWOT analysis, conducting self-assessment, clear communication with facts and inspiration, staying alert to generational differences among direct reports, leveraging leadership style by tweaking it for various audiences and being mindful of your network of allies. Whetten and Cameron (2010) state that management skills form the vehicle by which management strategy, practice, tools and techniques, personality attributes and style work to produce effective outcomes in organisations. Management skills, in other words, are the building blocks upon which effective management rests.

They are the means by which managers translate their own style, strategy and favourite tools or techniques into practice. Management skills fall into four main groups. These are: participative and human relations skills (for example, supportive communication and teambuilding); competitiveness and control (for example, assertiveness, power, and influence skills); innovativeness and individual entrepreneurship (for example, creative problem solving); maintaining order and rationality which relates to not only managing time but also to rational decision making (Whetton & Cameron, 2010).

### ***Legal Environment***

The government, in every country, regulates the business according to its defined priorities. Legal system of a country is framed by the government. The laws which are passed by the government for business operation is called legal environment. In every country, the government regulates business activities. According to Haider (2010) these regulations of government are considered as legal environment. In practice legal and regulatory goes hand in hand. The limits for business operations are decided by



regulatory environment & this is also called legal environment. The legal environment in a country has a dominating position on all decisions of organisations. As all business policies are highly influenced by government, the organisation should have thorough knowledge of these policies because non-implementation of legal policies results in heavy fines, penalties & punishment & therefore every organisation must follow all these regulations.

According to Frye and Shleifer (1997) there are three basic views of how businesses interact with the legal environment. Under the invisible hand model the government is well organized, generally uncorrupt and relatively benevolent. It restricts itself to providing basic public goods, such as contract enforcement, law and order, and some regulations, and leaves most allocative decisions to the private sector.

Under the helping hand model bureaucrats are intimately involved in promoting private economy activity: they support some firms and kill off others, pursue industrial policy and often have close economic and family ties to entrepreneurs. The legal framework plays a limited role in this model, because bureaucrats adjudicate most disputes. Bureaucrats are corrupt, but corruption is relatively limited and organised. An extreme version of this model is known as the iron hand model.

Finally there is the grabbing hand model where the government is just an interventionist, but much less organized, than in the helping hand model. The government consist of a large number of substantially independent bureaucrats pursuing their own agenda, including taking bribes. While these bureaucrats adopt the helping hand rhetoric in reality they are scarcely guided by a unified public policy stance and remain largely independent of courts, capable of imposing their will in commercial disputes, and

empowered to impose on business a variety of predatory regulations. In the extreme cases the government becomes sufficiently disorganized that it loses its ability to ensure law and order and to provide basic legal protections (Frye & Shleifer, 1997).

### ***Resource Availability***

A resource is anything that is used to produce benefit. Benefits of resource utilisation may include increased wealth, meeting needs or wants, proper functioning of a system, or enhanced well being (Miller & Spoolman, 2014). Understanding the sources of sustained competitive advantage has become a major area of research in strategic management where the four empirical indicators of the potential of firm resources to generate sustained competitive advantage are identified as value, rareness, imitability, and substitutability (Barney, 1991). Halbesleben, Neveu, Paustian-Underdahl, and Westman (2014) define resources as anything perceived by the individual to help attain his or her goals. They further suggest that resources can hold value to the extent that they are perceived to help one achieve his or her goals.

According to Jurevicius (2013) resources are either tangible or intangible that must have value, rarity, imitability and organisation (VRIO) attributes that provide competitive advantage. Tangible assets are physical things such as land, buildings, machinery, equipment and capital resources while intangible assets are everything else that has no physical presence but can still be owned by an organisation such as brand reputation, trademarks and intellectual property. These resources must also be heterogeneous (skills, capabilities and other resources that organisations possess differ from one organisation to another) and immobile (resources are not mobile and do not move from organisation to organisation, at least in short-run). The VRIO criteria relates to the resources being of value, rare, imitable and organised.

## **1.2 Statement of the Problem**

The Kenyan SACCO sector is the largest in Africa and the seventh worldwide (Ademba, 2010). About 63% of the Kenyan population depend on SACCO related activities for their livelihood (Ondieki *et.al.*, 2011). The major innovation in the development of the sector in Kenya was the development of D.T.S. offering banking services (Owen, 2007). The D.T.S contribute more than 70 percent of the assets, member deposits, loans and 78 percent turnover of the total SACCO sector. As at December 31, 2013, out of the 215 D.T.S in Kenya, 135 had fully complied and were licensed by SASRA (SACCO, 2013).

There is limited empirical literature available in this area as the regulations came in force in the year 2010. Macharia (2013) did a study on the effect of licensing requirements on the performance of SACCOs and found that most had compliance challenges. Magali (2013a) study on Tanzania SACCOs recommended continuous monitoring of regulatory compliance. Muriuki and Ragui (2013) did a research on the impact of the SACCO Societies Act but focused on only one variable. Gweyi and Karanja (2014) found that the major problem facing SACCOs was inadequate regulatory compliance and recommended a study targeting data from all D.T.S be done. Mosongo, Gichana, Ithai, and Nguta, (2013) study on regulation compliance did not target the D.T.S but rather SACCOs under supervision of the Commissioner of Co-operatives. There is therefore need to identify and address the challenges to regulation compliance for the D.T.S to strategically exploit their full potential. Furthermore the studies available in the literature review were restricted in scope as they were either case studies or focused on particular regions of a country. Also no stratification was done according to regions or counties. Thus for these researches a problem of generalising the results may arise. The challenges to successful regulatory compliance also differ significantly because of SACCO size but the mentioned studies did not consider its effect. This is despite the fact that according to SACCO (2013) D.T.S are ranked according to asset size. This study thus seeks to provide more insight into the challenges to regulation compliance by D.T.S in Kenya since there is a problem of commitment to regulations.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objectives**

The main objective of this study was to assess the challenges to regulation compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya

#### **1.3.2 Specific Objectives**

The specific objectives of the study were to:

1. Determine how corporate governance affects regulation compliance by Deposit Taking SACCOs in Kenya.
2. Determine how management information system affects regulation compliance by Deposit Taking SACCOs in Kenya.
3. Identify how senior management skill affects regulation compliance by Deposit Taking SACCOs in Kenya.
4. Examine how legal environment affects regulation compliance by Deposit Taking SACCOs in Kenya.
5. Identify how resource availability affects regulation compliance by Deposit Taking SACCOs in Kenya.
6. Determine how intervening effect of SACCO Size affects regulation compliance by Deposit Taking SACCOs in Kenya.

### **1.4 Research Hypotheses**

To examine how each of the independent variables influences the dependent variable, the study sought to test the following null hypotheses.

1.  $H_01$ : Corporate governance does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.

2. H<sub>0</sub>2: Management information system does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.
3. H<sub>0</sub>3: Senior management skill does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.
4. H<sub>0</sub>4: Legal environment does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.
5. H<sub>0</sub>5: Resource availability does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.
6. H<sub>0</sub>6: Intervening effect of SACCO Size does not significantly affect regulation compliance by Deposit Taking SACCOs in Kenya.

### **1.5 Justification of the Study**

The findings of this study will be used to influence regulatory framework being advocated by the statutory regulator. It shall assist SASRA to increase compliance levels of the non-licensed D.T.S. The study will therefore assist the regulator in bringing on board the SACCOs that are yet to apply for Front Office Service Activities (FOSA) services. As the deadline for full compliance looms the study shall be significant to the shareholders of all D.T.S. Shareholders of non-D.T.S will also be interested in the study as they advocate for provision of FOSA services in their respective SACCOs. The study will be significant to the management teams including the SACCOs Board of Directors (B.O.D) and Senior Staff as it will provide guidance on issues affecting SASRA compliance levels. The Government on the other hand will find this study useful as it seeks to attain a 10% economic growth rate in line with Kenya being an industrialising and middle income country by the year 2030. This can be achieved through the alignment of SACCO Societies Act 2008 to the Constitution of Kenya 2010 and Vision 2030.

This study will thus provide the rationalisation of the SACCO sector and unlock the potential of SACCOs in increasing financial access in an effective and cost efficient manner. The findings of this study will also be useful to future researchers who seek to study a similar research. Furthermore, since the research philosophy is positivist in nature, this study shall contribute to the existing knowledge and theories of strategic management by testing the derived hypotheses in a relatively new empirical setting. The results of this research will contribute to the overall theory of resource based view by highlighting the role of resource availability in acquiring and accumulating resources and, thus, shaping the SACCOs path towards regulation compliance.

### **1.6 Scope of the Study**

The study is concerned with assessing challenges to regulation compliance by D.T.S in Kenya. The study covers all the D.T.S Kenya. The total number of D.T.S in Kenya as at December, 31, 2013, was 215.

The study selected the D.T.S as they contribute more than 70 percent of the assets, member deposits, loans and 78 percent turnover of the total SACCO sector (SACCO, 2013). The country wide scope is necessitated by the small population of only 215 D.T.S. The study stratified the sample derived to each of the respective Counties. The challenges assessed in this study include; corporate governance, management information systems, senior management skills, legal environment and resource availability.

### **1.7 Limitations of the Study**

The study involved 215 D.T.S in Kenya. It is important to note that the D.T.S target lower income earners and are retail based. This is in contrast to banks and micro financial institutions that are wholesale based and target higher income earners. D.T.S

thus have the unique combination of providing retail services to the low income population and having a large coverage. Generalisation of these findings to other financial institutions such as banks and micro- financial institutions shall therefore be difficult.

Obscurity might also arise in using survey questionnaires since they are based on the presumption that participants shall answer in a truthful and precise way. This might not always be the case especially when dealing with respondents such as C.E.Os who run organizations. The respondents might opt to give responses that they believe are socially desirable or politically correct, but which might be incorrect and untruthful.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter examines the theoretical and empirical literature covering the challenges to regulation compliance. The research makes use of various theories in order to study the compliance of SACCOs insofar as the SASRA guidelines are concerned. These theories are utilised depending on their effect on the independent variable. The chapter focuses on the theoretical literature review and conceptual framework. The chapter captures the relevant empirical studies carried out in the area of research, the critique of existing literature, summary and research gaps.

#### **2.2 Theoretical Literature Review**

A theory is a set of systematic interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena (Cooper & Schindler, 2011). There are various challenges to regulation compliance. For the purpose of this study the challenges assessed included corporate governance, management information systems, senior management skills, legal environment and resource availability. These challenges were reviewed and guided by the following theoretical framework and model: stakeholder theory; diffusion & adoption theories; social cognition theory; logic of appropriateness—normative theories; resource based view. These theories are summarised as follows:

##### **2.2.1 Stakeholder Theory**

The study utilised the stakeholder theory in order to understand the corporate governance influence on compliance of SASRA regulations. Of importance to this study was how B.O.D structure, Chief Executive Officer (C.E.O) duality, political interference and directors' capacity affect SASRA compliance levels. The stakeholder theory



addresses three interconnected problems relating to business; the problem of value creation and trade; the problem of ethics of capitalism; the problem of managerial mindset.

The stakeholder theory suggests that if we adopt as a unit of analysis the relationships between a business and the groups and individuals who can affect or are affected by it then we have a better chance to deal effectively with these three problems (Freeman, Harrison, Wicks, DeColle & Purnell, 2010). First, from a stakeholder perspective, business can be understood as a set of relationships among groups that have a stake in the activities that make up the business (Walsh, 2005). It is thus how they interact to jointly create and trade value. To understand a business is to know how these relationships work and change over time. It is the executive's job to manage and shape these relationships to create as much value as possible for stakeholders and to manage the distribution of that value.

Where stakeholder interests conflict, the executive must find a way to re-think problems so that the needs of a broad group of stakeholders are addressed, and to the extent this is done even more value may be created for each (Harrison, Bosse, & Phillips, 2010). If tradeoffs have to be made, as sometimes happens, then executives must figure out how to make the tradeoffs, and then work on improving the tradeoffs for all sides (Freeman et.al., 2010). Second, although effective management of stakeholder relationships helps businesses survive and thrive in capitalist systems, it is also a moral endeavour because it concerns questions of values, choice, and potential harms and benefits for a large group of groups and individuals (Phillips, 2003). Finally, a description of management which focuses attention on the creation, maintenance, and alignment of stakeholder relationships better equips practitioners to create value and avoid moral failures (Sisodia, Wolfe, & Sheth, 2007). The description of business that stakeholder theory offers has been readily accepted in the field of business ethics.

The underlying ethical foundations of the theory consist of the normative core of stakeholder theory. One way to think about the work developed under the banner of stakeholder theory is to see it as providing a normative justification for the theory and its associated activities. Stakeholder theory is a genre of theories capable of encompassing a variety of normative cores.

Normative cores are an explicit effort to answer two questions facing all corporations. First, what is the purpose of the firm? And second, to whom does management have an obligation? These questions are answered by the stakeholder theory (Freeman et.al., 2010). Another important ethics question deals with which stakeholders are legitimate from the firm's perspective. It is a common misconception that stakeholder theory casts a very large net in terms of who is considered a legitimate stakeholder (Phillips, Freeman, & Wicks, 2003). The notion of legitimacy is further clarified by the definition that a stakeholder represents a "group that the firm needs in order to exist, specifically customers, suppliers, employees, financiers, and communities" (Dunham, Freeman, & Liedtka, 2006).

The traditional shareholder view looks at the shareholders or stockholders as the only owners of the company, and the firm having a binding fiduciary duty to put their needs first, to increase value for them. However in contrast, the stakeholder theory argues that there are other parties involved, including employees, customers, suppliers, financiers, communities, governmental bodies, political groups, trade associations and trade unions. Even competitors are sometimes counted as stakeholders, their status being derived from their capacity to affect the firm and its stakeholders.

The nature of what is a stakeholder is highly contested (Miles, 2012), with hundreds of definitions existing in the academic literature (Miles, 2011). Others have differentiated between primary and secondary stakeholders. Primary refers to groups whose support is necessary for the firm to exist, and to whom the firm may have special duties towards.

Secondary stakeholders have no formal claim on the firm, and management has no special duties pertaining to them; nevertheless, the firm may have regular moral duties, such as not doing them harm (Gibson, 2000). Rather than seeing the definitional problem as a singular and fixed, admitting of only one answer, we instead can see different definitions serving different purposes. Thus, what might make one a (legitimate) stakeholder for one company, or for a given research agenda, may vary (Freeman et.al., 2010).

### **2.2.2 Diffusion of Innovations Theory**

The research studied the management information systems as an independent variable through the diffusion theory which is also known as the diffusion of innovations theory. The theory is concerned with the spread of innovation, ideas and technology through culture(s). In the case of this study it explained on the diffusion of the management information system and the degree of adoption of management information systems within the D.T.S. Diffusion of innovations theory sought to explain how innovations are taken up in a population.

An innovation is an idea, behaviour, or object that is perceived as new by its audience. Diffusion of innovations offers three valuable insights into the process of social change: What qualities make an innovation spread; Importance of peer-peer conversations and peer networks; Understanding the needs of different user segments. Diffusion of innovations takes a radically different approach to most other theories of change. Instead of focusing on persuading individuals to change, it sees change as being primarily about the evolution or “reinvention” of products and behaviours so they become better for the needs of individuals and groups. In diffusion of innovations it is not people who change, but the innovations themselves (Robinson, 2012).

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. The origins of the diffusion of innovations theory are varied and span multiple disciplines. Diffusion theory states that there are many qualities in different people that cause them to accept or not to accept an innovation.

There are also many qualities of innovations that can cause people to readily accept or to resist them. Rogers (2003) claims that four main elements influence the spread of a new idea: innovation, communication channels, time and a social system. This process relies heavily on human capital. These elements work in conjunction with one another: diffusion, which is the process by which an innovation is communicated through certain channels over time among the members of a social system.

The innovation must also be widely adopted in order to self-sustain. According to Rogers (2003) the diffusion theory has five stages put forward to the process of adopting an innovation, these are: awareness, interest, evaluation, trial and adoption. These same stages apply, to varying degrees, to groups of people in addition to individuals.

If the innovation is adopted, it spreads via various communication channels. During communication, the idea is rarely evaluated from a scientific standpoint; rather, subjective perceptions of the innovation influence diffusion. The process occurs over time. Lastly, social systems determine diffusion, norms on diffusion, roles of opinion leaders and change agents, types of innovation decisions and innovation consequences. Within the rate of adoption, there is a point at which an innovation reaches critical mass. Rate is usually measured by the length of time required for a certain percentage of the members of a social system to adopt an innovation.

Diffusion manifests itself in different ways in various cultures and fields and is highly subject to the type of adopters and innovation-decision process. The rates of adoption for innovations are determined by an individual's adopter category: innovators, early adopters, early majority, late majority, and laggards. Also in addition to the gatekeepers and opinion leaders who exist within a given community, there are change agents from outside the community who essentially bring innovations to new communities, through the gatekeepers, then through the opinion leaders (Rogers, 2003). According to Robinson (2012) five intrinsic characteristics of innovations that influence an individual's decision to adopt or reject an innovation are the relative advantage, compatibility with existing values and practises, simplicity and ease of use, trialability and observable results. Furthermore, according to Rogers (2003) innovations are often adopted by organisations through two types of innovation decisions: collective innovation and authority innovation decisions.

### **2.2.3 Social Cognition Theory**

The study made use of the social cognition theory to investigate the effect of senior management skills on SACCO compliance levels. Social cognitive theory stemmed out of work in the area of social learning theory proposed by Miller and Dollard in 1941 identifying four key factors in learning new behaviour: drives; cues; responses; rewards (Huitt & Monetti, 2008). They posit that if one were motivated to learn a particular behaviour, then that particular behaviour would be learned through clear observations. By imitating these observed actions the individual observer would solidify that learned action and would be rewarded with positive reinforcement.

The proposition of social learning was expanded upon and theorised by Canadian psychologist Albert Bandura who along with his students and colleagues conducted a series of studies that demonstrated the value of modelling for acquiring novel behaviours. In 1986, Andrew Bandura proposed the social cognitive theory with more emphasis on the cognitive processes that mediate learning.

This works on the assumption that learning and behaviour (cognition) have a reciprocal relationship with environment. Further studies have been done since then and social cognitive theory has continued to grow and expand especially with regard to the work on self efficacy, self regulation and agency (Bandura, 2001). The social cognitive theory is a widely recognised theory that describes factors that affect and determine behaviour. It also specifies mechanisms through which the determinants work and how they may be translated into effective practice (Bandura, 2004).

The core constructs of Bandura's theory are goals, perceived self-efficacy, outcome expectancies, facilitators, and impediments. Goals direct the behaviour. Perceived self-efficacy is the belief that one is capable of performing the goal behaviour in spite of obstacles. Outcome expectancies are the perceived costs and benefits of the behaviour, that is, the expectation that an outcome will follow a given behaviour that would be beneficial for oneself.

Facilitators and impediments are social structural factors that include environmental aspects that could potentially predict goals and behaviour (Plotnikoff, Lippke, Courneya, Birkett & Sigal, 2008). To describe the learning process from this perspective, Bandura developed a concept called reciprocal determinism, which details a three-way relationship between a person, his or her behaviour, and the environment. In the social-cognitive model each of the three elements are equally important and influence the other elements. Thus, an individual's unique characteristics interact with overt behaviours and environmental models and feedback. There are five core concepts associated with the social cognitive theory framework. These core concepts are: observational learning/modelling, outcome expectations, self efficacy, goal setting and self regulation (Bandura, 2001). Observation learning/models concept attests that modelling is not limited to only live demonstrations but also verbal and written behaviour that can act as indirect forms of modelling.

Modelling not only allows one to learn behaviour that they should repeat but also to inhibit certain behaviours. Outcome expectations posit that in order to learn a particular behaviour, people need to understand what the potential outcome will be when they repeat that behaviour. Outcome expectations are therefore important because they shape the decisions one makes about what actions to take and which behaviours to suppress. Whether a particular behaviour gets rewards or punished will lead to the compliance or non-compliance.

Perceived self-efficacy is the belief of an individual about themselves whether they have mastered a particular skill or not. According to Bandura (2004) efficacy beliefs influence goals and aspirations. The stronger the perceived self-efficacy, the higher the goals people set for themselves and the firmer their commitment to them. Self-efficacy beliefs shape the outcomes people expect their efforts to produce. Those of high efficacy expect to realise favourable outcomes.

Those of low efficacy expect their efforts to bring poor outcomes. Self-efficacy beliefs also determine how obstacles and impediments are viewed. People of low efficacy are easily convinced of the futility of effort in the face of difficulties. They quickly give up trying. Those of high efficacy view impediments as surmountable by improvement of self-management skills and perseverant effort. They stay the course in the face of difficulties. Bandura (2001) defines goal setting as another core concept in the social cognitive theory framework. Goals reflect cognitive representations of future desired outcomes. Self regulated learning is the idea that an organisation can take control and evaluate its own learning behaviour. This is dependent on goal setting, in that individuals and people are thought to manage their thoughts and actions in order to reach particular outcomes. Huitt and Monetti (2008) state that the skills needed to manage one's behaviour, as well the beliefs and attitudes that serve to motivate self-regulation, can be obtained through modelling where self-evaluation is done through periodic progress reports.

#### **2.2.4 Logic of Appropriateness: Normative Theories**

At the broadest level, questions on compliance are questions about behavioural motivations. This refers to what leads a state, firm, or individual to act in compliance with laws. The basic logic of human action is divided into the logic of consequences and logic of appropriateness. The logic of consequences view actors as choosing rationally among alternatives based on their calculations of expected consequences, whereas the logic of appropriateness sees actions as based on identities, obligations and conceptions of appropriate action. Theories of compliance at the domestic level study responses of citizens and firms to laws and legal commands. Generally at the domestic level, coercive enforcement or formal sanctioning authority are readily available (Zaelke, Kaniaru, & Cameron, 2005). The study made use of the logic of appropriateness normative theories to investigate the effect of the legal environment on SACCO compliance levels.

Normative theories of domestic compliance follow the logic of appropriateness, viewing regulated entities as good-faith actors that want to obey the law but cannot (Malloy, 2003). The theories posit that compliance occurs largely because of the regulated entities' capacity and commitment. Capacity relates to the knowledge of the rules, and financial and technological ability to comply while commitment is determined by norms, perceptions of the regulators and incentives for compliance (Burby and Paterson, 2007). Normative theories, following the logic of appropriateness, focus more on the normative power of rules, the persuasive power of ideas and legal obligations, and the influence of shared discourse and knowledge of the firms' interests. Accordingly, these theories call for a more co-operative approach to ensuring compliance, with the full range of compliance assistance strategies such as dissemination of information, technological assistance, and inspections designed to enable inspectors to provide compliance advice (Zaelke, et.al., 2005).



The complexity critique, although more about bureaucratic and administrative limitation than about norms, focuses on the capacity of the regulated firm, charging that environmental regulations are too numerous, difficult to understand, fluid, or ever-changing, and too hard to find (Spence, 2001). According to proponents of this critique, most firms do not know what constitutes perfect compliance and so cannot achieve it. This could be the case for small businesses, which generally lack the resources to stay apprised of complicated, changing regulatory requirements (Zaelke, et.al., 2005). The role of regulated firms' commitment is most evident when considering firms' perceptions of the legitimacy of the regulatory authorities, which is influenced by how fairly the regulations are created, implemented, and enforced (Malloy, 2003).

### **2.2.5 Resource Based View**

The four aforementioned independent variables (corporate governance, management information systems, senior management skills and legal environment) require resources to be fully harnessed, hence the need to have an overall theory for this study. Furthermore all SACCOs require resources to develop these variables. The study shall utilise the Resource Based View (RBV) theory to expound on the resource availability variable.

According to Tywoniak (2007) over the past two and a half decades, RBV has emerged as perhaps the most fruitful and contemporary perspective in strategic management which has great potential for helping managers and firms to improve their practices and performance. The very flexibility of this framework makes it quite adaptable to specific firm/industry situation. RBV suggests pointed questions to managers ("what are our core competences?", "how can we create more value for stakeholders with the resources we have in our current environment(s)?" ), and it provides a methodology for evaluating resources and competences with respect to external demands.

Further, the foundation of RBV on sense-making suggests that, because competitive advantage is a fragile position, firms should frequently revisit and question the beliefs they hold (and have built over time) about their core competences and how they can generate value (Tywoniak, 2007). Wernerfelt (1995) defines the RBV theory as a basis for a competitive advantage of a firm laying primarily in the application of the bundle of valuable interchangeable, intangible or tangible resources at the firm's disposal. In order to transform a short-run competitive advantage into a sustained competitive advantage it requires that these resources be heterogeneous in nature and not perfectly mobile. Effectively, this translates into valuable resources that are neither perfectly imitable nor substitutable without great effort.

The RBV theory identifies the firm's potential key resources and evaluates whether these resources fulfil the VRIN criteria (Valuable, Rare, Inimitable and Non-substitutable). Valuable implies a resource must enable a firm to employ a value-creating strategy, by either outperforming its competitors or reduce its own weaknesses (Barney, 1991). Relevant in this perspective is that the transaction costs associated with the investment in the resource cannot be higher than the discounted future rents that flow out of the value-creating strategy (Mahoney & Pandian, 1992). To be of value, a resource must be rare by definition. In a perfectly competitive strategic factor market for a resource, the price of the resource will be a reflection of the expected discounted future above-average returns. Inimitable arises if a valuable resource is controlled by only one firm, it could be a source of a competitive advantage (Barney, 1991). This advantage could be sustainable if competitors are not able to duplicate this strategic asset perfectly (Peteraf, 1993). The term isolating mechanism was introduced by Rumelt (1984) to explain why firms might not be able to imitate a resource to the degree that they are able to compete with the firm having the valuable resource (Mahoney and Pandian, 1992). Non substitutable relates to lack of substitutability.

If competitors are able to counter a firm's value-creating strategy with a substitute, prices are driven down to the point that the price equals the discounted future rents, resulting in zero economic profits. A key point of RBV theory is the need to care for and protect resources that possess these evaluations (VRIN criteria), because doing so can improve organisational performance (Crook, Ketchen, Combs, and Todd, 2008). According to Priem and Butler (2001), the VRIN characteristics mentioned are individually necessary, but not sufficient conditions for a sustained competitive advantage. Within the framework of the RBV theory, the chain is as strong as its weakest link and therefore requires the resource to display each of the four characteristics to be a possible source of a sustainable competitive advantage (Barney, 1991).

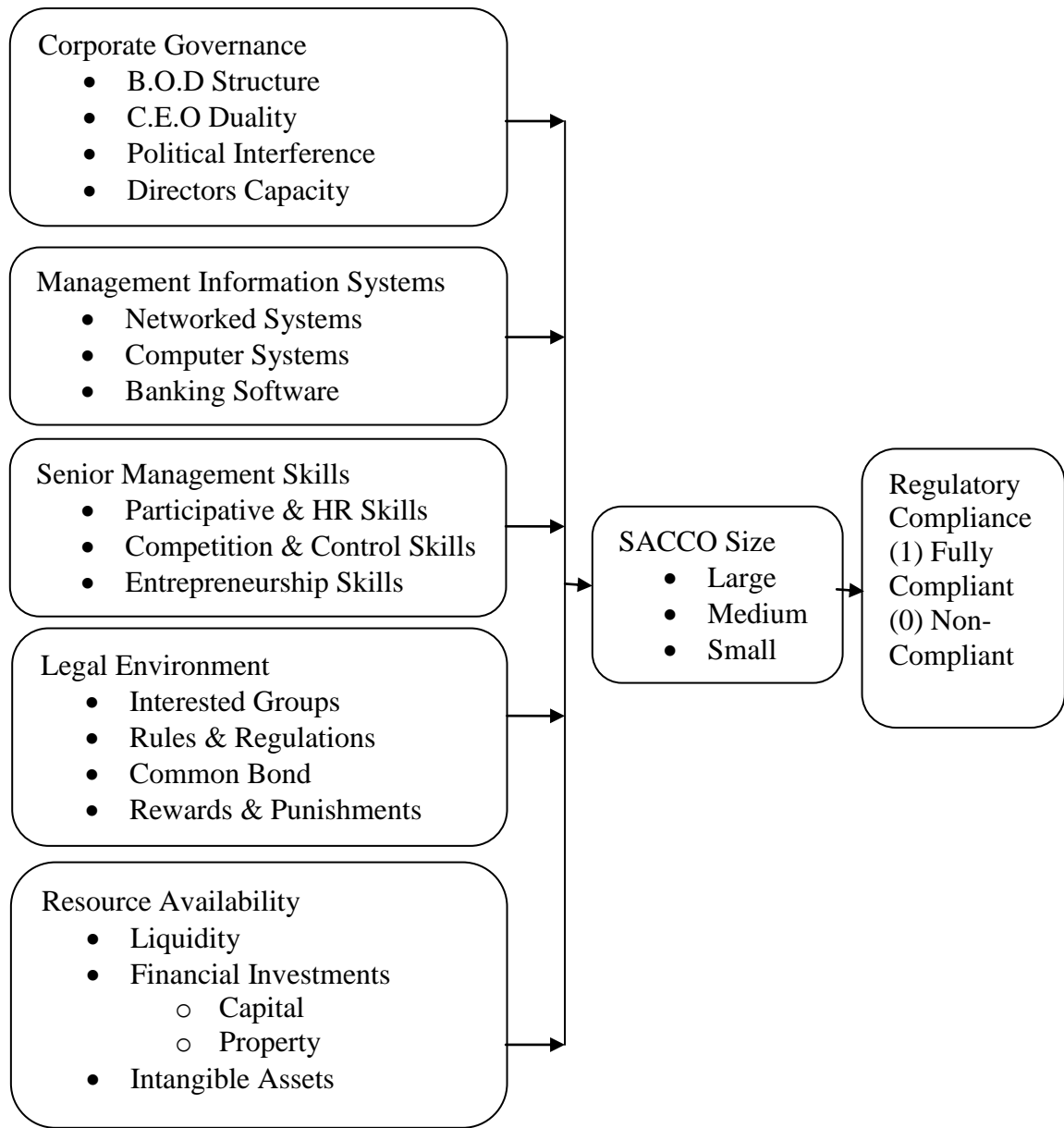
### **2.3 Conceptual Framework**

A conceptual framework is a concise description of the phenomena under study accompanied by graphic or visual depiction of the major variables of the study (Mugenda, 2008). It is a basic structure that consists of certain abstract blocks which represent the observational, the experimental and the analytical/ synthetic aspects of a process or systems being conceived (Bogdan & Biklen, 2007). The conceptual framework thus explains the possible connection between the variables and answers the why question. It is a tentative theory of a phenomena that you are investigating relating to a conception or model of what is out there that you plan to study, and of what is going on with these things and why (Smyth, 2004).

According to Dodge (2009) an independent variable is that which is presumed to affect or determine a dependent variable. It can be changed as required, and its values do not represent a problem requiring explanation in an analysis, but are simply taken as given. The dependent variable in contrast responds to the independent variable (Everitt, 2009). It is what you measure in the experiment and what is affected during the experiment.

The dependent variable in this study is regulatory compliance. The independent variables are corporate governance, management information system, senior management skills, legal environment and resource availability. The conceptual framework is illustrated in Figure 2.1.

The operationalisation of key variables is depicted in Table 2.1 which also provides for a composite index of measuring each of the operationalised constructs as a percentage of the indicator is provided. According to Trochim & Donnelly (2006) an index is a quantitative score constructed by applying a set of rules to combine two or more variables to reflect a general construct. An index score is thus trying to get at something that cuts across the variables that are combined, that is more general than its composite parts. For example in Table 2.1 the governance indicator “B.O.D structure” is measured by four questions each with a score of 25% while the governance indicator “C.E.O Duality” is measured by three questions each with a score of 33.3%.



Independent Variables

Intervening Variable

Dependent Variable

**Figure 2.1: Conceptual Framework**

**Table 2.1 Operationalisation of Key Variables of the Study**

Construct	Indicators	Construct Operationalisation	Score if Yes	%
5 Independent Variables (Corporate Governance, Management Information Systems, Senior Management Skills, Legal Environment & Resource Availability)				
Corporate Governance	B.O.D Structure	B.O.D Size	1	25
		B.O.D composition of odd or even number relating to voting	1	25
		Number of Board meetings	1	25
		Shareholders role in director appointments	1	25
	C.E.O Duality	Committees authority compared to C.E.O authority	1	33.3
		Distinction between Chairman & C.E.O roles	1	33.3
		Founder syndrome or duration members have sat in the board	1	33.3
	Political Interference	Directors independence from voting members/delegates	1	55
		Directorship as a stepping stone to external politics	1	45
		Directors Skill & education level of directors	1	33.3
Directors Capacity	Non-professional volunteers assuming highly technical roles	1	33.3	
	Directors knowledge to question information provided	1	33.3	
	Networked Systems	Use of mobile services	1	33.3
Management Information Systems	Computer Systems	Existence of local area networks	1	33.3
		Use of internet	1	33.3
		Use of computers with Windows 7 or above	1	33.3
	Banking Software	ICT policies and procedures	1	33.3
		Prevalence of manual systems	1	33.3
		Customised banking system	1	45
		Integrated FOSA & BOSA	1	55

		Staff motivation & inspiration	1	20	
	Participative & HR Skills	Effective communication of facts	1	20	
		Team building	1	20	
		Senior staff retention	1	20	
		Clear career development path	1	20	
	Competition & Control Skills	Level of assertiveness	1	30	
		Power and influence	1	25	
Senior Management Skills		Capacity to assess compliance & detect fraud	1	24	
		Formal training of internal audit team in finance & accounts	1	21	
	Entrepreneurship Skills	Creative problem solving	1	30	
		Innovation ability	1	25	
		Leveraging leadership style	1	24	
		Building of network allies	1	21	
		Interest Groups	Lobbying of legislative bodies by KUSCCO & KERUSSO	1	25
			Ministry officials involvement	1	25
	Predatory regulations by County governments		1	25	
	Unified National government policy		1	25	
	Rules & Regulations	Tighter regulations of SACCOs through provisions of the Banking Act	1	14.3	
		Understanding of Cooperative Societies Act	1	14.3	
Legal Environment		Understanding of SACCO Societies Act & Regulations	1	14.3	
		Understanding of Public Procurement Act	1	14.3	
		By- Laws harmonisation	1	14.3	
		Hiring of legal counsel	1	14.3	
		Use of courts	1	14.3	
		Common Bond	Opening up of common bonds	1	33.3
			Unity of purpose among SACCOs	1	33.3
			Engaging in prohibited business	1	33.3
		Rewards & Punishments	Threat of penalties & fines	1	55
			Regulator contract enforcing	1	45

Resource Availability	Liquidity	High SACCO bank balances	1	20	
		High balances with financial institutions other than banks	1	20	
		High level of government securities	1	20	
		High member deposits	1	20	
	Financial Capital	High dividend pay outs to shareholders	1	20	
		Access to cheaper sources of funds	1	30	
		High retained earnings	1	25	
		High share capital	1	24	
		High statutory reserves	1	21	
		Financial Property	Adequate collateral to borrow funds	1	20
			High investment in land and buildings	1	20
	High investment in equipment and machinery		1	20	
	Equity investment in apex bodies		1	20	
	Intangible Assets	Investments in subsidiaries & equity instruments of other institutions	1	20	
		SACCO brand reputation	1	55	
Trade marks & intellectual property rights		1	45		
<b>Intervening Variable ( SACCO Size)</b>			<b>D<sub>1</sub></b>	<b>D<sub>2</sub></b>	
SACCO Size	Large	Assets over Kes.4 billion	0	0	
	Medium	Assets more than Kes.1 billion but less than Kes.4 billion	1	0	
	Small	Asset base below Kes.1 billion.	0	1	
<b>Dependent Variable ( Regulation Compliance)</b>					
Regulation Compliance	Fully Complied (1) or Non Compliant (0)	Adequacy of the measure of regulation as being either fully compliant or non-compliant Whether the D.T.S is fully compliant	1	0	



### **2.3.1 Corporate Governance**

Owen (2007) argues that governance in Kenyan SACCOs is typically weak because of their 'Management Board' system which results in the absence of clear division between roles of the board and management. The boards and management capacity of most SACCOs is weak with board membership largely seen as a stepping-stone into politics. This causes board membership to be occupied by individuals not necessarily interested in enhancing member interests. Okwee (2011) found that a significant number of SACCOs comply less with corporate governance guidelines which may explain the relatively poor financial performance of these SACCOs. SASCCO (2010) found that in some instance, an attempt to implement good corporate governance is perceived by leaders as an act of questioning their ability.

Lari (2009) argued that mismanagement and corruption were two significant challenges facing SACCOs in Kenya today. According to Bwana and Mwakujonga (2013) SACCOs' board of directors are not trusted by employees. Furthermore, there are no adequate guidelines on various stakeholders in SACCOs. For example, the authority of the Executive Committee and Credit Committee in comparison with staff authority is not properly defined. In addition, the board members in most cases are non-professional volunteers, yet they assume very highly technical issues such as loan analysis and disbursement, budgeting and financial expenditure control.

According to Bwana and Mwakujonga (2013) SACCOs frequently require very important decisions on urgent matters such as change in interest rates, introduction of new products and services to be done expeditiously, however most of this decisions have to await approval by the Annual General Meetings. The historical practice where the board of directors (B.O.D) comprising of elected officers heavily involved in the operational affairs of the SACCO, to the exclusion of the technical staff and the C.E.O, is deeply entrenched limiting the effectiveness of the Act and Regulations in D.T.S.

The SACCO B.O.D is charged with the responsibility of ensuring sound and prudent management of SACCO affairs through implementation of sound and effective policy framework (SASRA, 2012). This however has been a key concern in a majority of SACCOs where there is need to improve on the corporate governance front to ensure realisation of the SACCOs full potential. The study will therefore test the following hypothesis.

H<sub>0</sub>1: Corporate governance does not significantly affect compliance of SASRA regulations.

### **2.3.2 Management Information Systems**

According to Owen (2007) lack of good computerised systems is a major constraint in efficient operations. In its absence, it is very difficult to track loan delinquencies, aging, provisioning, write offs, and ensure that accountants and financial managers apply business rules consistently. Furthermore, most SACCOs have manual or simple spreadsheet-based accounting and MIS systems. Even in the SACCOs which have computerised systems, these are not integrated between front and back office. The exceptions are some of the top SACCOs that are using off the shelf software and some others that have developed customised systems. A key factor constraining the adoption of computerised systems is the limited capacity of SACCO boards and managements. The weakness of the underlying communications infrastructure is also a factor constraining adoption of networked systems.

Makori (2013) noted that an inadequate ICT system and underdeveloped MIS is a challenge facing regulatory compliance in SACCOs. This is a significant challenge for the sector, given that large SACCOs have several thousand clients and a wide variety of products. New products require sophisticated cash flow loan management systems that allow staff and managers to generate the necessary types of reports for proper loan monitoring and recovery management.

This unfortunately is lacking in most SACCOs. The operating regulations and prudential standards define new ways of doing business thus requiring heavy investments by the SACCOs in upgrading the existing management information systems for effective compliance (SASRA, 2012). The pace of the upgrade is however slow, importantly as well is that data generated by SACCOs is not entirely without integrity issues on its accuracy and consistency. The study will therefore test the following hypothesis.

H<sub>0</sub>2: Management information system does not significantly affect compliance of SASRA regulations in Kenya.

### **2.3.3 Senior Management Skills**

Capacity gaps in terms of senior management skills and competence have been noted in majority of SACCOs. This is reflected in many SACCOs inability to meet the minimum regulatory requirements. Makori (2013) noted that inadequate managerial competence is a challenge facing regulatory compliance in SACCOs. Ondieki *et.al.*, (2011) revealed that the major challenges inherent in the SACCO movement in Kenya include limited transparency in the management of co-operatives and lack of capacity in management. (Magali 2013a) observed that SACCOs had poor management, lack of competence and accountability of staffs and SACCOs' leaders.

Bwana and Mwakujonga (2013) found that lack of education and skills among staff is prevalent in SACCOs. Mugo (2013) noted the lack of career development path and low salaries of personnel also militates against reforms implementation. Owen (2007) noted that the majority of SACCOs have no operational manuals detailing policies and procedures for accounting, cash flow management, credit and savings operations, internal controls, procurement and risk management. This makes it almost impossible for auditors to assess compliance or detect fraud. Internal audit capacity in most SACCOs is therefore very weak.

Management board members generally do not have any formal training in finance and accounting and there is also conflict of interest since the audit committee members also have a role in operational decisions through their role in management. Furthermore, very few SACCOs have an internal control staff. According to Owen (2007) only a small proportion of SACCOs have well qualified paid managers and staff since only these can pay attractive salaries. The study observed that as far as the training by the apex bodies of SACCOs was concerned only a small proportion of large SACCOs could afford training services at either the Kenya Union of Savings and Credit Cooperatives (KUSCCO) and Kenya Rural Savings and Credit Co-operatives Union (KERUSSU). It is therefore imperative that human resource functions in SACCOs are aligned to key functions and output areas (SASRA, 2012). In particular the regulation is very clear on the academic and skills qualification requirements of key personnel, an area yet to be fully implemented by SACCOs. The study will therefore test the following hypothesis.

H<sub>03</sub>: Senior management skill does not significantly affect compliance of SASRA regulations in Kenya.

#### **2.3.4 Legal Environment**

A study by Ombuki, Arasa, Ngugi, & Muhwezi (2014) showed a positive and significant relationship between environmental factors and compliance with procurement regulatory act. Further results in their study indicated that having various interests, objectives and beliefs, interest groups are involved in regulations in several ways such as lobbying legislative bodies to pass or alter procurement statutes, influencing implementation of these statutes, influencing budget authorisation and appropriations processes. For example, the umbrella body for SACCOs, KUSCCO, has been consistently advocating for sound co-operative policies and legislation but has also not shied away from siding with SACCOs and holding different positions from SASRA regulations.

According to Ademba (2012b) environmental factors that influence regulation compliance in SACCOs include competition, political government, technology, social values, globalisation, non-performance of the economy and the common bond. SACCO (2013) further asserts that the opening up of membership introduces new business risk including the guarantee mechanism whose strength is anchored on social collateral is becoming less effective. Owen (2007) further argues that SACCOs face considerable competition from banks which provide loans quicker, with less paperwork, less charges and less collateral requirements.

The major threat to SACCOs is thus the competition from Banks and MFIs as they make efforts to increase outreach among low and middle income clients in both rural and urban areas due to a more flexible legislative environment as opposed to that of SACCOs. The initial requirement by the Government of Kenya that SACCOs be based on a check off system based on employment and commodities allowed many SACCOs to build up membership and assets, which give them a basis to compete in a liberalised environment with some SACCOs developing assets larger than banks. However the opening up of the legislative restrictions on common bonds led to cannibalising of members as the SACCOs now compete directly with one another.

Furthermore, the Co-operative Bank of Kenya which was launched to support the co-operative movement has also become commercialised and directly competes with SACCOs. There is also no unity of purpose among SACCOs which are at different stages of growth and compliance. This will call for continued monitoring and evaluation efforts from the SASRA and continuous engagement of stakeholders in working together to address the shortcomings (SASRA, 2012).

This has led to SACCOs not having a common stand on various legal policy issues affecting the SASRA compliance in the sector and thus at times being subjected to unfair laws by the regulator. The legal environment has also seen other banks which as are the biggest SACCO competitors continue to lobby for stronger regulations against the SACCO sector. The study will therefore test the following hypothesis.

H<sub>0</sub>4: Legal environment does not significantly affect compliance of SASRA regulations in Kenya

### **2.3.5 Resource Availability**

The new regulatory framework brings immense challenges to SACCOs as they are expected to conduct business in a different way. The effective implementation of the new legal and regulatory framework requires a new set of skills and knowledge. This requires financial resources and time besides the attitude change amongst the leaders and other stakeholders (SASRA, 2012). Implementing good governance requires adequate resources such as: human, time, financial and education resources (SASCCO, 2010).

According to Ondieki et.al., (2011) lack of funding has been identified in a number of studies as one of the main constraint hindering the growth of the SACCO sector. Owen (2007) argued that while all SACCOs are required to have annual external audits by certified accounting firms, there is a paucity of good-quality audit firms. Outside of the top two or three large accounting firms, the technical capacity of other firms is weak. Furthermore, most SACCOs lack the resources to pay for thorough external audits. Other regulators such as the Institute of Certified Public Accountants of Kenya have also raised issue with the manner of hiring Auditors through acclamation during Annual General Meetings.

According to Bwana and Mwakujonga (2013), SACCOs in Kenya and Tanzania have similar constraints including: lack of well trained officials and proper administrative framework, bureaucracy and inability to raise vast financial resources. SACCOs also lack access to funding/credits, which can be traceable due to the reluctance of banks to extend credit to them owing among others to poor and in adequate documentation of business proposals. Lack of appropriate and adequate collateral, high cost of administration and management of small loans as well as high interest rates are other resource constraints. Commercial banks also tend to absorb a high risk of lending to especially start-ups as compared to SACCOs.

While some SACCOs satisfy the minimum licensing requirements namely capital adequacy, physical infrastructure and internal controls, there are notable resource challenges for the effective compliance with the Act and Regulations (SACCO, 2012). Majority of SACCOs face liquidity challenges due to the very nature of their business that involves lending up to three times their depositors savings. This is further exacerbated by the continuous push by SACCO shareholders for higher dividend pay offs and the cutthroat competition that has seen SACCOs borrow exorbitant bank funds and re-lend at much lower interest rates to members. Further all aspects of the SACCO require resources and this is scarce. The study will therefore test the following hypothesis.

H<sub>05</sub>: Resource availability does not significantly affect compliance of SASRA regulations in Kenya

## **2.4 Empirical Literature Review**

Ambwaya (2012) carried out a research on the marketing strategies adopted by D.T.S in Kenya. The study used a descriptive census study as the research design. The population of interest comprised of D.T.S in Kenya as licensed by SASRA. A list of the 96 licensed SACCOs as at 2nd February, 2012 was obtained.

The study concluded that a marketing plan was important in an organization because it was part of the SACCO strategic management practice. The study also concluded that marketing strategy is formulated at the functional level and set within the context of the overall corporate strategy. Cyriacus (2009) researched on the influence of governance on the performance of SACCOs. This was a case study of Lumumba SACCO. The study set out to investigate whether good corporate governance has influence in the performance of SACCOs. To achieve the objectives the study used a sample of 26 members, 5 staff and 4 members of the probe committee board who were randomly selected. Data was collected by use of a questionnaire instrument, interviews, observation and focus group discussions. The findings established that good corporate governance practices positively influence the performance of SACCOs. Based on the findings, it was therefore concluded that a balanced and well constituted governance structure will lead to attainment of SACCO objectives. Deller, Hoyt, Hueth, and Sundaram-Stukel (2014) carried out a research on the economic impact of cooperatives in the United States. This report described and quantified the magnitude of economic activity accounted for by U.S. cooperative businesses. It described the legal and economic characteristics that were used to define cooperative firms; methods used to measure cooperative activity across all sectors of the US economy; and approaches developed to collect appropriate data. Finally, it provided a census of cooperatives, summarised the extent of their activity by economic sector, and measured their impact on aggregate income and employment.

Fiorillo (2006) studied the effects of wholesale lending to SACCOs in Uganda. The objectives of the study were to review the experiences of Ugandan SACCOs with wholesale lending, determine the factors that influence whether an external loan will have a positive or negative impact and give practical advice and provide guidelines for wholesale lenders and potential borrowers. The study consisted of a desk review of existing documents, interviews with wholesale lenders, apex institutions and government officials.



The study was done through field visits to fifteen SACCOs in four regions of Uganda. Six principal findings emerged from the study: External funds will not help a weak SACCO become strong; Wholesale loans to a SACCO can impact the savings culture of the institution positively or negatively; SACCOs can be very successful without accessing external funds if they have qualified and dedicated management and governance teams, sensitised members, good policies and effective capacity building from outside sources; Efficient capacity building is crucial, since the success of wholesale lending is largely dependent on the quality of governance and management; Monitoring and reporting requirements imposed by wholesale lenders, in particular requirements to age and provision the portfolio, can lead to improvements in management practices of great value to the SACCO; Many SACCO members were negatively influenced by politicians who presented the external funding as a government grant. Gweyi and Karanja (2014) researched on effect of financial leverage on financial performance of D.T.S in Kenya. The sample data was extracted from 40 SACCOs registered by SASRA. Two basic approaches of descriptive and analytical design were adopted. The results showed a perfect positive correlation between debt equity ratio with return on equity and profit after tax, and a weak positive correlation between debt equity ratio with return on assets and income growth.

Karagu (2014) carried out a research on financial factors influencing performance of SACCOs in Kenya. The study found that funds misappropriation influences performance of SACCOs. The study concluded that SACCOs need to improve on their internal audit department and other internal control measures. It also established that investment decisions made by SACCOs influence their performance. It also emerged from the study that SACCOs need to invest in prudent projects in order to achieve better returns. It was also found that SACCOs should put in place loan recovery strategies and introduce collateral securities as a way of eliminating or reducing loan defaulting. The study also established that member withdrawal affects SACCO performance.

The study concluded that SACCOs should introduce more products in order to compete with other organisations such as Micro Finance Institutions. Kinyuira, Gathenya & Muturi (2014) researched on the influence of strategic organisational components on the performance of D.T.S in Kenya. The research was a cross-sectional survey targeting all the 215 D.T.S licensed by the SASRA as at 31st December 2013.

Stratified random sampling technique was used to select a sample of 115 SACCOs. Data was then collected using questionnaires, document analysis as well as interviews, then analyzed using correlational and regression analysis. The results of the study showed a significant positive influence of strategic organisational purpose and key resources on performance of D.T.S as moderated by key business processes.

Kilonzi (2012) studied the impact of SASRA regulations on the financial performance of SACCOs in Kenya. The study used a causal research design targeting ninety eight SACCOs registered by SASRA. The study revealed that capital regulation affects financial performance in SACCOs. Kivuvo and Olweny (2014) carried out a study on financial performance analysis of Kenya's SACCO sector using the Altman Z Score model of corporate bankruptcy. This study analysed SACCO financial statements to determine financial performance, predictor variable potency and models contribution to finance stability. The study population was the 215 D.T.S with a sample of 30 that were identified randomly. Quantitative research design was used to analyse longitudinal data for the period 2008 – 2013. Financial analysis showed a fairly strong finance position and improved performance for SACCOs in grey and bankrupt area moving them to non bankrupt position. 24 SACCO's had a positive slope, a trajectory if sustained enhanced sector financial stability with only six SACCOs having a negative slope. The study concluded that regulatory agency is correct in advocating for additional capital base as such will improve individual Z scores and recommended the model application in financial analysis of SACCOs.

Macharia (2013) did a study on the effect of licensing requirements on the performance of Co-operative Societies in Kenya. This was a survey of D.T.S in Nakuru County. Most SACCOs according to the study reported improvement in their performance both in membership, portfolio and efficiency. This was attributed to the SASRA licensing requirements where most SACCOs are complying with the regulator requirement so as not to be locked out of the business by the regulator.

Magali (2013a) studied the impacts of credits risk management on profitability of rural SACCOs. This study was conducted from 37 rural SACCOS in Morogoro, Dodoma and Kilimanjaro regions in Tanzania. The study applied univariate regression model and found out that 70% of rural SACCOs were making loss because they lacked effective credits risk mitigation techniques. The study recommended that the government should continue to regulate and supervise the rural SACCOs in Tanzania.

Magali (2013b) researched on the influence of Rural Savings and Credits Cooperatives Societies variables on loans default risks. A multivariate regression model was used to examine the influence of SACCOs' variables on loans default risks measured by Non Performing Loans. The results revealed that savings and deposits reduce the rural SACCOs loans default risks while the total assets, education of the manager and the number of borrowers increases the loans default risks. However, variables of age of the SACCOs, age of chairperson of the board, manager, chairperson loans committee and their education did not influence the loans default risks for the rural SACCOs. This study recommended that rural SACCOs should sensitise their members to deposit and save more, also that loans limit criteria and geographical distance should be considered before issuing loans and that SACCO management should repay their overdue loans, avoid embezzlement of funds and adhere to regulations. Magali (2014) researched on the influence of leadership, corporate governance and regulations on credit risk management. This paper used data from 37 rural SACCOs of three regions in Tanzania.

The study investigated quantitatively and descriptively the influence of leadership, corporate governance and regulations on credit risk management in rural SACCOs. This study found that good leadership, corporate governance and regulations were essential for effective credit risk management in rural SACCOs. The study further revealed that rural SACCOs affirmed the presence of good re-elected leaders, effectiveness in loans collection, presence of creativity and innovating among leaders, annually audited reports and the presence of By-laws.

This paper recommends that rural SACCOs should practice good leadership, governance and should abide by their By-laws in order to have effective credit risk management. Also that the government should regulate the rural SACCOs very stringently and that political interference should be avoided. Makori (2013) did a study on the challenges facing D.T.S regulatory compliance in Kenya. This was a case of the Gusii region which encompasses Kisii and Nyamira counties.

The research was carried out using various methodologies which included structured questionnaires, interviews, observations, focused discussions with selected persons and available documentation in the selected institutions. The study found out that the various challenges facing compliance included non-separation of shares from deposits, high dependence on short-term external borrowing, lack of liquidity monitoring system, high investment in non-earning assets, inadequate ICT system, inadequate managerial competencies and political interference among others. The study realised that even with the challenges, opportunities were available for compliant SACCOs including capital accumulation and agency business largely arising from access to Government funds for on-ward transmission to youth and women groups. Mbui (2010) carried out a study on the business opportunities for Stima SACCO Society Limited in a new regulatory environment. The study concluded that the new regulatory environment provided more structured and clear guidelines on the operations of Stima SACCO. Mosongo et.al., (2013) researched on financial innovation and financial performance of SACCOs.

The study's overall objective was to investigate whether there was a relationship between financial innovation and financial performance among the SACCOs in Nairobi County. The study adopted descriptive research design for the purpose of accessing the study's general intent. The study's target population comprised of 41 SACCOs registered under the Commissioner for Cooperatives in Nairobi County. The study found that SACCOs adopted various types of financial innovation that lead to financial performance, these included process innovation, product innovation, and institutional innovation.

The study recommended that for SACCOs to be highly competitive and relevant in the market they must employ various types of financial innovation, emphasis should also be on education and training on various groups include members, staff of the Sacco, elective members of the SACCO, committee members, and managers of the SACCO, and that the government should support SACCOs by creating laws which protect them from exploitation from the market and lastly that SACCOs should form alliance with other financial institutions in order to have economies of scale.

Muigai (2013) studied the challenges of strategy implementation faced by SASRA. The research design adopted was a case study. The study concluded that organisation structure, resource allocation and organisational culture were challenges to strategy implementation in the authority. Mumanyi (2014) carried out a study on the challenges and opportunities facing SACCOs in the current devolved system of government of Kenya. This was a case study of Mombasa County. This study revealed that there is rapid growth of SACCOs in Kenya and that the Co-operatives have not lagged behind in the new scheme of things as they have come up with products and services targeting the youth, small business people and women. Muriithi (2013) researched on the response of SACCOs to competition from commercial banks and new SACCO regulations. This study used an interpretive research methodology.

The study found that SACCOs were opening up their common bonds, carrying out rebranding and appointing SASRA compliant officers. It was also found that the implementation of the new SACCO regulations has made SACCOs to become more responsive to member needs. Muriuki and Ragui (2013) looked at the impact of the SASRA legislation on corporate governance in Co-operatives in Kenya. The study concluded that the legislations have influenced corporate governance to a great extent though there is still room for improvement. The study recommends synchronisation of key monitoring tools with the SACCO systems and processes via exploitation of information and communication technologies.

Mushy (2008) did a research on the assessment of SACCOs and Small Micro-Enterprises (SMEs) contribution in poverty reduction, employment creation and income generation. The study's main objective was to assess the contribution of SMEs in poverty reduction in the Dar es Salaam region. Simple random, stratified and purposive techniques were used to select respondents from SACCOs and SMEs. A sample of fifty five SACCOS and SMEs staff responded to the administered questionnaires. SMEs involved in this study were ten while SACCOS were ten. The findings of this study revealed that: SMEs contribute greatly in the employment/job creation and income generation, improvement in technology, and performance of these SMEs in the industry create employment opportunities. SACCOS were found to have great role in the formation and growth of SMEs, hence played a vital role in the job creation through the SMEs. SACCOs also reduced poverty through providing loans and financing development activities.

Musumbi (2012) carried out a study on performance management at SASRA. The researcher adopted a case study research. Most of the data was qualitative and was collected from a single organisation, and thus was analysed using content analysis technique. From the research findings, it can be concluded that SASRA had in place all of the reviewed performance management practices.

Muzinduki (2008) researched on micro credit funding through SACCOs. This was an analysis of inclusion and exclusion of the poor in Kabarole District, Uganda. The study found that SACCOs are member owned not community owned because each SACCO serves the interest of members not the interest of the community and this is reflected in how the poor individuals can not afford the requirements of join certain SACCOs. SACCOs were also found not to differ much from other microfinance institutions (MFIs) in terms of credit management. The difference the research found was in the management where the board and management of SACCOs are derived from the members who are also the supreme decision organs.

Mwakajumilo (2011) researched on the role of informal microfinance institutions in saving mobilisation, investment and poverty reduction. This was a case of SACCOs in Tanzania. The research study was both exploratory and formal. The study found that the main constraints to developing the regulatory and prudential supervision framework are threefold. A first set of capacity constraints relate to the lack of bookkeeping and reporting standards, internal controls, and credit decision mechanisms at the level of the MFIs. A second set of capacity constraints are at the level of the institutions entrusted with supervision authority, mainly due to shortage of skilled and trained staff. Finally, the information or database on borrowers, their credit history, and repayment records have not kept pace with the growth of the microfinance sector.

Ndung'u (2013) looked at the relationship between risk management practices and financial performance of SASRA regulated SACCOs in Nairobi. The study concluded that the maturity of risk management processes is correlated with sustainable improvements in firms performance as the efficiency of risk management is expected to significantly influence its financial performance.

Ngaira (2011) researched on the impact of the Regulatory Authority guidelines on SACCO operations in Kenya. The scope of this study was the case of Nairobi D.T.S. According to the study most SACCOs were complying with the regulator so as not to be locked out of business by the operator. Nthimba and Jagongo (2015) carried out a study on the financial risk management strategies employed by licensed D.T.S. The study focused on all 44 D.T.S in Nairobi County. The population of interest was the risk managers or managing directors of the organisations. The research instrument used was questionnaires which were pre-tested to confirm clarity of the questions and their validity and reliability. The results revealed that most D.T.S employed the strategies of having an active oversight board, policies, procedures and limits, and comprehensive internal controls in risk management. The study concluded that SASRA needs to sensitize and educate members on proper risk management strategies to be employed by all D.T.S and more so, on a working management information system.

Odhiambo (2011) researched on the relationship between working capital management and financial performance of D.T.S licensed by SASRA in Nairobi County. Findings of the study indicated that efficient working capital management leads to better financial performance of SACCOs hence a positive relationship existed between efficient working capital management and financial performance. Ngugi (2014) did a study on challenges facing D.T.S compliance with the SACCO Societies' Act. This study was based in Nyeri County. The study adopted descriptive survey research design where the target population was the management of the SACCOs. The researcher's conclusion and recommendations was that ICT capacity, capital adequacy, size and governance were found to be important as far as compliance with the Societies' Act number 14(2008) was concerned. Njagi et.al., (2012) researched on the impact of Front Office Sacco Activity (FOSA) on SACCO performance in Kenya. This was a case study of Meru South and Maara district in Tharaka Nithi County. The target population for the study comprised three SACCOs with FOSA. The study concluded that FOSAs, if well operated can improve the members' welfare.



Njeru et.al., (2015) carried out a study on the effect of cash management on financial performance of D.T.S in Mount Kenya region. The target population was all the thirty licensed D.T.S in the Mount Kenya Region, the sampling technique employed was simple random sampling and the sample size was 92 respondents. Primary quantitative data was collected by use of self-administered structured questionnaires.

The researcher also used secondary data derived from the audited financial statement of the SACCOs and the regulator (SASRA). The researcher concluded that there is need to introduce cash management controls in the SACCOs, there is need to better strengthen the role of SASRA and increase its awareness, there is need to introduce credit management policy and finally increase the monitoring role of the government through its regulator in the sector since the sector plays a critical role on the achievement of Vision 2030 and in the improved economic development of the members.

Okwee (2011) carried out a research on corporate governance and financial performance of SACCOs in Lango sub region of Northern Uganda. The research set out to: establish the level of compliance with corporate governance guidelines, determine the relationship between corporate governance and risks, examine the relationship between risks and financial performance, as well as examine the relationship between corporate governance and financial performance. A sample of 63 was drawn from a population of 75 SACCOs and a questionnaire distributed to each of the SACCOs, collected and analysed.

Findings revealed that the majority of SACCOs had operated for a period of up to four years only and none of them operated in more than five branches. A significant number of SACCOs were found to comply less with corporate governance guidelines, risk was found to be weakly and negatively correlated with corporate governance and financial performance whereas corporate governance and financial performance were found to be strongly positively correlated.

The study concluded that less compliance with corporate governance as well as high risk levels may explain the relatively poor financial performance of these SACCOs. The study recommends for further research in corporate governance guideline implementation and lending models among SACCOs.

Olando (2013) researched on the contribution of SACCO financial stewardship to the growth of SACCOs in Kenya. The specific objectives were to; establish the association of loan management and the growth of SACCOs' wealth, establish the association of institutional strengths and the growth of SACCOs' wealth, and establish the association of innovativeness of SACCO products and the growth of SACCOs' wealth. The study findings indicated that growth of SACCO wealth depended on loan management, institutional strengths, and innovativeness of SACCO products. The study recommends that SACCOs should; continuously review credit policies, establish irrecoverable loan provision policies, develop staff recruitment policies, use appropriate financing mix.

Olando (2012) carried out a thesis on the assessment of financial practice as a determinant of growth of SACCOs' wealth in Kenya. This was a case of Meru County. This study used descriptive design in soliciting information and data was collected from the census of 44 SACCOs using a questionnaire and document review tool. The study found that SACCOs inadequately complied with their By-laws and incomes from investments did not adequately cover their costs. The study recommends that the Government should review legal framework to ensure that institutional capital is used to grow SACCOs' wealth. Owino (2011) looked at the competitive strategies adopted by SACCOs in Mombasa County, Kenya. The researcher's findings indicated that Government policies and resistance to change were the greatest challenges to strategy formulation and implementation. Other challenges faced were lack of financial resources and absence of good management to drive competitive strategies in the right direction. For further research it recommends that a study be carried out to determine the influence SASRA has on the SACCO movement.

Sungusia (2007) studied on an assessment of microcredit performance on poverty reduction in Tanzania. The study investigated two MFIs in Tanzania, PRIDE and Posta na Simu SACCOs where 100 customers from both were interviewed. The overall objective of this study was to assess the impact of micro credit on poverty reduction.

At the same time 10 respondents credit providers were interviewed. The findings showed that MFIs lack policy and regulatory environment, have insufficient access to information and weak human and institutional capacity. Therefore, as a result of these impediments access to microcredit remains limited to poor population in Tanzania. It was observed that the conditions and procedures set do not favour the poor and low-income earner clients. Therefore, the proposition that poor people do access credit easily was not supported by the results from this study. The results from the study indicated that both income and employment opportunities increased significantly after borrowings from MFIs. The results from this study concluded that micro credit institutions have created more employment opportunities.

Wanyoike (2013) researched on the effect of compliance to SASRA regulations on financial performance of SACCOs in Kenya. This was a survey of D.T.S in Nairobi County. The target population was all the 34 DTS in Nairobi County which were obtained through census using survey design. The study findings indicated that the quality of the Board of Directors was an important aspect in improving the SACCOs financial performance as per the SASRA regulations. The findings also revealed that SACCO staff competence had a strong influence on the financial performance of the SACCOs. Corporate governance was also identified as the most significant effect of SASRA regulations on the SACCOs financial performance.

## **2.5 Critique of Existing Literature**

Ambwaya (2012) carried out a research on the marketing strategies adopted by D.T.S in Kenya. Since SASRA regulations came in place in the year 2010, the two year period might not have been enough to collect adequate data to carry out the research on the D.T.S. Cyriacus (2009) researched on the influence of governance on the performance of SACCOs. This was a case study of Lumumba SACCO in Tanzania and thus a problem of generalisation occurs due to its narrow scope. The study by Deller, Hoyt, Hueth, and Sundaram-Stukel (2014) on the economic impact of Co-operatives in the United States did not adequately look at the fundamentally different forms of Co-operatives from other business organisations.

The assessment of economic impact solely in terms of the magnitude of business activity also provided an incomplete perspective on the total impact of Co-operatives. Additionally, in some sectors, the research data covered all the firms in the given sector. The Credit Union sector, for example, had a trade association and a national regulatory body that collect detailed data on all credit unions in the U.S. However, in some sectors the research surveyed individual firms to request data for analysis, because it was prohibitively costly to survey (and obtain responses) from all firms. These could lead to a bias in the final results.

Fiorillo (2006) researched on the effects of wholesale lending to SACCOs in Uganda. The sampling method used in this study was chosen to allow for desired geographic representations and to avoid any bias in the selection process, while allowing the research team to control, as much as possible, for differences in geographic regions and SACCO membership size. The sample was however limited by constraints including the necessary small sample size limit of eight due to logistical difficulties including the financial budget and time availability and the inadequacy of quantitative data of SACCOs. The study also focused on only four regions of Uganda and this could lead to a problem of generalisation of results.

Gweyi and Karanja (2014) researched on the effect of financial leverage on performance of D.T.S in Kenya. The sample data was extracted from 40 SACCOs registered by SASRA extended from the period 2010 to 2012. As the scope of study is limited by the small sample size and the short data duration period, the findings of the study must be interpreted with caution as the results may not be generalised to the SACCO sector. Karagu (2014) carried out a research on financial factors influencing performance of SACCOs in Kenya. The scope of the study was on the D.T.S licensed by SASRA in Nairobi County. Due to this narrow scope a problem of generalising the results might occur. The questionnaires were administered to employees in finance and accounting departments only using purposive sampling. The use of purposive sampling might also lead to a bias sample which will affect the generalisation of results.

Kinyuira et.al., (2014) researched on the influence of strategic organisational components on the performance of D.T.S in Kenya. The study however did not look at other aspects such as regulation compliance that might influence performance. Kilonzi (2012) used a causal research design targeting ninety eight SACCOs registered by SASRA to study the impact of SASRA regulations on the financial performance of SACCOs in Kenya. This study was limited in scope as it only sought secondary data from the financial statements of 32 SACCOs based in Nairobi. The overreliance on secondary data thus limits the richness of the research as the degree of precision of the data obtained from the SACCOs financial reports cannot be ascertained. Purposive sampling was also used to select the sample and this lack of randomness may lead to skewed results. The period of study was limited to two years and this could have a negative impact when generalising the results.

Kivuvo and Olweny (2014) carried out a study on financial performance analysis of the Kenya SACCO sector using the Altman Z Score model of corporate bankruptcy. The study population was the 215 D.T.S with a sample of 30 identified randomly. This sample size was small and could be construed as leading to sample bias, in addition it

was not stratified according to the distribution of SACCOs per County. Macharia (2013) did a study on the effect of licensing requirements on the performance of Co-operative Societies in Kenya. This was a survey of three D.T.S in Nakuru County, however according to SACCO (2013) there were six D.T.S in Nakuru County. The reasoning why the other three were not part of the study has not been provided.

Magali (2013a) researched on the Impacts of Credits Risk Management on Profitability of Rural Savings and Credits Cooperative Societies in Tanzania. The sample was restricted and small in size (37 SACCOs) as it only concentrated on three regions of Tanzania. It is recommended therefore that a study with a large sample size and wider coverage be carried out. Magali (2013b) researched on the influence of Rural Savings and Credits Cooperatives Societies variables on loans default risks. The study was restricted in scope as it only tackled rural SACCOs. Magali (2014) studied the influence of leadership, corporate governance and regulations on credit risk management. This research was restricted only to rural SACCOs in three regions of Tanzania (Morogoro, Dodoma and Kilimanjaro). Focusing on only three regions would lead to a problem when generalising the results for the whole country. The study also only looked at Rural SACCOs and made no attempt to look at other types of SACCOs.

Makori (2013) carried out a study on the challenges facing D.T.S regulatory compliance in Kenya. This was a case study of the Gusii region. Mbui (2010) carried out a study on the business opportunities for Stima SACCO Society Limited in a new regulatory environment, Muigai (2013) also adopted a case study on the challenges of strategy implementation faced by SASRA. Further Musumbi (2012) carried out a study on performance management at SASRA and also adopted a case study research. For all three case studies, given that there are more than 215 D.T.S in Kenya a case study of one SACCO would be very limiting in terms of generalising their findings.

Muriithi (2013) researched on the response of SACCOs to competition from commercial banks and new SACCO regulations of SACCOs in Kirinyaga County. This was limited in scope as there are other Counties with far more D.T.S and therefore the findings would not be easily generalised. Mosongo et.al., (2013) researched on financial innovation and financial performance of SACCOs in Nairobi County. The study was limited in scope since it did not target the D.T.S but rather the SACCOs that were under the supervision of the Commissioner of Co-operatives in Kenya. Muriuki and Ragui (2013) looked at the impact of the SASRA legislation on corporate governance in Co-operatives in Kenya. However the study was anchored on a study on impact on the legislation on financial management and this brings an element of discord as far as the dependent variable is concerned.

Mushy (2008) did a research on the assessment of SACCO and Small Micro-Enterprises (SME) contribution in poverty reduction, employment creation and income generation. This study was however limited in scope as it was restricted to the Dar es Salaam region. Also the study only sampled ten SACCOs and ten SMEs which was small sample size and could lead to a problem of generalisation of results. Muzinduki (2008) researched on micro credit fund through SACCOs. This was an analysis of inclusion and exclusion of the poor in Kabarole District, Uganda. This research concentrated on analysing inclusion and exclusion of the poor in the government micro credit fund.

This inclusion/exclusion was measured at four levels that included SACCO formation process, selection criteria, requirements to access credit and implementation process. Findings were based on a selected case study of Kagote SACCO, however since the internal characteristics vary from SACCO to SACCO this could mean that some internal characteristics for the SACCO under study may not represent others who have varied unique internal characteristics.

Ndung'u (2013) looked at the relationship between risk management practices and financial performance of SASRA regulated SACCOs in Nairobi. The study would have covered more financial institutions across financial sectors so as to provide a more broad based analysis. The study also faced limitation where the management failed to reveal the financial performance of the SACCOs and respondents were found to be uncooperative because of the sensitivity of the information required for the study.

Mwakajumilo (2011) researched on the role of informal microfinance institutions in saving mobilization, investment and poverty reduction. The study was restricted to the southern highland zone of Tanzania. The study had difficulties in trying to minimise errors inherent in rating scales due to their subjective nature. The process of handling the likert scale required special attention from the researcher as it was possible for the respondents to misunderstand and make bad judgment leading to errors/bias. The researcher also lacked confidence in the information/data obtained from the business units. The study used both probability and non-probability sampling and this could have led to a biased sample.

Ngaira (2011) researched on the impact of the Regulatory Authority guidelines on SACCO operations in Kenya. The scope of this study was the case of Nairobi D.T.S. Although it was a representative study of 50 D.T.S in Nairobi County, the study failed to research on the whole population of 215 D.T.S that are scattered across the 47 Counties in Kenya. Ngugi (2014) did a study on challenges facing D.T.S compliance with the SACCO Societies' Act. This study was limited in scope as it was based in Nyeri County and a problem of generalisation of the results was likely to arise as there are other Counties with more D.T.S than Nyeri. In addition the study did not look at the possibility of size as a intervening variables in the relationship between the dependent and independent variables. Njagi, Kimani and Ngugi (2012) researched on the impact of Front Office Sacco Activity (FOSA) on SACCO performance in Kenya.



This study was restricted in scope as it only looked at three D.T.S in Tharaka Nithi County. Furthermore since the study used purposive sampling method which is a non-probability sampling method, this could lead to biased sample. Njeru et.al., (2015) carried out a study on the effect of cash management on financial performance of D.T.S in Mount Kenya region. This study was restricted to the Mount Kenya region and targeted 30 D.T.S. Generalisation of this results to the other 46 counties might therefore be problematic.

Nthimba and Jagongo (2015) carried out a study on the financial risk management strategies employed by licensed D.T.S. The study only focused the 44 D.T.S in Nairobi County and generalisation of results might be problematic. The study also concentrated on management information systems from a financial risk management angle and not a regulation compliance position.

Okwee (2011) study on corporate governance and financial performance of SACCOs only concentrated on one sub region, Lango, in Uganda. Generalising the results for the whole country will therefore be difficult. The study also did not look at the actual implementation of corporate guidelines within the SACCOs in Uganda despite acknowledging that governance challenges still existed in most SACCOs in Uganda. This study also looked at the general population of SACCOs and not the D.T.S in Uganda.

Olando (2012) carried out a thesis on the assessment of financial practice as a determinant of growth of SACCO wealth in Kenya. This was a case of Meru County. This study used descriptive design in soliciting information and data was collected from the census of 44 SACCOs. However the study also did not distinguish whether it was looking at D.T.S or non- D.T.S in the County.

Olando (2013) researched on the contribution of SACCO financial stewardship to growth of SACCOs in Kenya. This study was restricted in scope as it was based in Meru County. The sample was also biased as it also included dormant SACCOs. Sungusia (2007) studied on an assessment of microcredit performance on poverty reduction in Tanzania. The study investigated two Microfinance Institutions in Tanzania, PRIDE and Post na Simu SACCOs. This study was restricted in scope as it was a case study of only two SACCOs in Tanzania.

Wanyoike (2013) researched on the effect of compliance to SASRA regulations on financial performance of SACCOs in Kenya. This was a survey of D.T.S in Nairobi County. The study was limited in scope as there are 46 other counties thus generalising the results to the whole D.T.S population may lead to bias. The respondents approached were also reluctant in giving information fearing that the information sought might be used to intimidate them or paint a negative image about them or their SACCOs. Information on SASRA was limited given the fact that the regulations were enforced in the year 2010 thus there lacked enough material since few research had been conducted in this area.

## **2.6 Summary**

This chapter has reviewed theoretical, empirical and secondary literature on challenges to regulation compliance. According to SASRA (2012) the SASRA regulatory framework aims to enhance the transparency and accountability in the management of the D.T.S. While good progress has been made by D.T.S in developing policies, establishing internal audit functions and software upgrade, compliance remains a challenge for example due to legacy governance practices where the directors are heavily involved in operations. Separation of duties and responsibilities of the board and management has also remained a thorny issue amongst some of the licensed D.T.S.

According to SACCO (2012) the Act and the Regulations are risk oriented to ensure that practices in SACCOs in respect to the various regulations are now institutionalised and monitored to protect the interests of the members and therefore depositors. In relation to this, the literature in this study looked at the stakeholder theory, diffusion and adoption theories, social cognition theory, logic of appropriateness: normative theories and the resource based view theory. These theories were found appropriate in the study as they guide on the issue of challenges and regulation compliances. From the literature it is evident that various challenges affect regulation compliance such as corporate governance, management information systems, senior management skills, legal environment and resource availability. SASRA regulations in Kenya came in force in the year 2010 and the study has identified five theories to act as the link to this empirical settings. In addition the variables in the study were derived from the theoretical framework. This study shall thus contribute to the theories of strategic management by testing the derived hypotheses in a relatively new empirical setting.

## **2.7 Research Gaps**

There is limited empirical literature available in this area as the regulations came in force in the year 2010. Macharia (2013) did a study on the effect of licensing requirements on the performance of SACCOs and found that most had compliance challenges. Magali (2013a) study on Tanzania SACCOs recommended continuous monitoring of regulatory compliance. Muriuki and Ragui (2013) did a research on the impact of the SACCO Societies Act but focused on only one variable. Gweyi and Karanja (2014) found that the major problem facing SACCOs was inadequate regulatory compliance and recommended a study targeting data from all D.T.S be done. Mosongo, Gichana, Ithai, and Nguta, (2013) study on regulation compliance did not target the D.T.S but rather SACCOs under supervision of the Commissioner of Co-operatives.

The study by Deller, Hoyt, Hueth, and Sundaram-Stukel (2014) on the economic impact of cooperatives in the US did not specify whether it targeted D.T.S or non D.T.S. The studies by Karagu (2014), Kilonzi (2012), Macharia (2013), Muriithi (2013), Mumanyi (2014), Ndung'u (2013), Ngaira (2011), Ngugi (2014), Njagi, Kimani and Ngugi (2012), Njeru, Njeru, Member and Tirimba (2015), Nthimba and Jagongo (2015), Odhiambo (2011), Olando (2013), Olando (2012), Owino (2011) and Wanyoike (2013) focused on only one region of Kenya. Fiorillo (2006) focused on four regions in Uganda while Okwee (2011) focused on only one. Studies by Magali (2013a), Magali (2013b) and Magali (2014) in Tanzania concentrated not only on three regions but the SACCOs were also all rural based. Mwakajumilo (2011) study was restricted to the southern highland zone of Tanzania while that of Mushy (2008) was restricted to the Dar es Salaam region.

Although Muriuki and Ragui (2013) did a research on all SACCOs in Kenya, the sampling size of 40 SACCOs was small which could be problematic when carrying out regression analysis as it may lead to bias findings. Similarly, Kivuvo and Olweny (2014) carried out a study on all SACCOs in Kenya but had a sample of only 30 SACCOs, while Gweyi and Karanja (2014) had a sample of only 40 SACCOs. Mosongo et.al., (2013) carried out a study on a target population of 41 SACCOs in Nairobi County. The study was also limited in scope since it did not target the D.T.S but rather the SACCOs that were under the supervision of the Commissioner of Co-operatives in Kenya. The researchers also did not stratify the population or sample according to distribution per county.

Mbui (2010), Muigai (2013), Musumbi (2012), Muzinduki (2008) and Sungusia (2007) only dealt with case studies. All the above mentioned studies were thus restricted in scope as they were either case studies or focused on particular regions of a country. Also no stratification was done according to regions or counties. Thus for these researches a problem of generalising the results may arise.

The mentioned studies also did not consider the effect of the size of the D.T.S. This is despite the fact that according to SACCO (2013) D.T.S are ranked according to asset size. This is categorised into three: Large D.T.S having assets over Kes.4 billion; Medium D.T.S with assets more than Kes.1 billion but less than Kes.4 billion; Small D.T.S with asset base below Kes.1 billion.

This study seeks to provide more insight into the challenges to regulation compliance by D.T.S in Kenya since there is a problem of commitment to regulations. This study contributes to strategy implementation and defining the subsequent roles of SACCOs to the social and economic prosperity of Kenya. There is therefore need to identify and address the challenges to regulation compliance for the D.T.S to strategically exploit their full potential and deepen financial access. This research shall fill the research gaps by clustering the D.T.S according to Counties in order to widen the scope of the study through incorporating the population of all D.T.S in Kenya by deriving a stratified sample per County. Additionally, the size of the SACCO shall be an intervening variable. Since the research design is positivist in nature, it shall contribute to the existing knowledge and theories of strategic management by testing the derived hypotheses in a relatively new empirical setting. The results of this research will contribute to the overall theory of resource based view by highlighting the role of resource availability in acquiring and accumulating resources and, thus, shaping the SACCOs path towards regulation compliance. This is therefore an opportune research to add to knowledge in this area by filling these gaps in the empirical literature by conducting a field study on the challenges to regulation compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the research design and the methodology used in the study. The chapter begins with the philosophical leanings as per the research philosophy. This is followed by a discussion on the research design and population. The chapter also looks at the sampling frame, sample size and sampling technique. This is followed by the data collection instruments, pilot study, reliability and validity of data collection instruments, measurement and scaling techniques. Lastly the chapter looks at the data analysis and processing, systematic bias prevention, statistical model and hypothesis testing.

#### **3.2 Research Philosophy**

There are three epistemological positions: realism, interpretivism and positivism (Saunders, Lewis, & Thornhill, 2009). The study adopted a positivist research paradigm which advocates for the application of natural sciences to the study of social reality. Positivism is characterised by a belief in theory before research and statistical justification of conclusions from empirically testable hypothesis (Cooper & Schindler, 2011). This approach is very structured and clear, thus it is easy to be objective in this paradigm.

Koul (2008) posits that since the focus of the positivist paradigm is to discover the truth through empirical investigation then the quality standards under this paradigm are both the validity and reliability. The philosophical leaning is positivist where the study shall collect large amount of qualitative data in order to test the formulated research hypotheses (Kirrane & Buckley, 2003). The methods of data collection in a positivist research paradigm are by use of sample surveys and questionnaires (Easterby-Smith, Thorbe, & Lowe, 2002).

### **3.3 Research Design**

The research incorporated a descriptive research design in soliciting information on challenges to regulation compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya. Descriptive studies are usually the best methods for collecting information that will demonstrate relationships and describe the world as it exists. Bickman and Rog (1998) suggest that descriptive studies can answer questions such as “what is” or “what was.” According to Umbach (2005) a survey is a research method for collecting information from a selected group of people using standardised questionnaires or interviews. Descriptive survey design was therefore used since it provided insights into the research problem by describing the variables of interest.

Initially, the research reviewed all the relevant theories. This was followed by an understanding of what was being studied which was necessary before any field contacts were made. An investigation for the theoretical propositions that could be elaborated to cover study questions, propositions, unit of analysis, data-proposition links and criteria of interpretation was done. The research design incorporated the analysis of relevant academic journals and ensured that it linked the data collected and the conclusions drawn to the initial questions of the study.

Reviewing literature and field study was followed by construction of the design/conceptual framework and an action plan for getting from questions to a set of conclusions. The preliminary theories were used as a template with which to compare the characteristics and empirical findings from the study. The selected study thus reflected the characteristics/problems identified in the underlying theoretical propositions and conceptual framework. The level of generalisation of this study results was equal to the appropriately developed preliminary theories / study design.

### **3.4 Study Population**

Population is the total collection of elements about which inference is made to all possible cases which are of interest in the study (Sekaran & Bougie, 2010). The population of this study were the 215 D.T.S operating in Kenya. According to SACCO (2013) the D.T.S accounted for 78 percent of the total SACCOs turnover as at December 2013. In addition, the research stratified the population of D.T.S according to Counties.

Kombo & Tromp (2009) define the target population as a group of individuals, objects or items from which samples are taken for measurement. Target population is the totality of cases conforming to the designated specifications as required by the study. In this study the target population were the 215 D.T.S in Kenya.

### **3.5 Sampling Frame**

In statistics, a sampling frame is the source material or device from which a sample is drawn. The frame refers to the list of units in the survey population. Since the selection of the sample is directly based on this list, the frame is one of the most important tools in the design of a survey. It determines how well a target population is covered, and affects the choice of the data collection method. The sampling frame is a list of all those within a population who can be sampled, and may include individuals, households or institutions (Sarndal, Swensson, and Wretman, 2013).

The sampling frame defines a set of elements from which a researcher can select a sample of the target population. Because a researcher rarely has direct access to the entire population of interest in social science research, a researcher must rely upon a sampling frame to represent all of the elements of the population of interest (Lewis-Beck, Bryman, & Liao, 2004).



A sampling frame is therefore a list or rule defining the population. In this study the sampling frame consisted of the list of D.T.S per County. In Kenya, the total number of Counties is 47 and the respective D.T.S per County is as displayed in Appendix C.

### 3.6 Sample Size and Sampling Technique

The ever increasing demand for research has created a need for an efficient method of determining the sample size needed to be representative of a given population. The most effective formula to use is the Cochran’s sample size formulae or the Krejcie and Morgan’s formula (Bartlett, Kotrlik, & Higgins, 2001). This study made use of the Krejcie and Morgan’s formula for determining sample size as follows.

$$s = \frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)} \dots\dots\dots \text{Equation (1)}$$

Where s = required sample size,  $X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841), N = the population size, P = the population proportion (assumed to be .50 since this would provide the maximum sample size) and d = the degree of accuracy expressed as a proportion (.05). Applying the above formula to a population size of 215 we get

$$\frac{3.841 \times 215 \times 0.5 (1 - 0.5)}{0.05^2 \times (215 - 1) + 3.841 \times 0.5 (1 - 0.5)}$$

that yields a sample size of 138.09 which is rounded off to 139 respondents. Given that the distribution of D.T.S per county is available through studies by SACCO (2013), this research therefore developed a stratified sample size of 139. As shown in Appendix D, the sample size of 139 D.T.S was stratified per County. The sampling frame is the D.T.S and it was stratified to target 139 D.T.S spread out in all the Counties.

The accessible population were the Chief Executive Officers (C.E.Os)/ General Managers (GMs) of the 139 D.T.S. This was therefore a study of 139 D.T.S in Kenya. The number of respondents was 139 C.E.Os. The summary of respondents' sectors is as indicated in Table 3.1.

There is no universal way of justifying a sample. A sample size in reality depends on the level of accuracy required. The sample size is thus concerned with how much data is required to make a correct decision on a particular research. According to Hosmer, Lemeshow and Sturdivan (2013) for logistic regression the minimum number of cases per independent variable is ten to one with a preferred ratio of twenty to one. The justification for having a sample size of 139 was thus necessitated by the requirement that since this study had five independent variables then the minimum number of D.T.S required was 100 in order to adequately run the binary logistics model and make the correct inferences from the results.

**Table 3.1 Summary of Respondents Sector**

Stratum	No. of D.T.S	Respondents	Percentage	Proportion Taken
D.T.S	139	139	100	100

### **3.7 Data Collection Instruments**

Cooper and Schindler (2011) explain that the questions in a study are directly related to the research questions. Bryman (2012) further explains that the number of closed- ended questions in any survey exceeds the number of open- ended questions. Questionnaires are preferred because according to Dempsey (2003) they are effective data collection instruments that allow respondents to give much of their opinion pertaining to the researched problem.

According to Kothari (2009) the information obtained from questionnaires is free from bias and researchers influence and thus accurate and valid data will be gathered. This study used multiple sources of evidence to collect data from the 139 D.T.S in Kenya. The study primarily used questionnaires that were administered by mailed questionnaires or the drop and later pick method. Additional secondary sources of collecting evidence were documents, journals and archival records. To encourage the richness and depth required for this research, the target audience was the Chief Executive Officer or General Manager.

### **3.8 Pilot Study**

Pilot study is carried out in order to establish the accuracy and appropriateness of the research design and data collection instruments (Saunders et.al., 2009). A pilot study can reveal deficiencies in the design of a proposed experiment or procedure and these can then be addressed before time and resources are expended on large scale studies (Golafshani, 2003). A pilot study was undertaken in which the procedures used in pre-testing the questionnaire were identical to those used during the actual study.

The number in the pre-test should be small, about 1% to 10% of the target population (Mugenda and Mugenda, 2003). In this study the questionnaire was tested on 10% of the target population of 215 D.T.S. This translated to 22 D.T.S and 22 Respondents. The D.T.S were chosen from the stratified target population purely on random basis.

#### **3.8.1 Reliability of Data Collection Instruments**

Abott and McKinney (2013) state that reliability is the extent to which a given measuring instrument produces the same result each time it is used. Reliability ensures that there is consistency in the production of the results, such that another researcher or same researcher can be able to collect the same desired information as the original

instrument intended to use in the same target population. This study adopted the internal consistency method to estimate test reliability. Internal consistency method was tested using Cronbach's alpha which measures consistency within the instrument and questions how well a set of items measures a particular behaviour or characteristic within the test. Bryman (2012) recommends that where Cronbach's Alpha is used for reliability test as a rule of thumb, the value should not be lower than 0.8. Cronbach's alpha ( $\alpha$ ) is computed as follows:

$$\alpha = K / (K-1) [1 - (\sum \sigma_k^2 / \sigma_{total}^2)] \dots \dots \dots \text{Equation (2)}$$

Where K is the number of items,  $\sum \sigma_k^2$  is the sum of the k item score variances, and  $\sigma_{total}^2$  is the variance of scores on the total measurement (Cronbach, 2004).

### 3.8.2 Validity of Data Collection Instruments

Validity is the extent to which a research measure actually captures the meaning of the concept it is intended to measure (Abbott & McKinney, 2013). Validity refers to the degree to which an instrument measures what it purports to measure (Bryman, 2012). Mugenda and Mugenda (2003) further define validity as the degree to which results obtained from the analysis of the data actually represent the phenomenon under study.

According to Bollen (2005) content validity refers to a qualitative type of validity where the domain is made clear and the analyst judges whether the measures fully represent the domain. Further according to Drost (2012) there are basically two ways of assessing content validity. Firstly you can ask a number of questions about the instrument or test and/or secondly ask the opinion of expert judges in the field. This study adopted content validity by asking questions about the data collection instrument and also seeking expert opinion from officials in the Ministry of Co-operatives, SASRA and the SACCOs.

### **3.9 Measurement and Scaling Technique**

According to Mugenda (2008) measurement involves the assignment of real numbers to some characteristics or attribute according to specified rules. Panneerselvam (2006) further defines measurement as the assignment of a number to an object which reflects the degree of possession of a characteristic by that object. Scaling on the other hand involves development of systematic rules and meaningful units of measurement to represent empirical observations (Mugenda, 2008). This study used open-ended and close-ended questions to measure the objectives. Open-ended questions allow the researcher to explore ideas that would not otherwise be aired and are useful where additional insights are sought (Salant & Dillman, 1994). Open-ended questions gave a chance to respondents to add information which may not have been included in the closed-ended questions.

The type of scale to be utilised depended on the data collection techniques. For the purpose of this study a composite index was developed. A composite index is a type of composite measure that summarises and rank-orders several specific observations and represents some more general dimension. An index is an accumulation of scores from a variety of individual items (Babbie, 2001). Even though scales and indexes are similar in many ways, they also have several differences. First, they are constructed differently. A scale is constructed simply by accumulating the scores assigned to individual items. An index, on the other hand, is constructed by assigning scores to patterns of responses with the idea that some items suggest a weak degree of the variable while other items reflect stronger degrees of the variable. We would then add up the scores for each individual based on how many items they participated in and then assign them an overall score for the scale (Babbie, 2001). According to Trochim & Donnelly (2006) an index is a quantitative score constructed by applying a set of rules to combine two or more variables to reflect a general construct.

An index score is thus trying to get at something that cuts across the variables that are combined, that is more general than its composite parts. In this study a composite index of measuring each of the operationalised constructs as a percentage of the indicator was provided. This study therefore made use of a composite index scale.

According to Suhr (2005) Principal Component Analysis includes correlated variables with the purpose of reducing the numbers of variables and explaining the same amount of variance with fewer variables (principal components). Tabachnick and Fidell (2007) state Factor Analysis as statistical techniques applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another. Variables that are correlated with one another but largely independent of other subsets of variables are combined into factors.

Parallel Analysis is a Monte Carlo simulation technique that aids researchers in determining the number of factors to retain in Principal Component Analysis. According to Ledesma and Mora (2007) this method provides a superior alternative to other techniques that are commonly used for the same purpose, such as the Scree Test or the Kaiser's eigenvalue greater than one rule. This study therefore combined the Monte Carlo PCA for Parallel Analysis in addition to carrying out SPSS Scree Test and Kaiser value less than one rule.

### **3.9.1 Measurement of Independent and Intervening Variables**

This study used a dichotomous scale of closed ended questions to elicit a Yes or No answer. Open-ended questions were also utilised to allow the respondents add information that might not be included in the closed-ended questions. The hypotheses to test the relationship between challenges and regulation compliance were measured by a logistic regression model.

Corporate governance was measured through B.O.D structure, C.E.O duality, political interference and directors capacity; Management information systems was determined by networked systems, computer systems and banking software; Senior management skills was determined through participative and HR, competition and control, and entrepreneurship skills; legal environment was determined by interest groups, rules & regulations, common bond, and rewards and punishments; Resource availability was measured through liquidity, financial investments and intangible assets.

The intervening variable, SACCO size, was measured by asking closed ended questions relating to whether the respondents viewed size as affecting regulation compliance. Respondents were also queried on whether in their opinion SACCO size was regularly discussed as an important agenda in board meetings. Furthermore the study carried out content analysis on the SACCO size to determine whether they were large, medium or small. Lastly the research queried on how SACCOs can increase their assets size.

### **3.9.2 Measurement of Dependent Variables**

A dependent variable is the variable being tested in a scientific experiment. The dependent variable is “dependent” on the independent variable. As the experiment changes the independent variable, the change in the dependent variable is observed and recorded.

The status of compliance was used to measure regulation compliance. The measure of regulation compliance in the study was whether the SACCO is fully compliant or non compliant. The dependent variable was binary, as the compliance is either Success (1) or Failure (0), thus the study used binary logistic regression analysis.

### **3.10 Data Analysis and Processing**

Data analysis refers to analysing what has been collected and making deductions, and interferences. It is extracting significant variables, detecting anomalies, and testing any assumptions (Kombo & Tromo, 2009). Data processing entails editing, classification and tabulation of data collected so that they are amenable to analysts (Kothari, 2009).

In the study, to determine if associations exist between variables, cross tabulation was used. Cross tabulation is defined by Cooper and Schindler (2011) as a technique for comparing two classification variables using tables with rows and columns that correspond to the level or values of each variable's categories. The analysed data is then interpreted and presented in frequency tables. To determine whether values calculated for cross-tabulation will be statistically significant, Chi-square is used, with the value of  $p < 0.05$  being indicative of statistical significance (Keller, 2005). To confirm the existence of a relationship between the independent and intervening variables with the dependent variable an omnibus tests of model coefficients was carried out. Where significance on the Wald statistic was found to be less than or equal to of 0.05 this would enable rejection of null hypothesis & confirm existence of relationship between the independent variables and the dependent variable. The same was applied to the intervening variable. In regression analysis, moderation occurs when the relationship between two variables depends on a third variable. The third variable is referred to as the moderator variable or simply the moderator (Cohen, Cohen, West, & Aiken, 2003).

The effect of an intervening variable is characterised statistically as an interaction; that is, a qualitative or quantitative variable that affects the direction and/or strength of the relation between dependent and independent variables. Specifically within a correlational analysis framework, a moderator is a variable that affects the value of the slope of the dependent variable on the independent variable (Cohen et.al., 2003). The intervening variable in the study is size. The D.T.S sizes have been pre-determined as being large, medium or small depending on the asset size (SACCO, 2013).



To test the intervening variable the study therefore introduced a dummy variable as depicted in equation three. Where df are the degrees of freedom relating to the three types of size; large, medium and small

$$df - 1 = (3 - 1) = 2 \dots \dots \dots \text{Equation (3)}$$

According to Gujarati (2004), strictly speaking, multicollinearity refers to the existence of more than one exact linear relationship, and collinearity refers to the existence of a single linear relationship. But this distinction is rarely maintained in practice, and multicollinearity refers to both cases. Multicollinearity therefore occurs when two or more independent variables in the model are approximately determined by a linear combination of other independent variables in the model. To test for multicollinearity in this study, a cross tabulation of all standard errors was done. Standard errors greater than two show existence of a numerical problem and these were not interpreted. Various methods were used to assess the usefulness of the logistic regression model. The first method was classification accuracy.

This compared the predicted group membership based on the logistic model to the actual, known group membership, which is the value for the dependent variable. To characterize the model as useful, the study compared the overall percentage accuracy rate produced by SPSS at the last step in which variables are entered to 25% more than the proportional by chance accuracy. The second method was checking the significance of variables not in the model. The variables not in the equation showed whether each independent variable improves the model. The significance level required for each variable was below 0.05. Scores for each variable were also provided for comparison purposes. This was followed by using a model summary that tested both the Cox & Snell R Square and the Nagelkerke R Square. This model indicated the percentage of the variation in the dependent variable explained by the logistic model.

In addition an alternative model to the Chi square was derived using the Hosmer and Lemeshow test which divided the subjects into 10 ordered groups of subjects and then compared the number actually in the each group (observed) to the number predicted by the logistic regression model (predicted). The ideal result was for the Hosmer and Lemeshow goodness-of-fit test statistic to be greater than 0.05 so that the study fails to reject the null hypothesis that there is no difference between observed and model-predicted values, implying that the model's estimates fit the data at an acceptable level.

That is, a well-fitting model shows non-significance on the Hosmer and Lemeshow goodness-of-fit test. This desirable outcome of non-significance indicates that the model prediction does not significantly differ from the observed. Finally, a case processing summary highlighting the recommended number of cases per independent variable in logistic regression was done. According to Hosmer, Lemeshow and Sturdivant (2013) for logistic regression the minimum number of cases per independent variable is ten to one with a preferred ratio of twenty to one.

The study also checked for the presence of outliers using a box plot. The study derived a classification plot or histogram of predicted probabilities that provides a visual demonstration of the correct and incorrect predictions. This is also called the 'classplot' or the 'plot of observed groups and predicted probabilities.' The X axis is the predicted probability from .0 to 1.0 of the dependent being classified '1'. The Y axis is frequency: the number of cases classified. Inside the plot are columns of observed 1's and 0's (or equivalent symbols). The resulting plot was very useful for spotting possible outliers.

This research looked for two things. Firstly, that a U-shaped rather than normal distribution was desirable. A U-shaped distribution indicates the predictions are well-differentiated with cases clustered at each end showing correct classification. A normal distribution indicates too many predictions close to the cut point, with a consequence of increased misclassification around the cut point which is not a good model fit.

For these around .50 you could just as well toss a coin. Secondly the research expected only a few errors. The 'Y's' to the left being false positives. The 'N's' to the right being false negatives. Finally, the study produced a list of cases that did not fit the model well. These were cases that had outliers. The research did not expect to obtain a perfect match between observation and prediction across a large number of cases.

In addition no excessive outliers were to be retained as they would affect results significantly. In logistic regression we do not need to be concerned about normality, linearity, and homogeneity of variance, we need however, to determine whether or not outliers were substantially reducing the classification accuracy of the model. According to Schmuck (2013) standardised residuals should follow a normal distribution: 95% of all cases should lie between +/-1.96, and 99% of all cases should lie between +/-2.58. The study also removed any outlier above +/-2.58 and logistic regression was run again. If classification difference between the base regression and new regression was to be less than 2% then the study was to use the model data. However if the difference was to be higher than 2% then the study was to revert to the revised model.

### **3.11 Systematic Bias Prevention**

Systematic bias can occur in the planning, data collection, analysis, and publication phases of research. Systematic bias undermines a study's validity, rendering the results useless. A biased sample for example, occurs if the subjects in one group differ in a fundamental way from the subjects in a control group or from the population for which the study is intended (Gray, 2002). As such, any potential systematic bias, such as a biased sample, in the study was avoided through a careful forethought of the study's design, including how the subjects were chosen and how measurements were taken.

Measurements can be biased too, either in reliability or validity. An unreliable measuring tool is one that fails to yield similar results with each use. An invalid tool is one that does not measure what it is intended to measure. Measurement bias due to a lack of validity is more damaging than a lack of unreliability because it leads to false conclusions (Gray, 2002). The study ensured that the questionnaire as the primary measuring tool was reliable and valid through collecting objectives rather than perceptions. Another form of systematic bias is due to observer expectancy. This occurs when a researcher expects a certain outcome, he or she may then interpret ambiguous results in the favored direction. The solution to this kind of bias was to ensure that the research assistants were kept blind, that is, uninformed of the purpose of the research. The design, setting, and data-collection methods of this study was also carefully analysed to ensure the highest degree of accuracy. The study therefore made certain that there was scientific integrity and meaningfulness of results to prevent systematic bias.

### **3.12 Statistical Model**

According to Bishop (2006) in statistics, logistic regression or logit regression is a type of probabilistic statistical classification model. Logistic regression is used to refer specifically to the problem in which the dependent variable is binary, that is, the number of available categories is two. Problems with more than two categories are referred to as multinomial logistic regression. If the multiple categories are ordered, they are referred as ordered logistic regression (Bishop, 2006).

In binary logistic regression, the outcome is usually coded as “0” or “1”, as this leads to the most straightforward interpretation (Hosmer & Lemeshow, 2000). According to Hosmer, Lemeshow, and Sturdivant (2013) there are two primary reasons for choosing the logistic distribution. First, from a mathematical point of view, it is an extremely flexible and easily used function. Second, its model parameters provide the basis for clinically meaningful estimates of effect.

In the case of this study, regulation compliance which is the dependent variable is binary with only two possible responses; fully compliant or non-compliant. The study thus used logistic regression which begun with an explanation of the logistic function, which always takes on the values between zero and one as follows:

$$\pi(t) = \frac{e^t}{e^t + 1} = \frac{1}{1 + e^{-t}} \dots\dots\dots \text{Equation (4)}$$

and viewing t as a linear function combination of explanatory variables  $x_i$ , the logistic function was written as:

$$\pi(x) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl})}} \dots\dots\dots \text{Equation (5)}$$

Equation (4) was interpreted as the probability of the dependent variable equalling a "success" or "case" rather than a failure or non-case. If we let the conditional probability that the outcome is present be denoted by  $\Pr(Y = 1|x) = \pi(x)$ . The logit of the multiple logistic regression model is given by the following equation which also defines the inverse of the logistic function:

$$g(x) = \ln \frac{\pi(x)}{1 - \pi(x)} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl} \dots\dots\dots \text{Equation (6)}$$

And equivalently:

$$\frac{\pi(x)}{1 - \pi(x)} = e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl}} \dots\dots\dots \text{Equation (7)}$$

The input is the value of  $\beta_0 + \beta_1 x_i$  and the output is  $\pi(x)$ . The logistic function is useful because it can take an input with any value from negative infinity to positive infinity, whereas the output  $\pi(x)$  is confined to values between “0” and “1” and hence is interpretable as a probability. In the above equations,  $g(x)$  refers to the logit function of some given linear combination  $x$  of the predictors,  $\ln$  denotes the natural logarithm,  $\pi(t)$  is the probability that the dependent variable equals a success,  $\beta_0$  is the intercept from the linear regression equation,  $\beta_1 x_i$  is the regression coefficient multiplied by some value of the predictor, and base  $e$  denotes the exponential function. The formula for  $(\pi x)$  in equation five illustrates the probability of the dependent variable equalling a success is equal to the value of the logistic function of the linear regression expression. This is important in that it shows that the value of the linear regression expression can vary from negative to positive infinity and yet, after transformation, the resulting expression for the probability  $\pi(x)$  ranges between “0” and “1”.

The equation six for  $g(x)$  illustrates that the logit (log-odds or natural logarithm of the odds) is equivalent to the linear regression expression. Likewise, equation seven illustrates the odds of the dependent variable equalling a case is equivalent to the exponential function of the linear regression expression. This illustrates how the logit serves as a link function between the probability and the linear regression expression. Given that the logit ranges between negative infinity and positive infinity, it provides an adequate criterion upon which to conduct linear regression and the logit is easily converted back into the odds (Hosmer & Lemeshow, 2000). Furthermore in the previous equations  $X_1 =$  Corporate Governance,  $X_2 =$  Management Information System,  $X_3 =$  Senior Management Skills,  $X_4 =$  Legal Environment,  $X_5 =$  Resource Availability,  $\beta_0 =$  Constants or the intercept from the linear regression equation,  $\beta_i =$  slope of the line or regression surface,  $\sum_{i=1}^{Kj-1} \beta_{ji} \alpha_{ji}$  denotes the intervening variable where  $j = 3$ . This is illustrated in Table 3.2.

**Table 3.2 Coding of the Dummy Variables for Size**

SACCO Size	D <sub>1</sub>	D <sub>2</sub>
Large	0	0
Medium	1	0
Small	0	1

The intervening variable is size which has been coded as ‘large’, ‘medium’ and ‘small’. The reference category shall be the large SACCO size. In interpretation of the dummy variable the coding strategy is that when the respondent is “large,” the two dummy variables,  $D_1$  and  $D_2$ , would both be set equal to zero; when the respondent is “medium,”  $D_1$  would be set equal to 1 while  $D_2$  would still equal 0; when the size of the respondent is “small,” we would use  $D_1 = 0$  and  $D_2 = 1$ .

### 3.13 Hypothesis Testing

Once the study fitted a particular multiple (multivariable) logistic regression model the process of model assessment begun. The study performed the likelihood ratio test for overall significance of the  $p$  coefficients for the independent variables in the model. According to Hosmer, Lemeshow, and Sturdivant (2013) the test is based on the statistic  $G$  expressed in equation eight as follows:

$$G = -2\ln \left[ \frac{(\text{likelihood without the variable})}{(\text{likelihood with the variable})} \right] \dots\dots\dots \text{Equation (8)}$$

There are two other tests equivalent to the likelihood ratio test for assessing the significance of the model: the Wald test and the Score test. However, several authors have identified problems with the use of the Wald statistic (Hosmer, Lemeshow, & Sturdivant 2013). Menard (2002) warns that for large coefficients, standard error is inflated, lowering the Wald statistic (chi-square) value.

Agresti (2007) further states that the likelihood-ratio test is more reliable for small sample sizes than the Wald test. According to IBM (2014) the change in -2 log-likelihood is generally more reliable than the Wald statistic. If the two disagree as to whether a predictor is useful to the model, trust the change in -2 log-likelihood.

According to Hosmer, Lemeshow, & Sturdivant (2013) a test for the significance of a variable that does not require computing the estimate of the coefficient is the score test. Proponents of the score test cite this reduced computational effort as its major advantage. However use of the test is limited by the fact that it is not available in many software packages. The presence of a relationship between the dependent variable and combination of independent variables in this study was therefore based on the statistical significance of the model chi-square at the first step after the independent variables had been added to the analysis. The difference between the ending and beginning -2 log likelihood is the model chi-square that was used in the test of overall statistical significance at less than or equal to the level of significance of 0.05.

According to Quintero et.al., (2012) SPSS Statistics is a software package used for statistical analysis. The software name stands for Statistical Package for the Social Sciences (SPSS), reflecting the original market, although the software is now popular in other fields as well, including the health sciences and marketing. This study utilised IBM SPSS Statistics version 21 to compute the above statistical tests.



## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND DISCUSSION**

#### **4.1 Introduction**

This study assessed the challenges to regulation compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya. Specifically, the study looked at the effect of corporate governance, management information system, senior management skills, the legal environment and resource availability had on regulation compliance. The intervening variable for the study was SACCO size. This chapter contains details of the response rate, reliability of results, sample demographics, assessing usefulness of the logistic regression model, logistic regression analysis, interpretation and discussion of findings.

#### **4.2 Response Rate**

This study targeted a population of 215 D.T.S in which a sample of 139 D.T.S all operating in Kenya as at December 31, 2013 was derived. The duration for administering the questionnaire was one month. The questionnaire was administered to all sampled C.E.Os/ GMs of Deposit Taking SACCOs in Kenya totalling to 139, of which 108 were returned. This represented a response rate of 77.7%.

The response rate is considered adequate given the recommendations by Rugg and Petre (2007) who suggest a response rate of above 50% as adequate for analysis. Babbie (2004) recommended returns rates of 50% and Mugenda and Mugenda (2003) recommended a response rate exceeding 50%. There are several factors that determine an acceptable response rate. Research rates are considered more important when the study's purpose is to measure effects or make generalisations to a larger population. Also some statistical procedures require a minimum sample size.

Acceptable response rates also vary with how the survey is administered with email ranked at 50% as good and 60% as very good, mail ranked at 50% as adequate, 60% good and 70% very good (IAR, 2015). This study's findings are to be used to generalise to larger populations. It was also administered through email hence the response rate of 77.7% was more than adequate. In addition according to Hosmer, Lemeshow and Sturdivant (2013) for logistic regression the preferred number of cases per independent variable is twenty to one. This study had five independent variables hence the preferred ratio ought to be 100 cases; therefore the response rate of 108 cases is more than sufficient.

### **4.3 Reliability of Test**

The pilot study tested the questionnaire on 22 D.T.S and 22 respondents. This represented 10% of the target population of 215 D.T.S. The D.T.S were chosen from the stratified target population purely on random basis. According to Mugenda and Mugenda (2003), the number in the pre-test should be small, about 1% to 10% of the target population.

Reliability test were conducted using SPSS. According to Alvarez, Balaguer, Castillo and Duda (2009) the reliability of the instruments is tested using Cronbach's Alpha taking into account a value of 0.7 or higher as being sufficient. Bryman (2012) recommends that where Cronbach's Alpha is used for reliability test as a rule of thumb, the value should not be lower than 0.8.

The Cronbach Alpha test was performed on the dependent variable, all five independent variables and the intervening variable as indicated in Table 4.1. None of the variables were dropped from the collection instrument as they all returned results above the threshold of 0.9. Corroborating question in Table 4.1 refer to the background questions on gender, age bracket, level of education, years worked in senior management and years worked in senior management in the SACCO industry.

**Table 4.1 Reliability Analysis for the Pilot Data**

	Items	Cronbach's Alpha
Regulation Compliance (Dependent Variable)	3	0.938
SACCO Size (Intervening Variable)	4	0.940
Independent Variables		
Corporate Governance	16	0.939
Management Information Systems	9	0.938
Senior Management Skills	14	0.938
Legal Environment	17	0.938
Resource Availability	18	0.939
Corroborating Questions	5	0.943
Overall Reliability Statistics	86	0.907

The research further carried out a factor analysis on the questions in the instrument. Factor analysis is a method of data reduction and it does this by seeking underlying unobservable variables that are reflected in the observed variables. The research looked for a simple structure or pattern of results such that each variable loads highly onto one and only one factor. This study carried out a Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy which according to Ledesma and Mora (2007) determines whether the database is suitable for factor analysis. This measure varies between 0 and 1, and values closer to 1 are better.

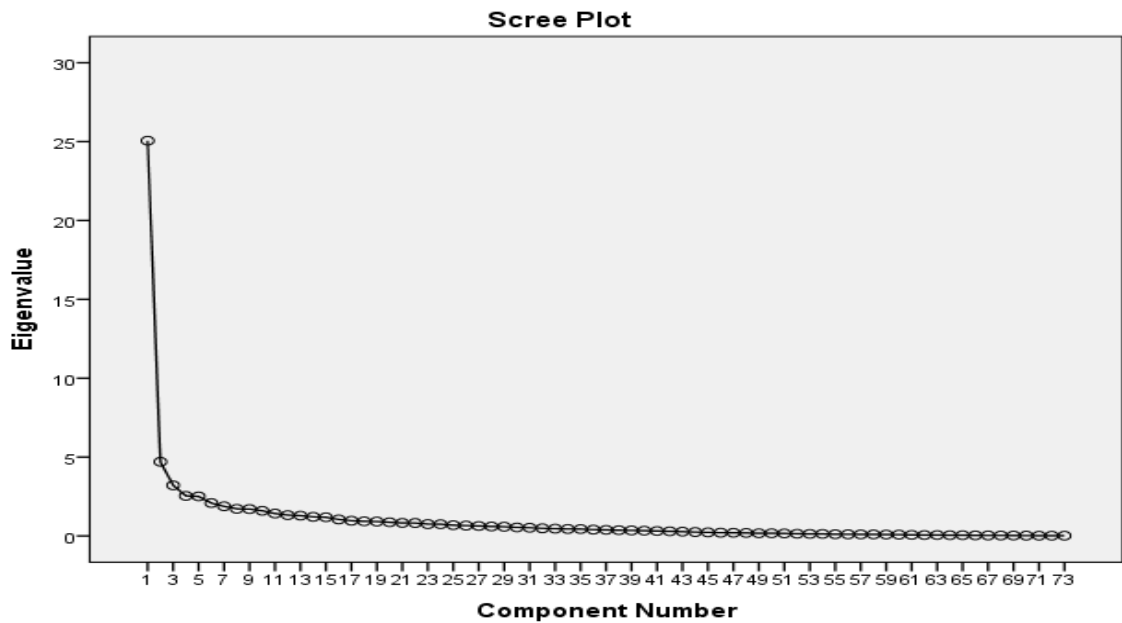
A value of 0.6 is a suggested minimum. Secondly, the Bartlett's Test of Sphericity was also done. This tested the null hypothesis that the correlation matrix is an identity matrix. Taken together, these tests provided a minimum standard which should be passed before a principal components analysis is conducted. The KMO rate in this study was measured at 0.787. The significance rate of the Bartlett's test was at .000 as shown in Table 4.2. The two measures were thus adequate for carrying out factor analysis.

**Table 4.2 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.787
	Approx. Chi-Square	6828.047
Bartlett's Test of Sphericity	Df	2628
	Sig.	.000

To determine how many components to retain for interpretation, the study highlighted all the questions that directly measured the dependent, independent and intervening variables. The total number of questions was 73. The study thereafter generated a total variance explained table (see Appendix E for the table on the total variance explained). This shows that out of the 73 components, only 16 had a Kaiser's eigenvalue greater than one. According to Ledesma and Mora (2007) the research should look for a simple structure or pattern of results such that each variable loads highly onto one and only one factor. Therefore the 16 components were too many.

Hence the study opted to use the Scree test in order to determine how many components to be retained for interpretation. The Scree plot shown in Figure 4.1 identified the elbow in the line graph, from which the research retained only the components above it. The elbow can be deduced as being between component two and three in the Scree Plot. Viewing Appendix E it shows that the first three components represent 45.047% of the initial eigenvalues variance and were thus retained for interpretation.



**Figure 4.1 Scree Plot.**

In addition the study carried out Parallel Analysis to support the position taken while interpreting the Scree plot. According to Ledesma and Mora (2007) Parallel Analysis is a Monte Carlo simulation technique that aids researchers in determining the number of factors to retain in Principal Component and Exploratory Factor Analysis. This method provides a superior alternative to other techniques that are commonly used for the same purpose, such as the Scree test or the Kaiser’s eigenvalue greater than one rule.

According to Cirneala (2013) Monte Carlo PCA for Parallel Analysis is a compact application that can easily calculate the results of a Monte Carlo analysis. As the name clearly states, the program is designed to speed up the calculations required for generating the values for a parallel analysis. The study therefore used the Monte Carlo method in addition to both the Scree test and the Kaiser Eigenvalue greater than one rule. The greater than one eigenvalues for the first 16 components depicted in Appendix E (Total variance explained) were compared to the eigenvalues produced by the MonteCarlo PCA for parallel analysis.

Where the eigenvalue of the former was higher than the latter the component was retained for interpretation. Only the first three components were thus retained for interpretation as shown in Table 4.3. This compares favourably with the results from the Scree plot in Figure 4.1.

**Table 4.3 Comparative Eigenvalues**

Component	Total Variance Explained	MonteCarlo PCA for Parallel Analysis
<b>1</b>	<b>25.002</b>	<b>3.1384</b>
<b>2</b>	<b>4.669</b>	<b>2.9256</b>
<b>3</b>	<b>3.214</b>	<b>2.7831</b>
4	2.596	2.6633
5	2.433	2.5459
6	2.110	2.4498
7	1.841	2.3552
8	1.717	2.2672
9	1.698	2.1880
10	1.607	2.1052
11	1.417	2.0299
12	1.300	1.9548
13	1.283	1.8857
14	1.213	1.8226
15	1.180	1.7627
16	1.026	1.6994

Subsequently the factor analysis was ran a second time but instead of basing the principal component analysis on eigenvalues, the study now carried out the analysis based on a fixed number of factors to extract which was three. According to Garson

(2012) principal component analysis is performed on all indicators for all the constructs in the study where the indicators should have higher factor loadings on their own constructs than on other constructs with a loadings required to be higher than the absolute cut value of 0.3. The table derived is the communalities table (See Appendix F) which gives information about how much each item in the instrument or tool explains the variables. Table 4.4 derived from Appendix F shows that four items were found to have an extraction rate of less than 0.3 and thus were dropped from the questionnaire and the composite index adjusted accordingly.

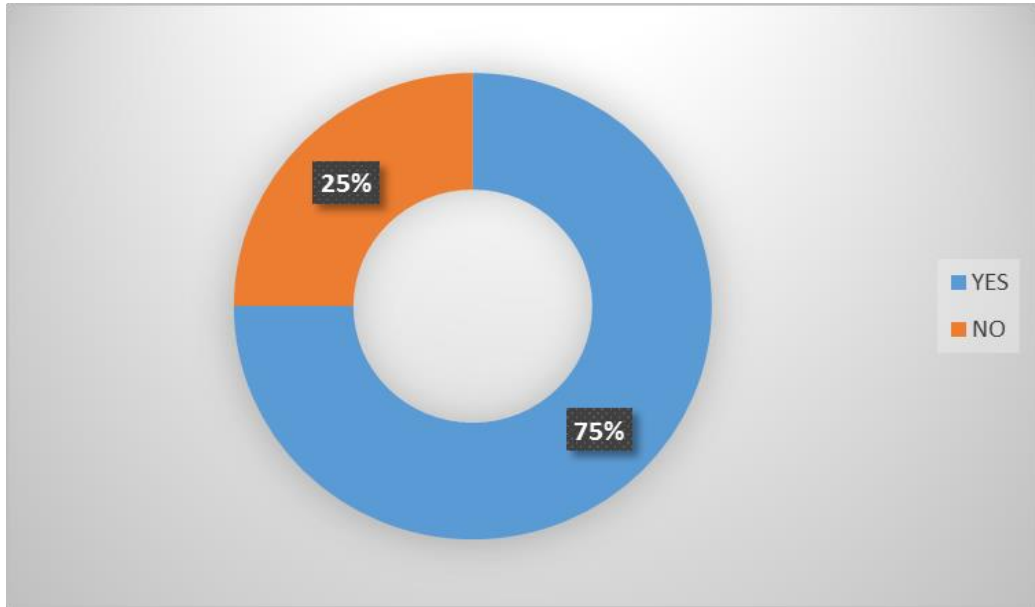
**Table 4.4 Communalities**

	Initial	Extraction
B.O.D gender composition	1.000	.063
B.O.D commitment in enhancing members interest	1.000	.132
Tolerance to external politicians	1.000	.036
Commercialisation of Cooperative Bank	1.000	.283

Extraction Method: Principal Component Analysis.

#### **4.3.1 Validity of Test**

The study further carried out a validity of data collection instruments where expert opinion was sought from those who specialised in the industry. They concurred on the validity of the data collection instruments. Additionally, respondents were asked whether in their view the measure of regulation as being either fully compliant or non compliant was adequate to evaluate regulation compliance. The result as depicted in Figure 4.2 shows that a majority of respondents at 81, who represented 75%, viewed the measure as adequate. Only a minority of 27 respondents or 25% did not view it as adequate.



**Figure 4.2 Adequacy of Measuring Regulation Compliance**

#### **4.4 Sample Demographics**

This section outlines the general characteristics of the respondents. Data is presented in terms of their gender, age and education level. In addition data was shown not only in terms of the years worked in the industry but also the years in senior management. Lastly the data was presented on the location of the D.T.S head office. Cross tabulation of data was also done.

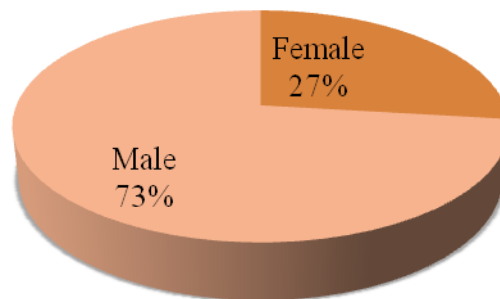
##### **4.4.1 Gender of Respondents**

The study distinguished between the genders of the respondents. Figure 4.3 shows that the percentage of male C.E.Os/ GMs was higher than that of female. Male respondents were 79 (73%) while female were 29 which represented 27%.



This findings are similar to that of Muriuki (2013) on the impact of SASRA legislation on corporate governance in co-operatives in Kenya who found that out of 180 top management employees, 146 (81%) were men while 34 (19%) were female employees and Makori (2013) on the challenges facing D.T.S regulatory compliance in Kenya who found that 29 of the respondents representing 72.5% of the respondents were male while 11 of the respondents translating to 27.5% of the respondents were female.

The findings of this study could indicate a lesser level of participation of female than male in the top management of SACCOs. Further, this contradicts the Constitution of Kenya requirement that there must be at least one third representation for any gender in public positions (Kenya Law Report, 2014). SACCOs therefore need to re-examine their hiring practices of C.E.Os/GMs to be in tandem with this gender equity requirement.

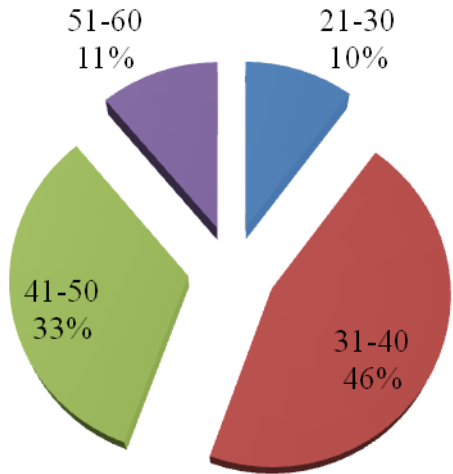


**Figure 4.3 Distribution by Gender**

#### **4.4.2 Age of Respondents**

Figure 4.4 shows that majority of the respondents were aged 31 to 50 years with most (46%) of them being in the age group of between 31 to 40 years followed by those between ages 41 to 50 years at 33%. The rest of the respondents at 10% were 21 to 30 years and at 11% were 51 to 60 years.

This compares favorably with Kiama (2014) research, on factors affecting implementation of Public Procurement Act in SACCOs in Kenya, that a majority of respondents were aged between 30 to 50 years with most (40%) being in the age group 30 to 40 years followed by those between 41 to 50 years at 26%. The responses portray a normal distribution of C.E.Os/ GMs in the industry with a few young respondents, a few older respondents and the majority middle aged respondents. This is therefore quite representative of all ages of the population.

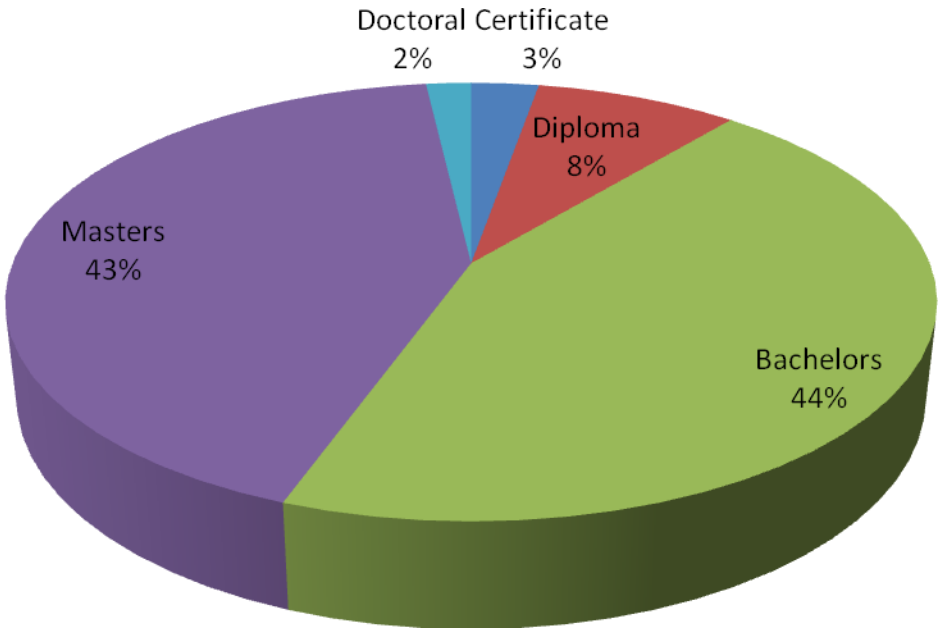


**Figure 4.4 Distribution by Age in Years**

**4.4.3 Level of Education**

Figure 4.5 shows that the majority of respondents had a Bachelors and Masters Degree at 44% and 43% respectively. This was followed by those having a Diploma at 8%. Those with Certificate were at 3% while with Doctoral degree at 2%. This compares favorably to the findings of Mbui (2010), on business opportunities for Stima SACCO in a new regulatory environment, that found most respondents had Bachelors degree followed by those who had a Masters.

It also compares favorably to Makori (2013), on the challenges facing D.T.S regulatory compliance in Kenya, finding that 5% were Certificate holders, 17.5% Diploma holders, 57.5% Bachelors degrees and 20% had Masters degree. However on the number of Doctoral degree holders, this study is dissimilar to that of Olando (2012) on the financial practice as a determinant of growth of SACCOs' wealth that found none of the respondents had a Doctoral degree. This might be as a result of more C.E.Os and GMs finding Ph D more competitive. These findings therefore suggest that the quality of responses was high as the study dealt with educated respondents.



**Figure 4.5 Distribution by Level of Education**

A cross tabulation was done to distinguish between the gender highlighted in Figure 4.3 and the respondents level of education displayed in Figure 4.5. The result is to be found in Table 4.5 shows that more male at 52% had either a Masters or Doctoral degree as compared to female at only 24% with Masters and in particular, no female respondents had a Doctoral degree. This could explain why there is more male than female participation in the top management of SACCOs.

**Table 4.5 Gender and Level of Education**

		Level of Education					
		Certificate	Diploma	Bachelors	Masters	Doctoral	Total
Gender	Female	3%	21%	52%	24%	0%	100%
	Male	3%	4%	42%	49%	3%	100%

**4.4.4 Years in Industry**

The number of years the respondents have worked in the SACCO industry is provided in Appendix G. Most of the respondents had worked for 5 years (13.9%). Cumulatively those that had worked for five years or less were at 26.9% of the total respondents. Majority of respondents (50.9%) had worked for at most 10 years.

The findings of this study therefore agrees with Mbui (2010) research, on the business opportunities for Stima SACCO in a new regulatory environment, who found that majority of respondents had worked for between three to twenty years. This finding implies that the respondents were well versed on the SACCO industry issues. It also suggests that the respondents are well placed to respond to the data collection instrument by virtue of the knowledge they attained from their years accumulated in the industry.

**4.4.5 Years in Senior Management**

A majority of the respondents (27.8%) had senior management experience of over 12 years as indicated on Table 4.6. However, majority of cumulative respondents (60.2%) had at most nine years of senior management experience and only 39.8% of respondents had senior management experience of more than nine years. This agrees with Muigai (2013) findings on challenges of strategy implementation faced by SASRA in Kenya that all respondents had worked in senior positions for at least four years.

This however differs with Kiama (2014) finding on the factors affecting implementation of Public Procurement Act in SACCOs in Kenya that most of the respondent had between six to 10 years. This implies that the respondents are knowledgeable on the subject matter of the research and thus capable to help in the realisation of the research objectives.

**Table 4.6 Distribution of Years in Senior Management**

	Frequency	Percent	Cumulative Percent
0-3	19	17.6	17.6
4-6	25	23.1	40.7
7-9	21	19.4	60.2
10-12	13	12.0	72.2
Over 12 yrs	30	27.8	100.0
Total	108	100.0	

The study further looked at gender as compared to the number of years in senior management. This is depicted in Table 4.7 which shows that all genders were to be found in the selected scope of years of senior management experience. In particular 59% of either gender had more than seven years in senior management. This further implies that the respondents, whether male or female, are knowledgeable on the subject matter of the research and thus capable to help in the realisation of the research objectives.

**Table 4.7 Gender against Years in Senior Management**

		0-3	4-6	7-9	10-12	Over 12 yrs	Total
Gender	Female	17%	24%	24%	11%	24%	100%
	Male	18%	23%	18%	12%	29%	100%

#### **4.4.6 Distribution of Head Office County**

The respondents were also asked to provide the head office location of their respective D.T.S. Appendix H provides the head office county distribution which shows Nairobi County at highest with 25% of the respondents. This is followed by Kiambu at 7.4% and Nyeri at 5.6%. Bomet, Meru and Mombasa were each rated at 4.6%.

Cumulatively these five Counties accounted for 51.8% of the respondents. This finding supports why most studies have focused on Nairobi such as Karagu (2014), Kilonzi (2012), Musumbi (2012), Ndung'u (2013), Ngaira (2011), Nthimba and Jagongo (2015), Odhiambo (2011) and Wanyoike (2013). This study has therefore managed to have an all inclusive stratified sample that is representative of the whole population of Kenyan D.T.S.

#### **4.5 Study Variables**

The dependent variable in the study was regulatory compliance, while the independent variables were corporate governance, management information system, senior management skills, legal environment and resource availability. The study asked various questions derived from the composite index developed to measure each of the operationalised constructs. The questionnaire also asked questions regarding the intervening variable (SACCO size) and the dependent variable (regulatory compliance).

##### **4.5.1 Corporate Governance**

The study looked at four indicators of Corporate Governance. These were; the Board of Directors structure, Chief Executive Officer duality, Political interference and Directors capacity. Respondents were asked various questions to operationalise the constructs. The results are presented as follows:

**a) Board of Directors (B.O.D) Structure**

The study queried whether the respondents considered B.O.D size important in ensuring regulation compliance. As depicted in Table 4.8 that follows 85.9% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered no. Cumulatively 34.3% of the total respondents answered no while 65.7% answered yes.

This finding is similar to that of Adams and Mehran (2011) on corporate performance, board structure, and their determinants which found that the overall effectiveness of the board tends to vary inversely with its size. The finding of this study means that B.O.D structure is a good indicator of corporate governance in D.T.S.

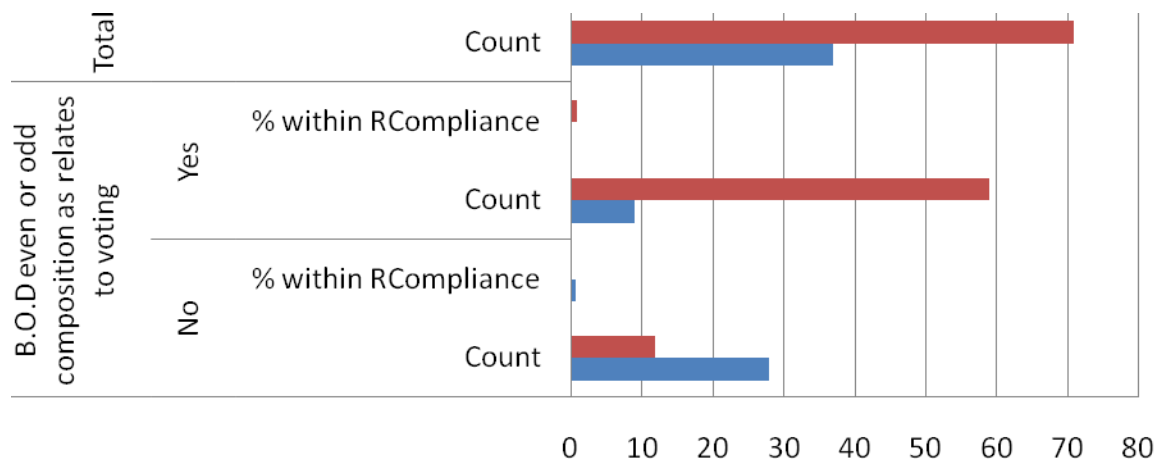
**Table 4.8 Board of Directors Size & Regulation Compliance**

			RCompliance		
			No	Yes	Total
Board of	No	Count	27	10	37
Directors size		% within RCompliance	73.0%	14.1%	34.3%
	Yes	Count	10	61	71
		% within RCompliance	27.0%	85.9%	65.7%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study queried on the respondents' opinion on whether the B.O.D composition of odd or even numbers as relates to voting mattered in regulation compliance. As depicted in Figure 4.6 that follows 83.1% of respondents who were fully compliant answered yes while 75.7% of those non-compliant answered no. Cumulatively 37% of the total respondents answered no while 63% answered yes.

This finding agrees with Okwee (2011) study on corporate governance and financial performance of SACCOs in Lango sub region that found that the board should be composed of an odd number of members in order to prevent tied votes and who further found that only 27% of SACCOs had an even board number. This implies that the principle of corporate governance relative to membership size calls on odd number inclusion and therefore means that B.O.D composition of odd or even number as relates to voting is a good measure of B.O.D structure in this study.



	B.O.D even or odd composition as relates to voting				Total
	No		Yes		
	Count	% within RCompliance	Count	% within RCompliance	Count
■ RCompliance Yes	12	16.90%	59	83.10%	71
■ RCompliance No	28	75.70%	9	24.30%	37

**Figure 4.6 B.O.D Composition & Regulation Compliance**

The study queried the respondents' thinking on the number of board meetings held and whether it affects regulation compliance. As shown in Table 4.9, 64.8% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered



no. Cumulatively 48.1% of the total respondents answered no while 51.9% answered yes. This finding is similar to Ademba (2012b) on the scope of board accountability in financial co-operatives which found that the Board should meet regularly and that the number of Board and Board Committee meetings held in a year, as well as attendance of every Board member at the meetings, should be disclosed in the annual report. This finding therefore indicates that the number of board meetings held is a good indicator of corporate governance which in turn can be used to measure regulation compliance.

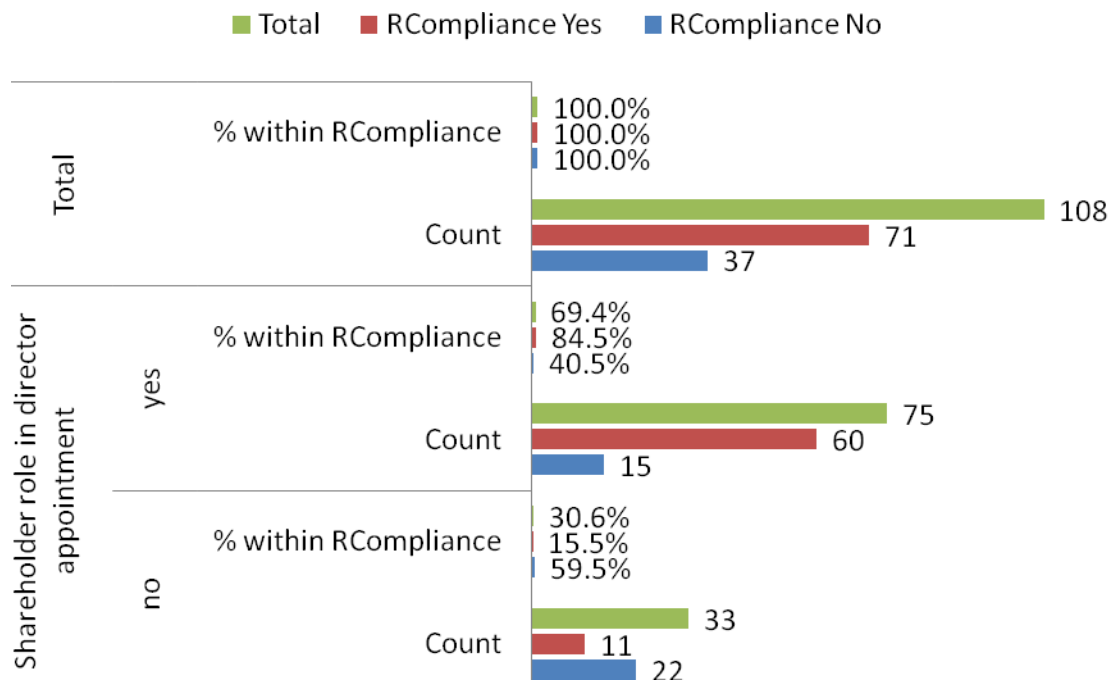
**Table 4.9 Number of Board Meetings Held & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Number of board meetings held	No	Count	27	25	52
		% within RCompliance	73.0%	35.2%	48.1%
	Yes	Count	10	46	56
		% within RCompliance	27.0%	64.8%	51.9%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study queried the respondents' opinion on the shareholders role in director appointment as being important in regulation compliance. Figure 4.7 shows that 84.5% of respondents who were fully compliant answered yes while 59.5% of those non-compliant answered no. Cumulatively 30.6% of the total respondents answered no while 69.4% answered yes. This agrees with Ademba (2012b) study on the scope of board accountability in financial co-operatives who found that there is need to appoint such number of board members as may be necessary for SACCOs to effectively discharge their functions.

It also agrees with FRC (2012) findings on the UK corporate governance code which found that all directors should be submitted for re-election at regular intervals, subject to continued satisfactory performance. It also similar to Tache (2006) findings, on sustainable SACCO development, that the members elect a Board of Directors and other committees from among the members and even they have the right to drop out inefficient and unfaithful elected Board of Directors at any time. Shareholders role in director appointment is therefore a good measure of corporate governance which in turn shall be utilized to measure regulation compliance.



**Figure 4.7 Shareholders Role in Director Appointment & Regulation Compliance**

According to Table 4.8, Table 4.9, Figure 4.6 and Figure 4.7, a minority of respondents held a divergent view that board structure does not influence regulation compliance. The study queried the respondents to provide further details on Board structure. Appendix G provides a content analysis table on their further responses on Board structure.

The response that best illustrates these findings are the 28% of the respondents who chose No and were of the opinion that regulation compliance is influenced by commitment level and board leadership competence but not the structure, while another 17% were of the view that regulatory compliance was deemed as being systemic and not particular to the board structure. In respect to B.O.D structure these findings are in contrast to those of Adams and Mehran (2011) on corporate performance, board structure, and their determinants which found that regulation could change the relationship between board structure and performance. This finding implies that B.O.D structure in so far as a policy is concerned should be investigated.

***b) Chief Executive Officer (C.E.O) Duality***

C.E.O duality was the second indicator of corporate governance. The study sought the views of the respondents on whether the Committees authority in comparison to that of the C.E.O's affects regulation compliance. Table 4.10 gives the results as follows. 73.2% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered no. Cumulatively 42.6% of the total respondents answered no while 57.4% answered yes.

This is similar to Ademba (2012b) study on the scope of board accountability in financial co-operatives who found that lack of documented clear guidelines on governance with no clear distinction between executive functions and non-executive was a challenge facing SACCOs in Kenya. This is also similar to Mudibo (2006) on the challenges and opportunities facing the Kenyan SACCO movement who found that a key challenge was lack of adequate guidelines on various stakeholders' roles, for example, where the authority of Credit Committee ends, where the Executive Committee begins and what is the C.E.O's and staff authority. This finding means that the committee authority in comparison to the C.E.O's is a good measure of C.E.O duality.

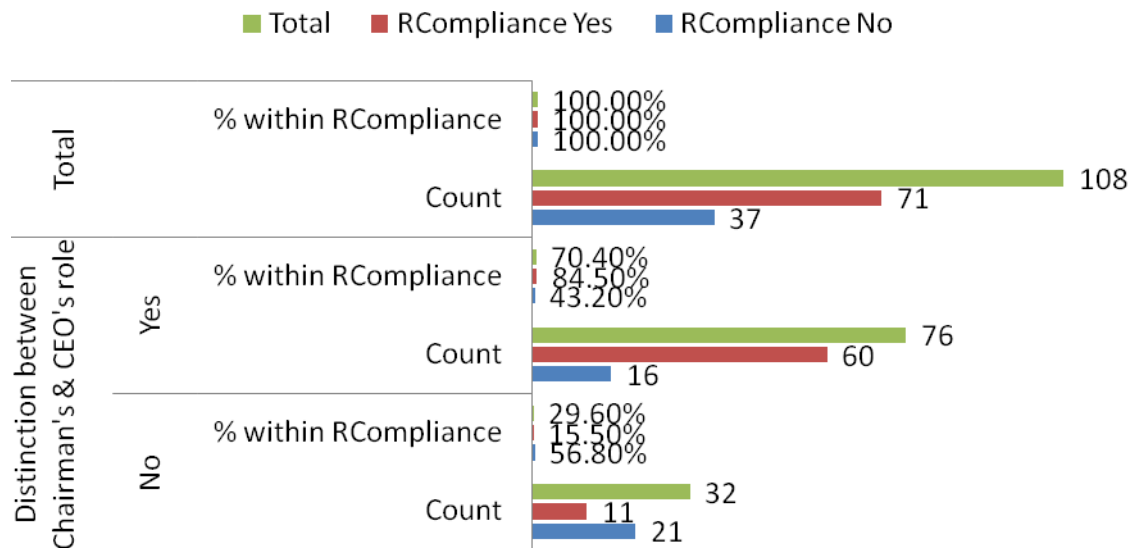
**Table 4.10 Committees Authority in Comparison to C.E.O's Authority & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Committees authority in comparison to C.E.O's authority	No	Count	27	19	46
		% within RCompliance	73.0%	26.8%	42.6%
C.E.O's authority	Yes	Count	10	52	62
		% within RCompliance	27.0%	73.2%	57.4%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study sought the respondents' opinion on whether the distinction between the Chairman's and C.E.O's role was important in ensuring regulation compliance. Figure 4.8 gives the results as follows. 84.5% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no. Cumulatively 29.6% of the total respondents answered no while 70.4% answered yes.

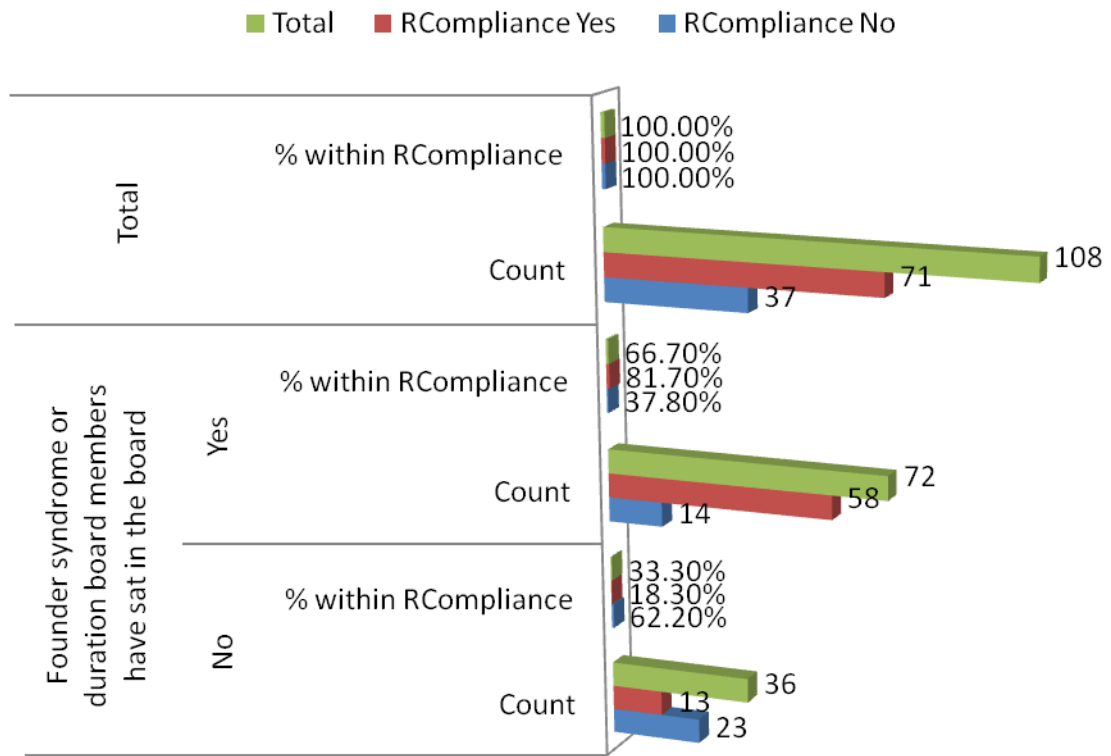
This is similar to FRC (2012) study on the UK corporate governance code who found that a key challenge in corporate governance is the distinction between the leadership of the chairman of a board, the support given to and by the C.E.O, where there should be a clear division of responsibilities at the head of the company between the running of the board and the executive responsibility for the running of the company's business. It also agrees with SASCCO (2010) on the annual Savings and Credit Co-operative Association of Africa (11th SACCA Congress) report which found that the failure to distinguish the roles of directors and management can pose a considerable challenge on good governance efforts. This means that the distinction between Chairman's and C.E.O's role in this study is a good measure of C.E.O duality.



**Figure 4.8 Distinction between Chairman & C.E.O role & Regulation Compliance**

The study enquired on the respondents' thoughts on whether the founder syndrome or duration the board members have sat in the board affects regulation compliance. Figure 4.9 gives the results as follows. 81.7% of respondents who were fully compliant answered yes while 62.2% of those non-compliant answered no.

Cumulatively 33.3% of the total respondents answered no while 66.7% answered yes. This agrees with Okwee (2011) on corporate governance and financial performance of SACCOs in Lango sub region, that found dominant personality phenomenon has become one of corporate governance aspects of concern nowadays where most new cooperatives were started by individuals who wanted to manage them on their own. This means that founder syndrome or duration board members have sat in the board is a good measure of C.E.O duality in this study.



**Figure 4.9 Founder Syndrome or Duration Board Members have sat in the Board & Regulation Compliance**

From Table 4.10, Figure 4.8 and Figure 4.9 it is evident that only a minority of respondents held a divergent view that C.E.O duality does not influence regulation compliance. The study queried the respondents to provide further details on C.E.O duality. The response that best illustrates these findings are the 42% of the respondents who were of the opinion that roles are clearly stipulated in the SACCO Societies Act and the 33% who viewed that the roles are defined in the By-Laws. In respect to C.E.O duality the findings from this analysis are dissimilar to those of Okwee (2011) who found that the absence of clear and distinct roles for paid management and boards brings about duality problem. This finding implies that C.E.O duality in so far as a policy is concerned should be investigated.

***c) Political Interference***

Political interference was the third indicator of corporate governance. The study asked the respondents whether they consider independence of directors from voting members/ delegates as affecting regulation compliance. The results are represented in Table 4.11 which gives the results as follows. 77.5% of respondents who were fully compliant answered yes while 54.1% of those non-compliant answered no.

Cumulatively 33.3% of the total respondents answered no while 66.7% answered yes. This agrees with Mudibo (2006) on the challenges and opportunities facing the Kenyan Savings and Credit Co-operative movement, who found that very important decisions on urgent board/ management matters such as change in interest rates, introduction of new products and services have to await approval by the Annual General Meeting. This means that independence of directors from voting members/ delegates is a good measure of political interference.

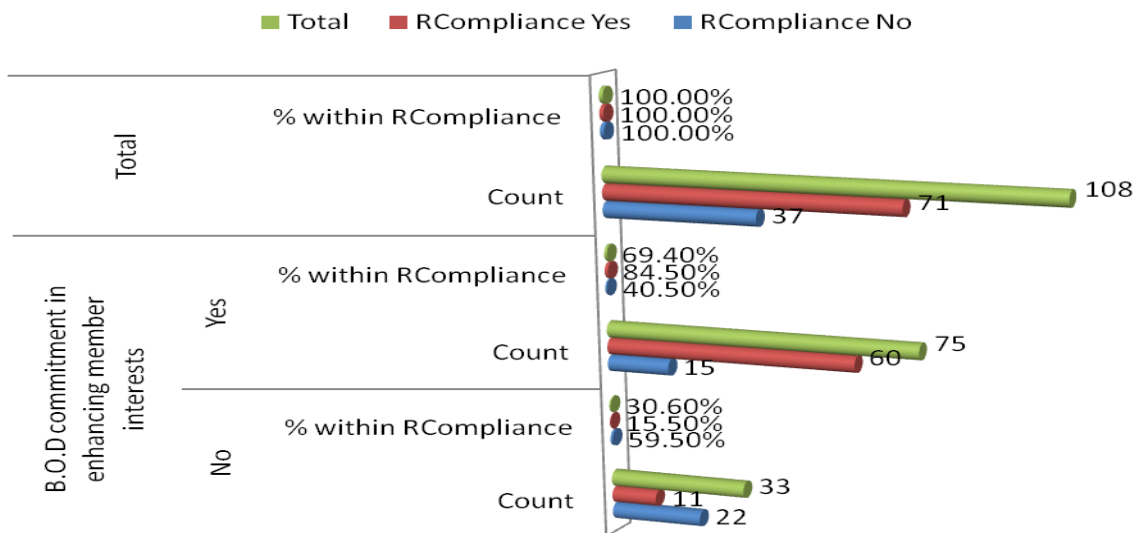
**Table 4.11 Independence of Directors from Voting Members/ Delegates & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Independence of directors from voting members/ delegates	No	Count	20	16	36
		% within RCompliance	54.1%	22.5%	33.3%
	Yes	Count	17	55	72
		% within RCompliance	45.9%	77.5%	66.7%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents on their thoughts as to whether using directorship as a stepping stone to politics. The results are represented in Figure 4.10. 84.5% of respondents who were fully compliant answered yes while 59.5% of those non-compliant answered no.

Cumulatively 30.6% of the total respondents answered no while 69.4% answered yes. This is similar to Mudibo (2006) on the challenges and opportunities facing the Kenyan Savings and Credit Co-operative movement who found that the challenge encountered involves the board of directors not being trusted by employees and members. This also agrees with FRC (2012) on the UK corporate governance code finding that while in law the organisation’s primarily accountable is to its shareholders, the relationship between the organisation and its shareholders should also be the main focus of any governance code, where organisations are encouraged to recognise the contribution made by other providers of capital and to confirm the board’s interest in listening to the views of such providers insofar as these are relevant to the company’s overall approach to governance. This means that using directorship as a stepping stone to external politics is a good measure of political interference.



**Figure 4.10 Using Directorship as a Stepping Stone to Politics**

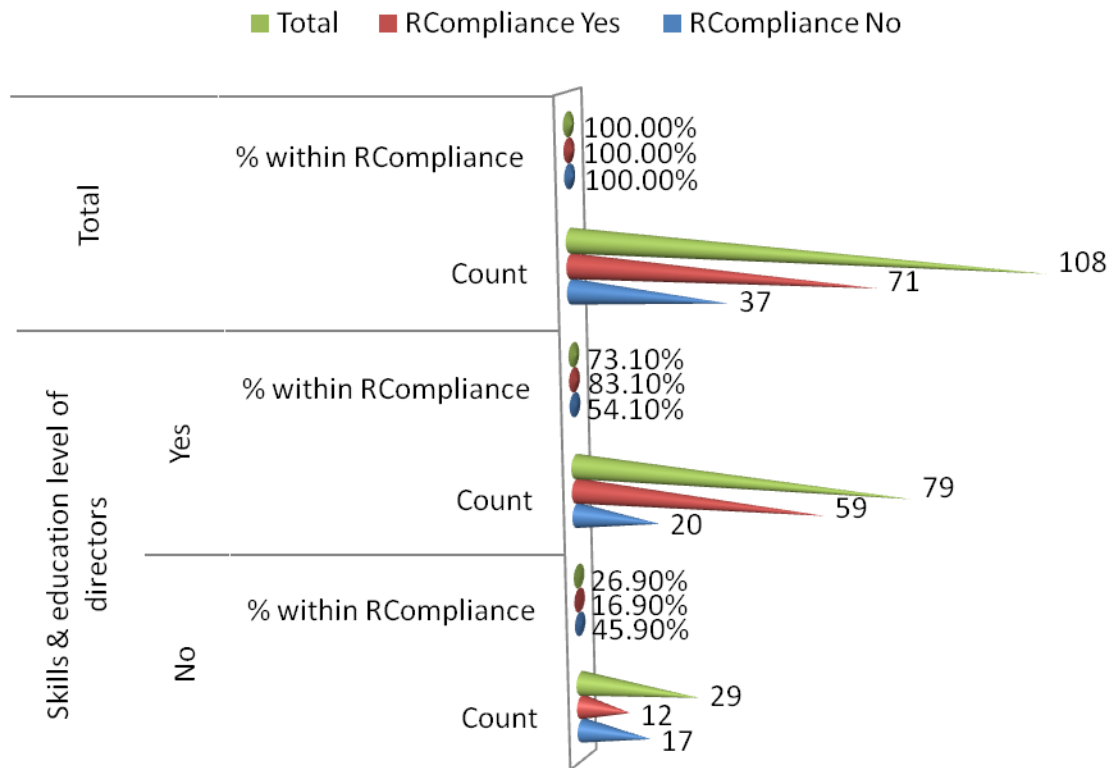


From Table 4.11 and Figure 4.10 it is evident that only a minority of respondents held a divergent view that political interference does not influence regulation compliance. The study further queried the respondents to provide details on political interference. The response that best illustrates these findings are the 32% of the respondents who were of the opinion that directors are subject to the rules and regulations and 26% who viewed the B.O.D as having a public not personal interests in taking care of their members. In respect to political interference the findings from this analysis are dissimilar to those of Okwee (2011) who found that the absence of clear and distinct roles for paid management and boards brings about duality problem. This finding implies that C.E.O duality in so far as a policy is concerned should be studied.

#### ***d) Directors' Capacity***

Directors' capacity was the last indicator of corporate governance. The study asked the respondents whether they thought the skills and education level of the directors influences regulation compliance. The results are represented in Figure 4.11 as follows. 83.1% of respondents who were fully compliant answered yes. 54.1% of those non-compliant also answered yes.

Cumulatively 26.9% of the total respondents answered no while 73.1% answered yes. This agrees with FRC (2012) on the UK corporate governance code that found boards and committees should have an appropriate balance of skills and education to enable them discharge their respective duties and responsibilities effectively. This means that the skills and education level of directors is a good measure of director capacity.



**Figure 4.11 Skills & Education Level of Directors & Regulation Compliance**

The study further inquired from the respondents whether they considered having non-professional volunteers assuming highly technical roles as influencing regulation compliance. Table 4.12 gave the following results. 77.5% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no. Cumulatively 34.3% of the total respondents answered no while 65.7% answered yes. This is in agreement with Ademba (2012b) on the scope of board accountability in financial Co-operatives who found that having elected members who are usually non-professional volunteers but expected to assume technical responsibilities is a challenge impacting on regulation compliance of SACCOs.

This is similar to Mudibo (2006) on the challenges and opportunities facing the Kenyan Savings and Credit Co-operative movement that found board members in most cases are non-professional volunteers, yet they assume very highly technical issues such as loan analysis and disbursement, budgeting and financial expenditure control. It is also similar to SASCCO (2010) on the annual Savings and Credit Co- operative Association of Africa report which found that the challenge on SACCO sustainability is the use of volunteer credit committees instead of a technical loan committee. This means that non-professional volunteers assuming highly technical roles is therefore a good indicator of corporate governance.

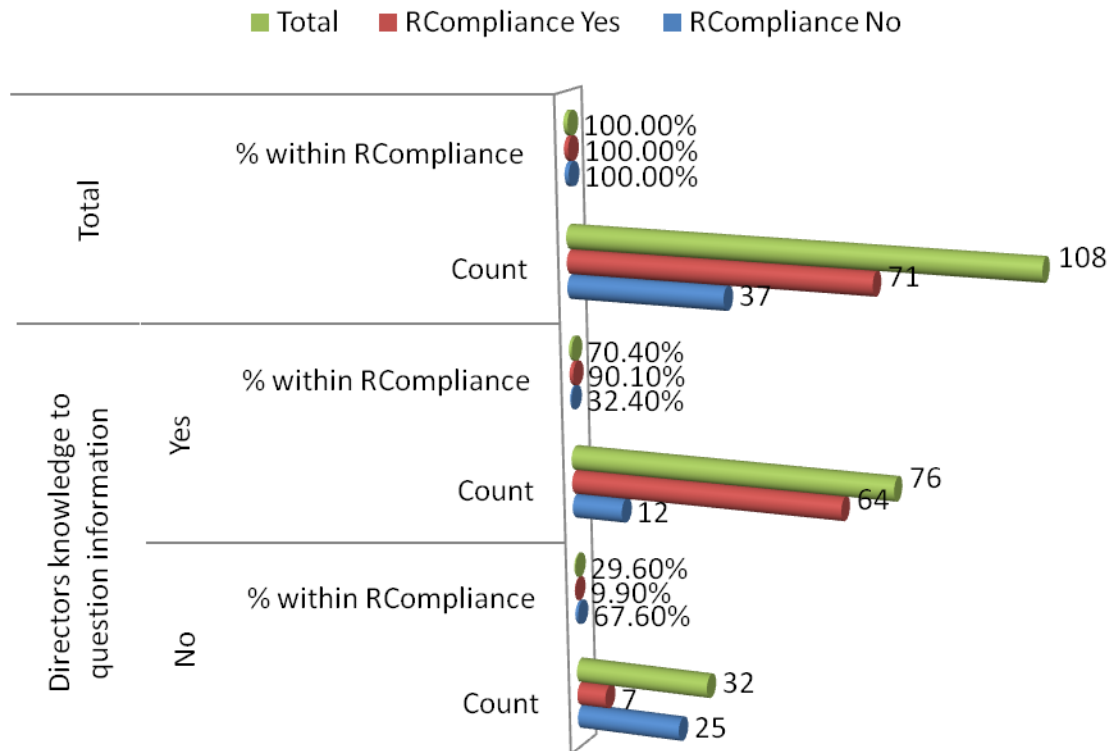
**Table 4.12 Non-Professional Volunteers Assuming Highly Technical roles & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Non-professional volunteers assuming highly technical roles	No	Count	21	16	37
		% within RCompliance	56.8%	22.5%	34.3%
	Yes	Count	16	55	71
		% within RCompliance	43.2%	77.5%	65.7%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents whether in their opinion the directors' knowledge to question information provided influences regulation compliance. The results are depicted in Figure 4.12 that gave the following results. 90.1% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 29.6% of the total respondents answered no while 70.4% answered yes.

This is similar to FRC (2012) finding, on the UK corporate governance code, that the board should have independence and knowledge of the organisation to enable them to discharge their respective duties effectively. This means that directors’ knowledge to question information provided is a good measure of directors’ capacity.



**Figure 4.12 Directors Knowledge to Question Information & Regulation Compliance**

From Figure 4.11, Figure 4.12 and Table 4.12 it is evident that only a minority of respondents held a divergent view that director capacity does not influence regulation compliance. The study further queried the respondents to provide details of the answers on directors’ capacity. The response that best illustrates these finding are the 50% of the respondents who were of the opinion that non-professional volunteers are also educated and 22% who viewed that the nature of operations and governance structure necessitates engagement of volunteers.

In respect to directors' capacity, findings from this analysis are dissimilar to that of Ademba (2012b) on board accountability scope in D.T.S, that found having elected members who are non-professional volunteers but assume technical responsibilities is a challenge impacting on regulation compliance of SACCOs. This finding implies that Directors capacity in so far as a policy is concerned should be studied.

***e) Improving Corporate Governance***

The study sought to know from the respondents in their view, how can SACCOs improve in corporate governance. The results are displayed in Table 4.13 as follows. 36.1% responded that SACCOs should separate the role of the B.O.D from that of the C.E.O. 16.7% each responded that SACCOs should educate members to be empowered in vetting/voting in professional directors and provide continuous board training in corporate governance. 12% wanted SACCOs to only engage in their core business of saving and lending. 11.1% preferred that SACCOs enhance professional management and transparent recruitment process while 7.4% wanted SACCOs to set minimum qualifications for their board members.

**Table 4.13 How SACCOs can improve in Corporate Governance**

	Frequency	Percent
Separate role of B.O.D & C.E.O	39	36.1
Educate members to be empowered in vetting/voting in professional directors	18	16.7
Continuous board training in corporate governance	18	16.7
Engage in core business of saving & lending only	13	12.0
Enhance professional management & transparent recruitment process	12	11.1
Set minimum qualifications for Board members	8	7.4
Total	108	100.0

#### **4.5.2 Management Information Systems**

The study looked at three indicators of Management Information Systems. These were; Networked systems, Computer systems and Banking software. Respondents were asked various questions to operationalise the constructs. The results are presented as follows.

##### ***a) Networked Systems***

The study posed to the respondents as to whether they consider the use of mobile services important in ensuring regulation compliance. The results are displayed in Table 4.14 as follows. 83.1% of respondents who were fully compliant answered yes while 89.2% of those non-compliant answered no. Cumulatively 41.7% of the total respondents answered no while 58.3% answered yes.

This agrees with SACCO (2013), on the SACCO Supervision Annual Report: Deposit Taking SACCOs, which found that the D.T.S continue to adopt technology delivery channels including automated teller machines and mobile financial services. It is similar to SASCCO (2010), on the 2010 Annual Savings and Credit Co-operative Association of Africa (11th SACCA Congress) Report which viewed that adopting ICT and in particular, the use of mobile phones in mobilising the markets, monitoring prices on the market, money transfer and payments of bills and services is an effective tool in improving operation and services in SACCOs. Use of mobile services is therefore a good measure of networked systems in this study.

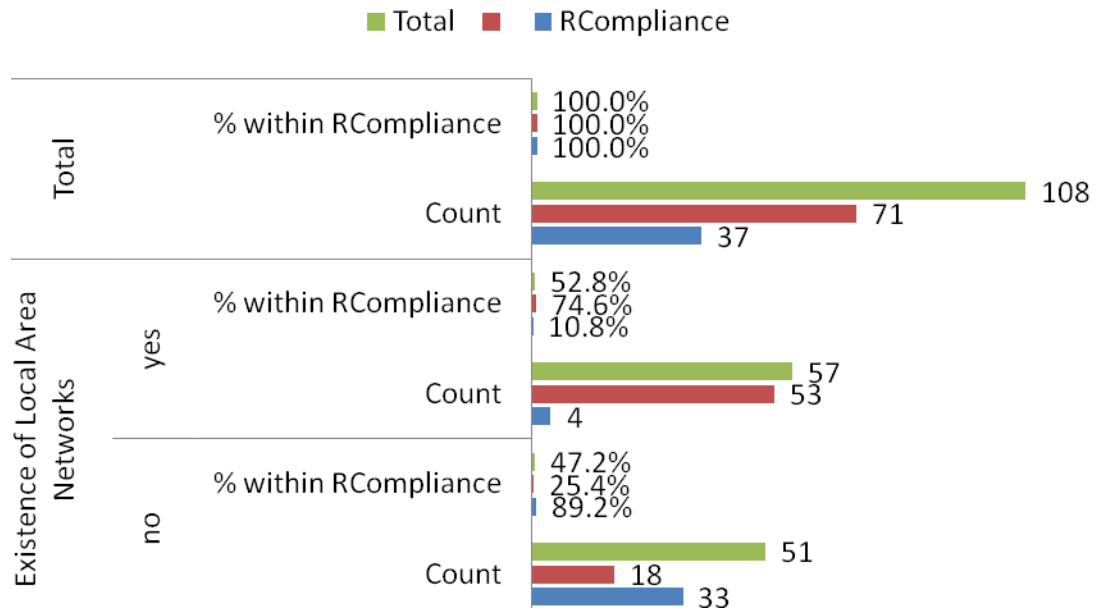
**Table 4.14 Use of Mobile Services & Regulation Compliance**

		RCompliance		Total	
		No	Yes		
Use of mobile services	No	Count	33	12	45
		% within RCompliance	89.2%	16.9%	41.7%
	Yes	Count	4	59	63
		% within RCompliance	10.8%	83.1%	58.3%
Total	Count	37	71	108	
	% within RCompliance	100.0%	100.0%	100.0%	

*Note.* RCompliance = Regulation Compliance

The study posed to the respondents as to whether they thought that the existence of Local Area Networks affects regulation compliance. The results are shown in Figure 4.13 as follows. 74.6% of respondents who were fully compliant answered yes while 89.2% of those non-compliant answered no. Cumulatively 47.2% of the total respondents answered no while 52.8% answered yes.

This is similar to Ademba (2012b) finding, on the scope of board accountability in Financial Co-operatives, that low adoption of information technologies affects regulation compliance. It is also similar to Makori (2013) finding, on the challenges facing Deposit-Taking Savings and Credit Co-operative Societies' regulatory compliance in Kenya that to a large extent inadequate ICT system had an effect on the successful implementation of a good management system. The finding means that for this study the existence of local area network is a good indicator of networked systems.



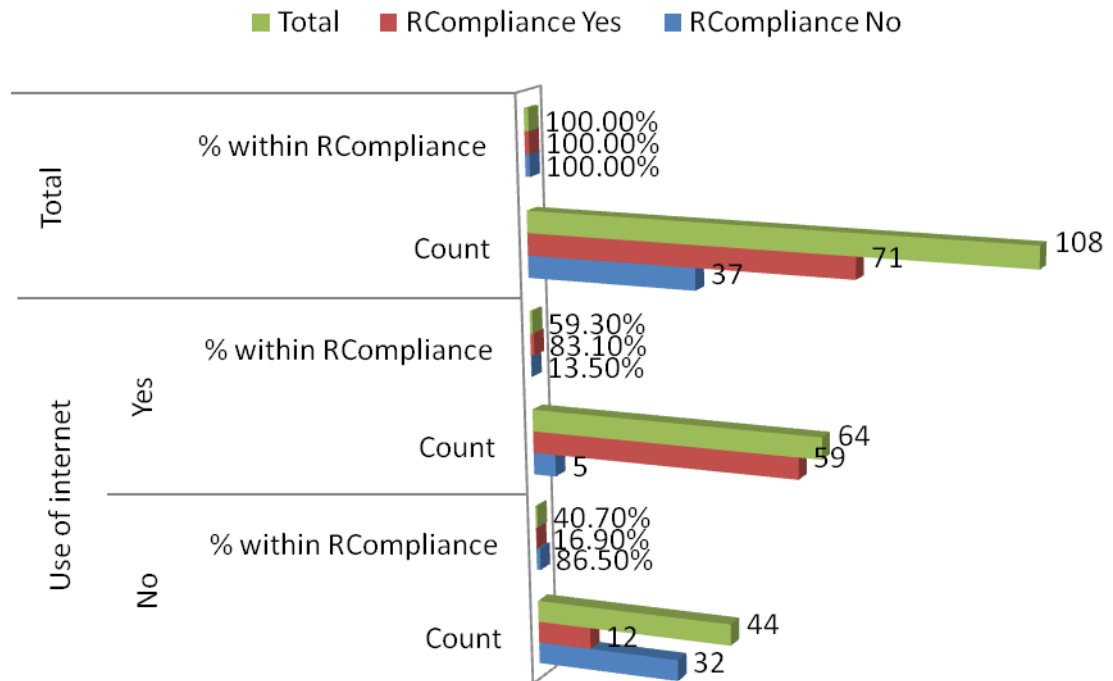
**Figure 4.13 Existence of Local Area Networks & Regulation Compliance**

The study posed to the respondents as to whether in their opinion the use of internet was important in ensuring regulation compliance. Figure 4.14 displays the results as follows. 83.1% of respondents who were fully compliant answered yes while 86.5% of those non-compliant answered no. Cumulatively 40.7% of the total respondents answered no while 59.3% answered yes.

This is similar to Ademba (2012a) on the challenges facing SACCOs in Africa today who found that the need to keep pace with the information technology is an external challenge affecting African SACCOs. It is also similar to Owen (2007), on the rural outreach and Financial Co-operatives: SACCOs in Kenya, that the weakness of the underlying communications infrastructure is a factor constraining adoption of networked systems. It also agrees with Badaso (2014), on the challenges of implementing procurement policies in State Corporations in Kenya, that in order to meet today's operating challenges, there is need to turn to ICT to enhance services through implementing scalable communication infrastructures such as wide area networks



(WANs) that accommodates provision of broadband internet access for online services and internal collaboration and handling administrative data. This means that the use of internet is a good measure of networked systems in this study.



**Figure 4.14 Use of Internet & Regulation Compliance**

The study further queried the respondents to provide details on their answers on networked systems. From Table 4.14, Figure 4.13 and Figure 4.14 it is evident that only a minority of respondents held a divergent view that networked systems does not influence regulation compliance. The response that best illustrates these finding are the 53% of the respondents who were of the opinion that regulations were not pegged on automation as it is structured and even occurs in manual operated systems and 28% who viewed that no association exists between networked systems and regulation compliance.

In respect to networked systems the findings from this analysis are dissimilar to that of Ademba (2012b) on the scope of board accountability in D.T.S who found that the adoption of information technologies affects regulation compliance. This finding implies that Networked systems in so far as a policy is concerned should be studied.

***b) Computer Systems***

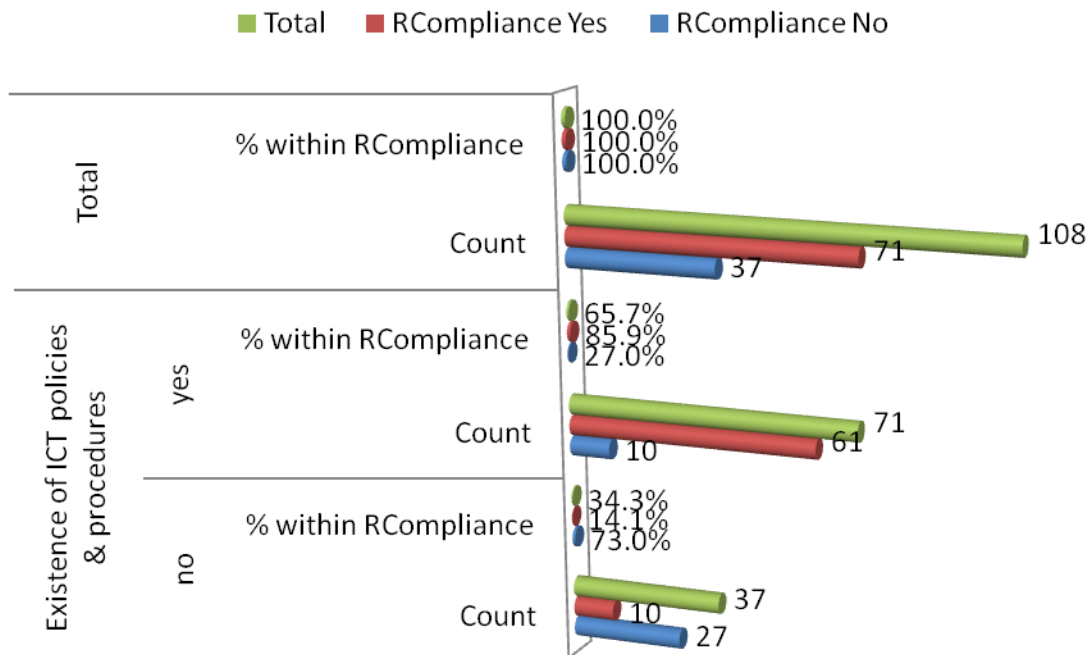
The second indicator of management information systems was computer systems. The study postulated to the respondents as to whether they consider use of computers with Windows 7 or above as affecting regulation compliance. The results are displayed in Table 4.15 as follows. 76.1% of respondents who were fully compliant answered yes while 75.7% of those non-compliant answered no. Cumulatively 41.7% of the total respondents answered no while 58.3% answered yes. This agrees with Ademba (2012b) on the scope of board accountability in Financial Co-operatives who found that the low adoption of computer technologies affects regulation compliance and Waweru (2011) finding, on an investigation into the cash balance management challenges in SACCOs, that the MIS challenge facing SACCOs in Nakuru is due to few SACCOs being computerised and having personnel with no formal training. The finding means that use of computer systems is a good indicator of networked systems.

**Table 4.15 Use of Computers with Windows 7 or above & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Use of computers with Windows 7 or above	No	Count	28	17	45
		% within RCompliance	75.7%	23.9%	41.7%
	Yes	Count	9	54	63
		% within RCompliance	24.3%	76.1%	58.3%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study postulated to the respondents as to whether they think existence of ICT policies and procedures affects regulation compliance. The results are displayed in Figure 4.15 as follows. 85.9% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered no. Cumulatively 34.3% of the total respondents answered no while 65.7% answered yes. This finding is similar to Ademba (2012a), on the challenges facing SACCOs in Africa today, that insufficient technological development is an internal challenge affecting African SACCOs. It further agrees with Ondieki, et.al., (2011), on assessment of the effect of external financing on financial performance of SACCOs, who observed that among the major challenges inherent in the cooperative movement in Kenya is ICT infrastructure weakness. This finding further is similar to Ngugi (2014) on challenges facing D.T.S compliance with the SACCO Societies' Act Number14 (2008) in Nyeri County which found that ICT capacity was important as far as compliance of the Act was concerned. This means that for this study existence of ICT policies and procedures is a good measure of MIS.



**Figure 4.15 Existence of ICT Policies & Procedures & Regulation Compliance**

The study further postulated to the respondents as to whether in their opinion the prevalence of manual systems affects regulation compliance. The results are displayed in Table 4.16 as follows. 81.7% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered no. Cumulatively 37.0% of the total respondents answered no while 63.0% answered yes. This is similar to Makori (2013), on the challenges facing D.T.S regulatory compliance in Kenya, that the automation of SACCOs is a need that must be continually addressed. And Owen (2007) on the rural outreach and Financial Cooperatives in Kenya who found that most SACCOs have manual or simple spreadsheet based accounting and MIS systems. For this study this means that the prevalence of manual systems is a good measure of computer systems.

**Table 4.16 Prevalence of Manual Systems & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Prevalence of manual systems	No	Count	27	13	40
		% within RCompliance	73.0%	18.3%	37.0%
	Yes	Count	10	58	68
		% within RCompliance	27.0%	81.7%	63.0%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

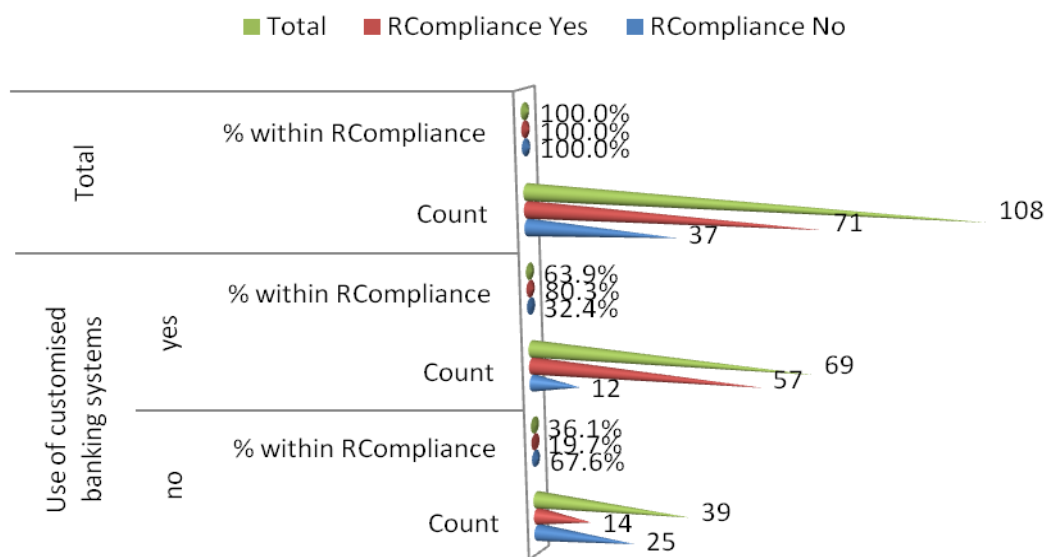
*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details on their answers on computer systems. From Figure 4.15, Table 4.15 and Table 4.16 it is evident that only a minority of respondents held a divergent view that computer systems do not influence regulation compliance. The response that best illustrates these are the 45% of respondents who were of the opinion that ICT compliments compliance but is not a necessity and 38% who viewed compliance as structured and even occurs in manual systems.

In respect to computer systems the findings from this analysis are dissimilar to Ngugi (2014), on challenges facing D.T.S compliance with the SACCO Societies' Act, that ICT capacity is important as far as compliance was concerned. This finding implies that Computer systems in so far as a policy is concerned should be studied.

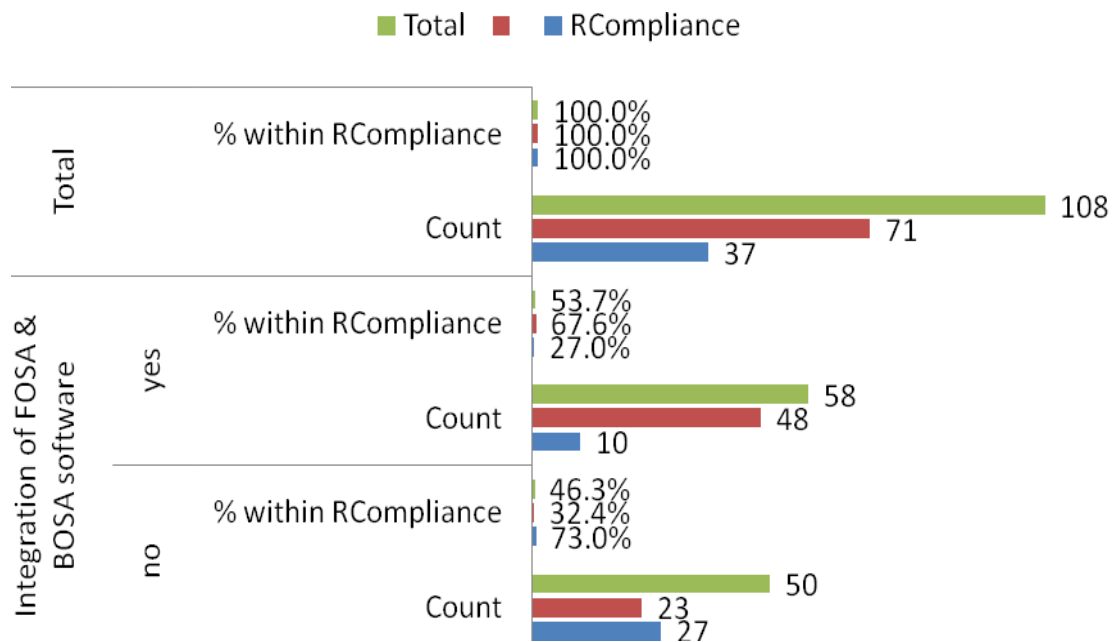
**c) Banking Software**

The third indicator of MIS was banking software. The study postulated to the respondents as to whether they thought the use of customised banking systems affected regulation compliance. The results are depicted in Figure 4.16 as follows. 80.3% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 36.1% of the total respondents answered no while 63.9% answered yes. This agrees with Owen (2007) finding on rural outreach and Financial Co-operatives that some of the top SACCOs are using developed customised systems or modular banking software. This means that the use of customised banking systems is a good measure of banking software.



**Figure 4.16 Use of Customised Banking Systems & Regulation Compliance**

The study further postulated to the respondents as to whether the integration of FOSA & BOSA software affects regulation compliance. Figure 4.17 gives the results as follows. 67.6% of respondents who were fully compliant answered yes while 73.0% of those non-compliant answered no. Cumulatively 46.3% of the total respondents answered no while 53.7% answered yes. This is similar to the SACCO (2013) on the SACCO Supervision Annual Report, finding that by December 2013, 11 DTS had integrated financial services to their core SACCO systems to retain members and ensure convenience access to services at all times. It is also similar to Owen (2007) finding, on rural outreach and Financial Co-operatives, that even in SACCOs which have computerised systems, these are not always integrated between front and back office. This means that integration of FOSA and BOSA software is a good measure of banking software.



**Figure 4.17 Integration of FOSA & BOSA Software & Regulation Compliance**

The study further queried the respondents to provide details on their answers on banking software. From Figure 4.16 and Figure 4.17 it is evident that only a minority of respondents held a divergent view that banking software does not affect regulation compliance. The response that best illustrates these findings are the 48% of respondents who were of the opinion that reports generated from integrated software systems do not affect compliance and 34% who viewed that information required by regulators is accepted regardless of integration or not. In respect to banking software, the findings from this analysis are dissimilar to SACCO (2013), on the SACCO Supervision Annual Report, that by December 2013, 11 DTS had integrated financial services to their core SACCO systems to retain members and ensure convenience access to services at all times. This finding implies that banking software in so far as a policy is concerned should be studied.

***e) Improving Management Information Systems***

The study further sought to know from the respondents in their view, how SACCOs can improve in management information systems. The results are displayed in Table 4.17 as follows. 24.1% responded that SACCOs should have dynamic MIS system with regular upgrades. 19.4% responded that BOSA & FOSA banking software should be integrated with the SASRA reporting portal.

18.5% were of the opinion that SACCOs should carry out regular MIS training of staff. 15.7% responded that SACCOs should benchmark with other financial institutions. 7.4% viewed that SACCOs must have an in-house dedicated IT Department while 6.5% wanted SACCOs to establish an operational MIS policy. 5.6% felt that transparent procuring from reputable firms is required while 2.8% thought that the regulator needs to accredit software vendors for the SACCOs.

**Table 4.17 How SACCOs can improve in Management Information Systems**

	Frequency	Percent
Have Dynamic MIS system with regular upgrades	26	24.1
Integrate BOSA & FOSA banking software with SASRA reporting portal	21	19.4
Regular MIS training of staff	20	18.5
Benchmark with other financial institutions	17	15.7
Have an in-house dedicated IT Department	8	7.4
Establish an operational MIS policy	7	6.5
Transparent procuring from reputable firms	6	5.6
SASRA to accredit software vendors	3	2.8
Total	108	100.0

### **4.5.3 Senior Management Skills**

The study looked at three indicators of Senior Management Skill. These were; participative and human resources (HR) skills, competition and control skills, and entrepreneurship skills. Respondents were asked various questions to operationalise the constructs. The results are presented as follows.

#### ***a) Participative & Human Resources Skills***

The study queried the respondents as to whether they think the ability to motivate and inspire staff affects regulation compliance. Table 4.18 displays the results as follows. 85.9% of respondents who were fully compliant answered yes while 59.5% of those non-compliant answered no. Cumulatively 29.6% of the total respondents answered no while 70.4% answered yes.



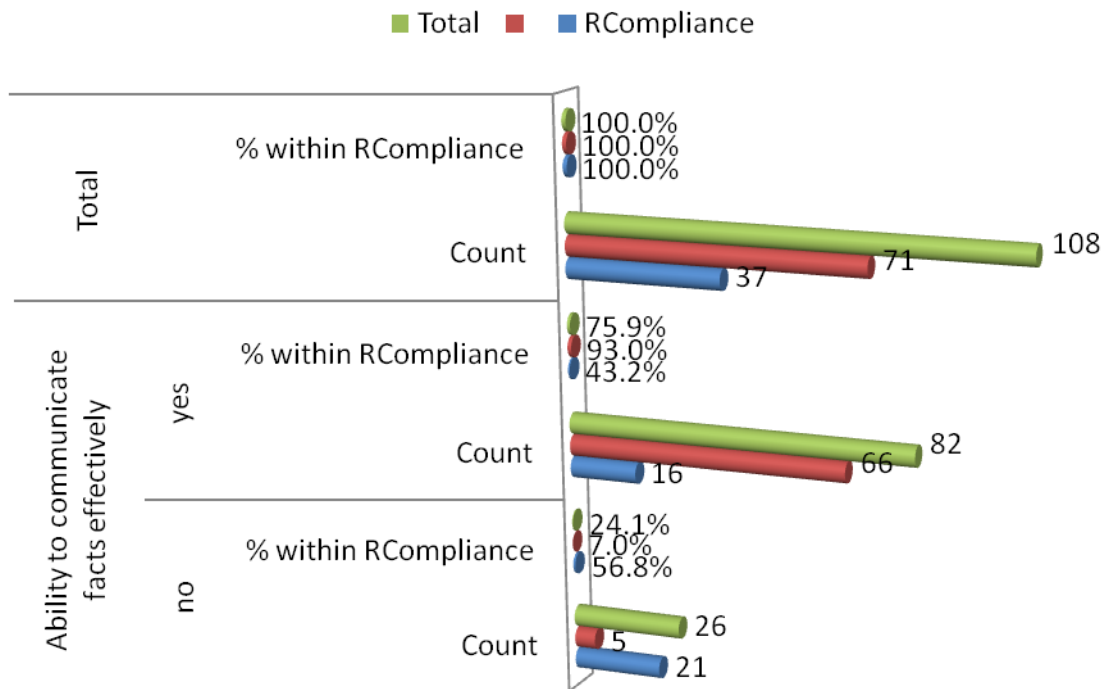
**Table 4.18 Ability to Motivate & Inspire Staff & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Ability to motivate & inspire staff	No	Count	22	10	32
		% within RCompliance	59.5%	14.1%	29.6%
	Yes	Count	15	61	76
		% within RCompliance	40.5%	85.9%	70.4%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study queried the respondents as to whether they consider the ability to communicate facts effectively as affecting regulation compliance. Figure 4.18 displays the results as follows. 93.0% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no. Cumulatively 24.1% of the total respondents answered no while 75.9% answered yes.

This is similar to SASCCO (2010) finding, on the annual Savings and Credit Co-operative Association of Africa report, that among the noticeable concerns is how to ensure personnel within the SACCOs are well conversant and can communicate pertinent issues affecting the sector. It further agrees with Badaso (2014), on the challenges of implementing procurement policies in State Corporations in Kenya, that in order to ensure effective policy implementation there is need to communicate with the policymakers with regard to aligning policies with the functions of public organisations. For this study this means that the ability to communicate facts effectively is a good measure of participative and HR skills.



**Figure 4.18 Ability to Communicate Facts Effectively & Regulation Compliance**

The study queried the respondents as to whether in their opinion team building capacity is important in ensuring regulation compliance. Table 4.19 displays the results as follows. 91.5% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 28.7% of the total respondents answered no while 71.3% answered yes.

This is similar to Badaso (2014), on the challenges of implementing procurement policies in State Corporations in Kenya, who found that the shared understanding, with commitment, between the middle management and those at the operational level to that of the top management team's strategic goals is of prime importance to successful implementation and compliance. This means that team building capacity is a good measure of participative and HR skills in this study.

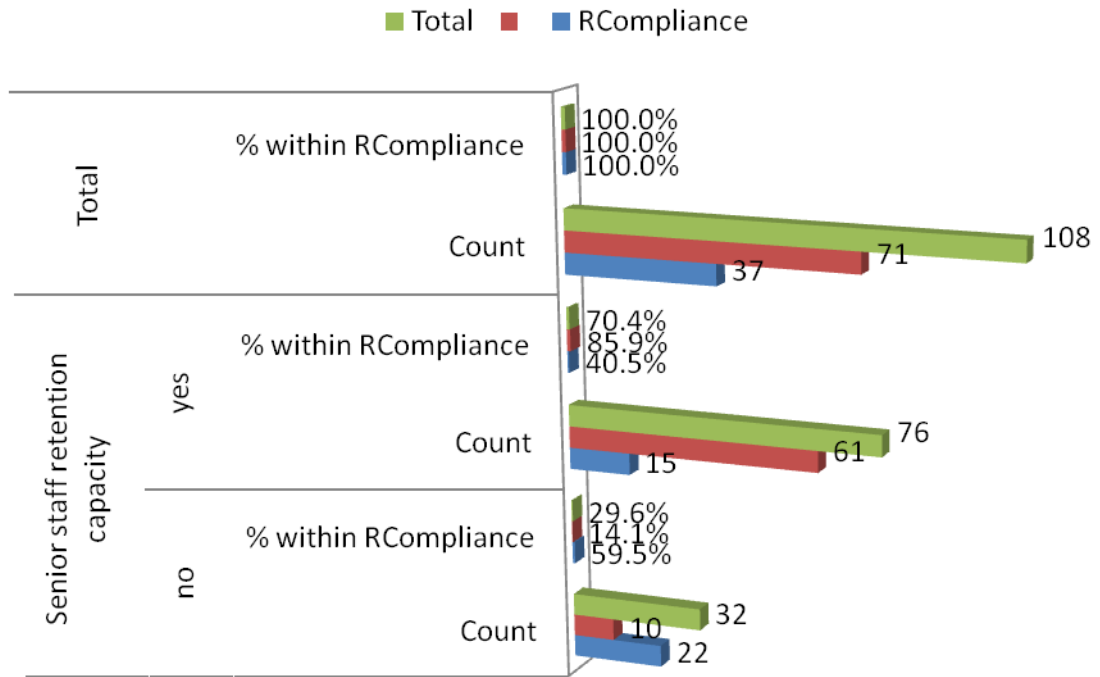
**Table 4.19 Team Building Capacity & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Team building capacity	No	Count	25	6	31
		% within RCompliance	67.6%	8.5%	28.7%
	Yes	Count	12	65	77
		% within RCompliance	32.4%	91.5%	71.3%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

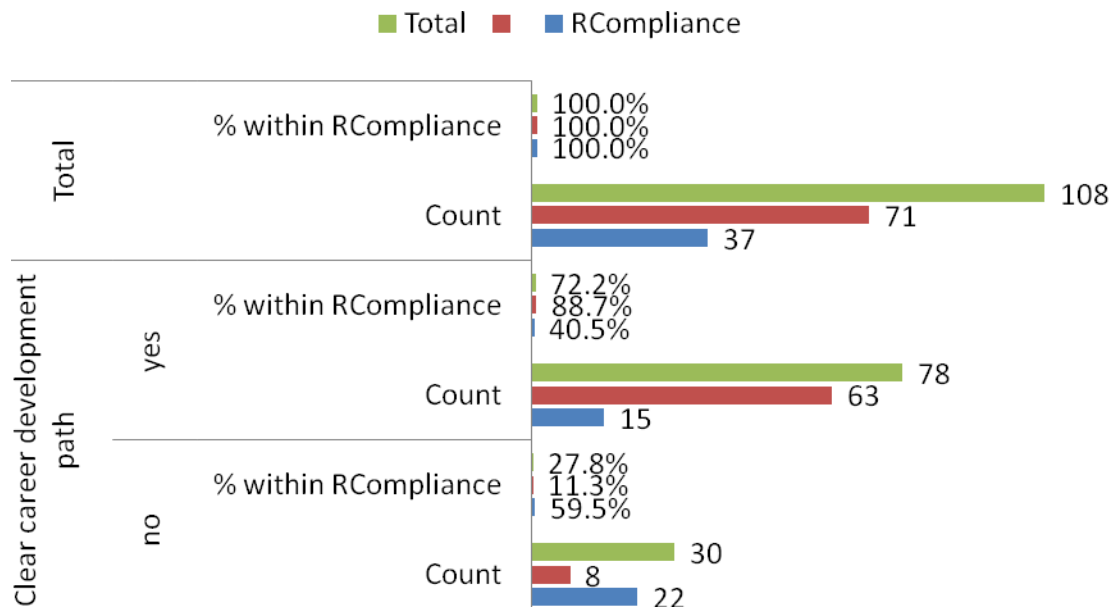
The study queried the respondents as to whether in their view senior staff retention capacity is important in ensuring regulation compliance. Figure 4.19 displays the results as follows. 85.9% of respondents who were fully compliant answered yes while 59.5% of those non-compliant answered no. Cumulatively 29.6% of the total respondents answered no while 70.4% answered yes.

This is similar to Ademba (2012b) on the scope of board accountability in financial co-operatives who found that poor human resource management lead to poor quality of staff and high staff turnover. It also similar to ILO (2013) finding on the resilience in a downturn: The power of financial co-operatives, that in general, SACCOs have flatter pay scales than the investor-owned banks, and so it is more difficult to attract and retain talent. Further it supports SASCCO (2010) view, on annual Savings and Credit Co-operative Association of Africa Report, that performance of SACCOs is undermined when staff compensation is biased and fails to attract qualified staff. This implies that senior staff retention is a good measure of participative and HR skills.



**Figure 4.19 Senior Staff Retention Capacity & Regulation Compliance**

The study queried the respondents as to whether they think clear career development path is important in ensuring regulation compliance. Figure 4.20 displays the results as follows. 88.7% of respondents who were fully compliant answered yes while 59.5% of those non-compliant answered no. Cumulatively 27.8% of the total respondents answered no while 72.2% answered yes. This is similar to SASCCO (2010) finding, on the annual Savings and Credit Co-operative Association of Africa Report that succession mapping techniques had to be strengthened to enhance continuity of SACCO projects. It is also similar to Mugo (2013) findings, on determinants of procurement regulatory compliance by Kenya Electricity Generating Company, that lack of career development path and low salaries of personnel also works against reforms implementation. This means that clear career development path is a good measure of participative and HR skills.



**Figure 4.20 Clear Career Development Path & Regulation Compliance**

The study further queried the respondents to provide details of their answers on participative and human resource skills. From Table 4.18, Table 4.19, Figure 4.18, Figure 4.19 and Figure 4.20 it is evident that only a minority of respondents held a divergent view that participatory and human resources skills does not affect regulation compliance. The response that best illustrates these finding are the 46% of respondents who were of the opinion that team building is merely a motivational factor to the staff and 33% who viewed that SACCOs develop succession planning for all their affairs. In respect to participative and human resource skills, the findings from this analysis are dissimilar to Badaso (2014) findings, on the challenges of implementing procurement policies in state corporations in Kenya, that the shared understanding, with commitment, between the middle management and those at the operational level to that of the top management team's strategic goals is of prime importance to successful implementation and compliance. This finding implies that participative and human resource skills in so far as a policy is concerned should be studied.

***b) Competition & Control Skills***

The second indicator of senior management skills was competition and control skills. The study inquired from the respondents as to whether they think the level of assertiveness affects regulation compliance. Table 4.20 displays the results as follows. 80.3% of respondents who were fully compliant answered yes while 51.4% of those non-compliant answered no. Cumulatively 30.6% of the total respondents answered no while 69.4% answered yes. This is similar to Kabaiya (2012), on the relationship between corporate governance practices and financial performance of SACCOs, who found that the lack of assertiveness and independence of the management may be a source of great pain to the shareholders in the event of wrong decision making. This means that level of assertiveness is a good measure of competition and control skills in this study.

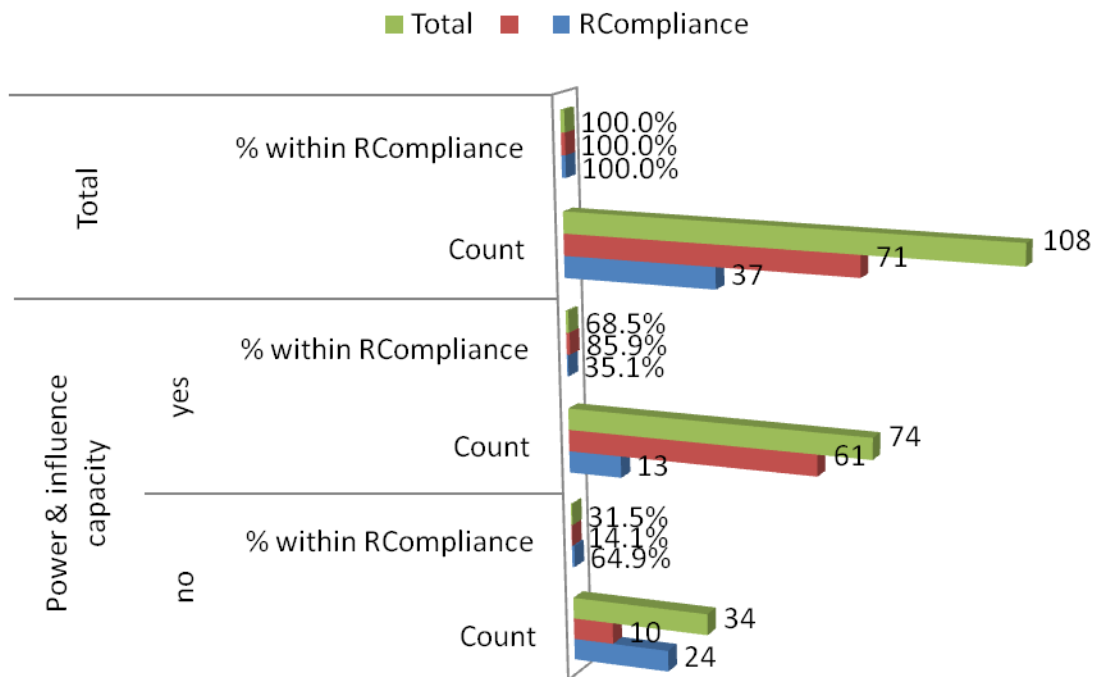
**Table 4.20 Level of Assertiveness & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Level of assertiveness	No	Count	19	14	33
		% within RCompliance	51.4%	19.7%	30.6%
	Yes	Count	18	57	75
		% within RCompliance	48.6%	80.3%	69.4%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents as to whether they consider power and influence capacity as affecting regulation compliance. Figure 4.21 displays the results as follows. 85.9% of respondents who were fully compliant answered yes while 64.9% of those non-compliant answered no. Cumulatively 31.5% of the total respondents answered no while 68.5% answered yes. This is similar to RCA (2014) finding, on the

organisation and management of the Umurenge SACCOs, that division of work in an organisation has consequences on authority, delegation and responsibility where managers have some form of power and influence over the subordinates. This means that power and influence capacity is a good measure of competition and control skills in this study.



**Figure 4.21 Power & Influence Capacity & Regulation Compliance**

The study inquired from the respondents as to whether in their opinion the capacity to assess compliance/detect fraud is important in ensuring regulation compliance. Table 4.21 presents the results as follows. 93.0% of respondents who were fully compliant answered yes while 51.4% of those non-compliant answered no. Cumulatively 22.2% of the total respondents answered no while 77.8% answered yes.

This is similar to Owen (2007) finding, on the rural outreach and Financial Cooperatives, that the internal audit capacity in most SACCOs is a challenge with majority of SACCOs having no operational manuals detailing policies and procedures making it almost impossible for auditors to assess compliance or detect fraud, thus impacting on SACCO compliance. Capacity to assess compliance/detect fraud is therefore a good measure of competition and control skills in this study.

**Table 4.21 Capacity to Assess Compliance/Detect Fraud & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Capacity to assess compliance/detect fraud	No	Count	19	5	24
		% within RCompliance	51.4%	7.0%	22.2%
	Yes	Count	18	66	84
		% within RCompliance	48.6%	93.0%	77.8%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents as to whether in their view formal training of internal audit team in finance and accounts is important in ensuring regulation compliance. Table 4.22 presents the results as follows. 91.5% of respondents who were fully compliant answered yes and also 51.4% of those non-compliant answered yes. Cumulatively 22.2% of the total respondents answered no while 77.8 answered yes. This is similar to Bwana and Mwakujonga (2013) who found, on the historical and development perspectives, that SACCOs in Tanzania and Kenya lack well trained staff and officials.



It also similar to FRC (2012) finding on the UK corporate governance code, that organisations should establish formal and transparent arrangements for considering how they should apply the corporate reporting, risk management and internal control principles. This also supports Owen (2007), on the rural outreach and financial Cooperatives, who found that SACCO management generally do not have any formal training in finance and accounting and there is also conflict of interest since the audit committee members also have a role in operational decisions through their role in management. This means that formal training of internal audit team in finance and accounts is a good measure of competition and control skills.

**Table 4.22 Formal Training of Internal Audit Team in Finance & Accounts and Regulation Compliance**

			RCompliance		Total
			No	Yes	
Formal training of internal audit team in finance & accounts	No	Count	18	6	24
		% within RCompliance	48.6%	8.5%	22.2%
Formal training of internal audit team in finance & accounts	Yes	Count	19	65	84
		% within RCompliance	51.4%	91.5%	77.8%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

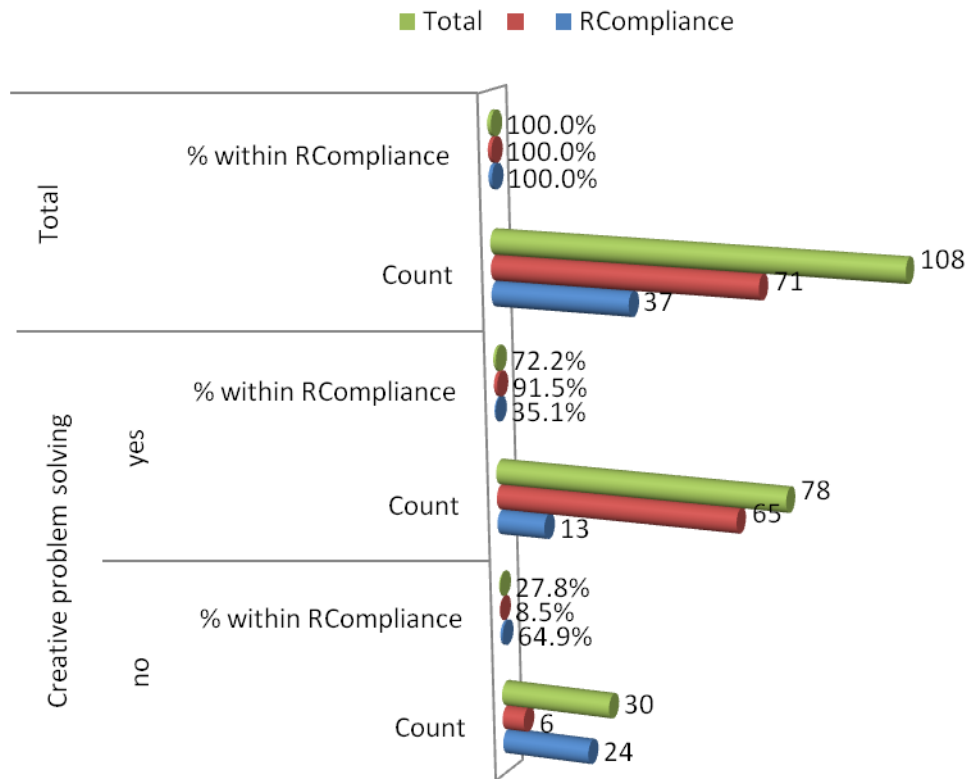
The study further queried the respondents to provide details on the competition and control skills answers. From Table 4.20, Table 4.21, Table 4.22 and Figure 4.21 it is evident that only a minority of respondents held a divergent view that competition and control skills do not affect regulation compliance. The response that best illustrates these finding are the 50% of respondents who were of the opinion detecting fraud and formal training of internal audit team is not a key requirement of regulation compliance.

An additional 31% viewed regulatory compliance as a statutory requirement by law that must be met and therefore cannot be influenced. In respect to competition and control skills, the findings from this analysis are dissimilar to Owen (2007), on the rural outreach and Financial Cooperatives, that found the internal audit capacity in most SACCOs is a challenge with majority of SACCOs having no operational manuals detailing policies and procedures making it almost impossible for auditors to assess compliance or detect fraud, thus impacting on SACCO compliance. This finding implies that competition and control skills in so far as a policy is concerned should be studied.

***c) Entrepreneurship Skills***

The third indicator of senior management skills was entrepreneurship skills. The study inquired from the respondents as to whether they think creative problem solving affects regulation compliance. Figure 4.22 displays the results as follows. 91.5% of respondents who were fully compliant answered yes while 64.9% of those non-compliant answered no.

Cumulatively 27.8% of the total respondents answered no while 72.2% answered yes. This is similar to Mathews (2007) finding, on managing intellectual and social capital, that multiple perspectives of creativity and creative thinking are currently utilised in programs and courses on creative problem solving, creating new enterprises, and managing innovation and entrepreneurship. This means that creative problem solving is a good measure of entrepreneurship skills in this study.

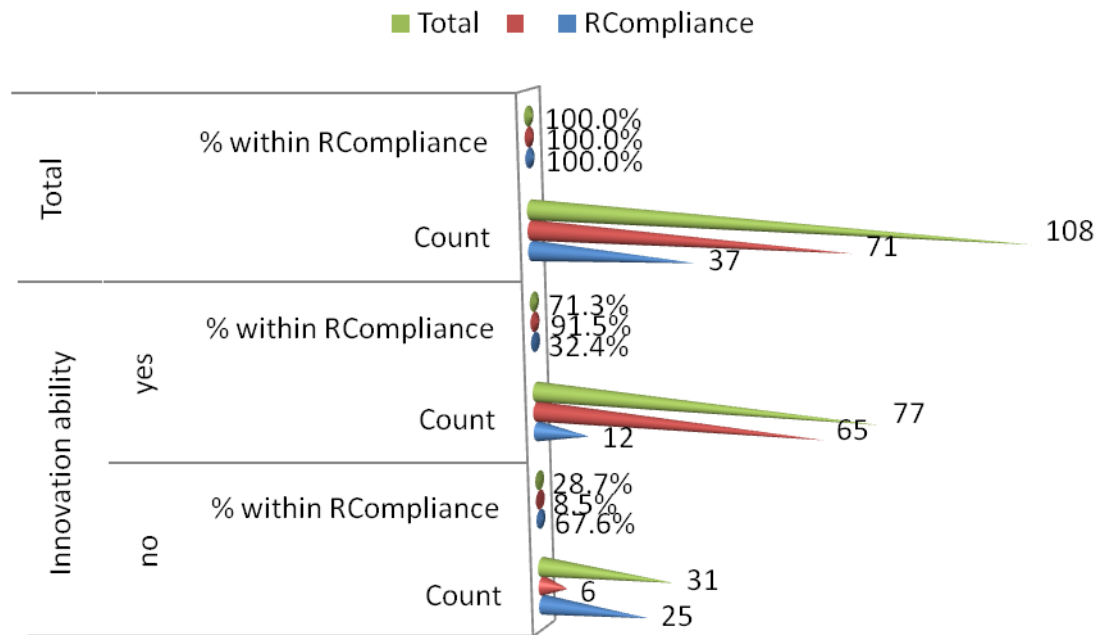


**Figure 4.22 Creative Problem Solving & Regulation Compliance**

The study inquired from the respondents as to whether they consider innovation ability as affecting regulation compliance. Figure 4.23 displays the results as follows. 91.5% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 28.7% of the total respondents answered no while 71.3% answered yes.

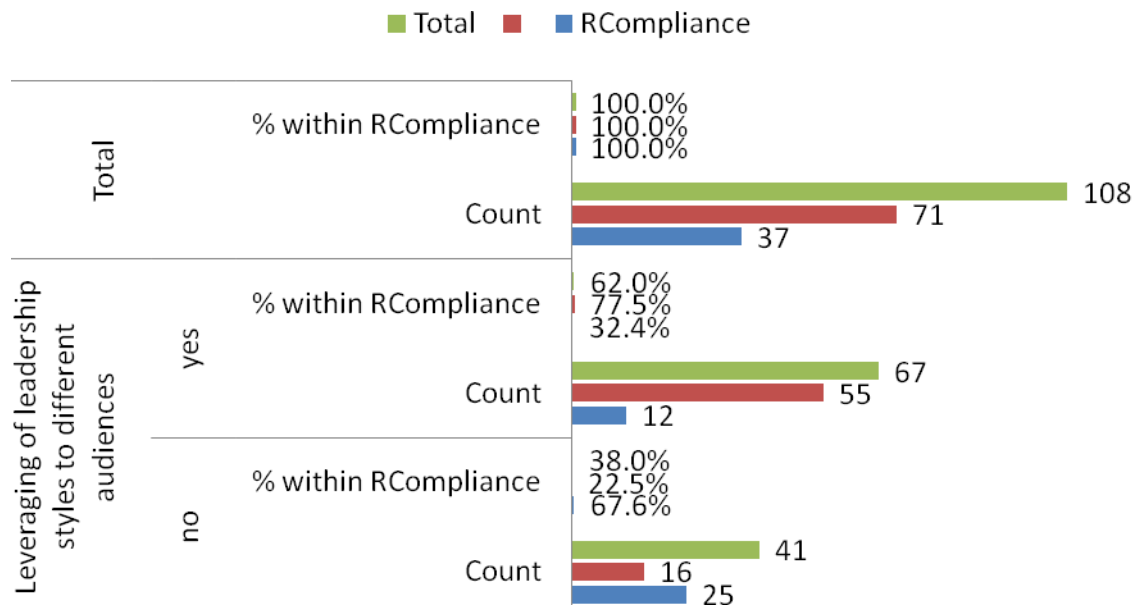
This is similar to Ademba (2012a), on challenges facing SACCOs in Africa, who found that deficiency of contemporary skills is an internal challenge affecting African SACCOs compliance. It is also similar to Magali (2014), on the influence of leadership, corporate governance and regulations on credit risk management, who found that 46% of

the rural SACCOs in Tanzania were creative and innovative as a result of the creative and innovative behaviour of the leaders/ managers. This means that innovation ability is a good measure of senior management skills.



**Figure 4.23 Innovation Ability & Regulation Compliance**

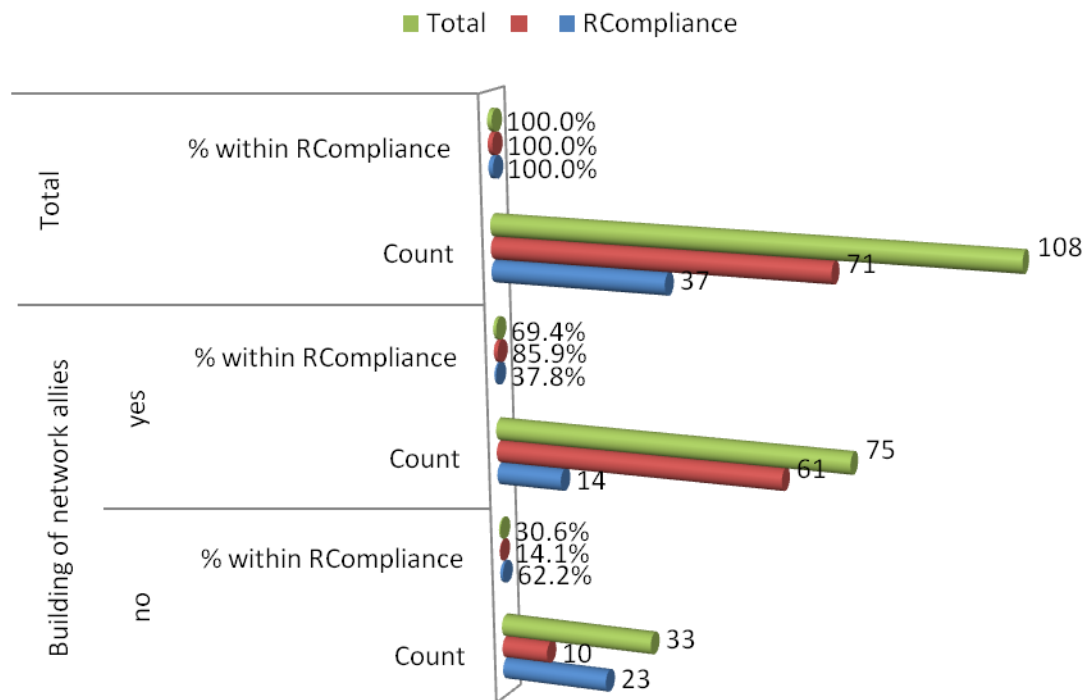
The study inquired from the respondents as to whether in their opinion leveraging of leadership styles to different audiences affects regulation compliance. Figure 4.24 displays the results as follows. 77.5% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 38% of the total respondents answered no while 62% answered yes. This is similar to SASCCO (2010) finding, on the annual Savings and Credit Co-operative Association of Africa report, that leadership style affects the direction and sustainability of SACCO development. This means that leveraging of leadership styles to different audiences is a good measure of entrepreneurship skills.



**Figure 4.24 Leveraging of Leadership Styles to Different Audiences & Regulation Compliance**

The study inquired from the respondents as to whether in their view building of network allies is important in regulation compliance. Figure 4.25 displays the results as follows. 85.9% of respondents who were fully compliant answered yes while 62.2% of those non-compliant answered no.

Cumulatively 30.6% of the total respondents answered no while 69.4% answered yes. This is similar to Vesala and Pyysiainen (2008), on understanding entrepreneurial skills, who found that cooperation and networking skills can be viewed as proper entrepreneurial skills. This means that building of network allies is a good measure of entrepreneurship skills in this study.

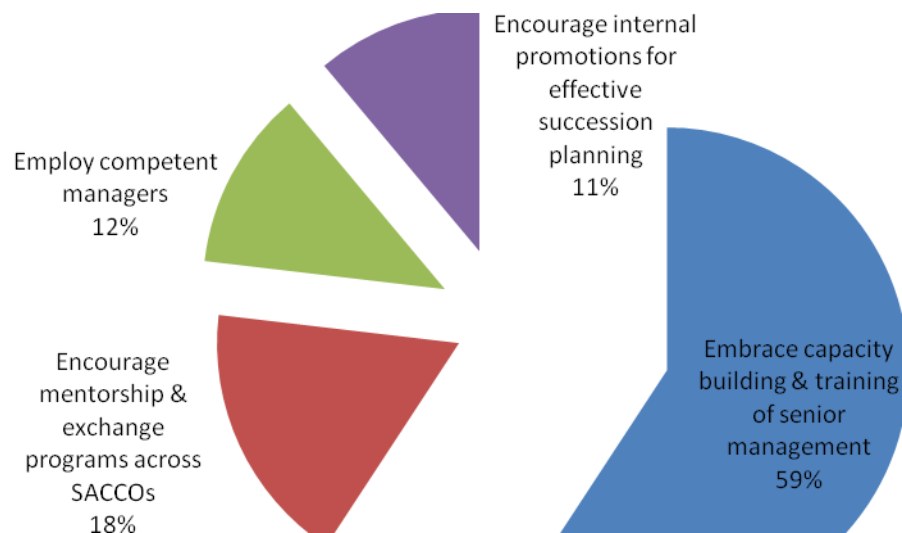


**Figure 4.25 Building of Network Allies & Regulation Compliance**

The study further queried the respondents to provide details of their answers on entrepreneurship skills. From Figures 4.22, 4.23, 4.24 and 4.25 it is evident that only a minority of respondents held a divergent view that entrepreneurship skills do not affect regulation compliance. The response that best illustrates these findings are the 50% of respondents who were of the opinion that regulation compliance is statutory and not affected by entrepreneurship skills and 42% who viewed compliance as systematic and not influenced by entrepreneurship skills. In respect to entrepreneurship skills, the findings from this analysis are dissimilar to Ademba (2012a), on challenges facing SACCOs in Africa, who found that deficiency of contemporary skills is an internal challenge affecting African SACCOs compliance. This finding implies that entrepreneurship skills in so far as a policy is concerned should be studied.

**d) *Improving Senior Management Skills***

The study inquired from the respondents in their view, how SACCOs can improve in senior management skills. The results are displayed in Figure 4.26 as follows. Majority of respondents at 59% (64) were of the view that SACCOs should embrace capacity building and the training of senior management. This was followed by 18% (19) who wanted mentorship and exchange programs encouraged across SACCOs. 12% (13) were of the opinion that SACCOs should employ competent managers while 11% (12) wanted SACCOs to encourage internal promotions for effective succession planning in order to improve the senior management skills.



**Figure 4.26 How SACCOs can improve in Senior Management Skills.**

#### **4.5.4 Legal Environment**

The study looked at four indicators of legal environment. These were; interest groups, rules and regulations, common bond, and rewards and punishments. Respondents were asked various questions to operationalise the constructs. The results are presented as follows.

##### ***a) Interest Groups***

The study asked the respondents whether they thought lobbying of legislative bodies by KUSCCO & KERUSSO affects regulation compliance. Table 4.23 displays the results as follows. 87.3% of respondents who were fully compliant answered yes and 56.8% of those non-compliant also answered yes. Cumulatively 23.1% of the total respondents answered no while 76.9% answered yes. This is similar to Ademba (2012a) finding, on challenges facing SACCOs in Africa, that the new lobby systems/ approaches are challenges affecting compliance.

It is similar to Ombuki, et.al., (2014), on the environmental factors influencing procurement regulatory compliance, who found that having various interests, objectives and beliefs, interest groups are involved in the system in several ways such as lobbying legislative bodies to pass, alter or influence the implementation of statutes. It further supports SASCCO (2010), on the annual Savings and Credit Co-operative Association of Africa Report, that SACCOs must establish an advocacy and lobby team to spearhead their interest in the public domain and during policy drafting. It also support Owen (2007) finding, on rural outreach and Financial Co-operatives, that both KUSCCO and KERUSSO have been involved in advocating and lobbying for sound co-operative policies and legislation. Lobbying of legislative bodies by KUSCCO and KERUSSO is therefore a good measure of interest groups.



**Table 4.23 Lobbying of Legislative Bodies by KUSCCO & KERUSSO & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Lobbying of legislative Bodies by KUSCCO & KERUSSO	No	Count	16	9	25
		% within RCompliance	43.2%	12.7%	23.1%
	Yes	Count	21	62	83
		% within RCompliance	56.8%	87.3%	76.9%
Total	Count	37	71	108	
	% within RCompliance	100.0%	100.0%	100.0%	

*Note.* RCompliance = Regulation Compliance

The study asked the respondents as to whether in their opinion the involvement of Ministry officials affects regulation compliance. Table 4.24 displays the results as follows. 81.7% of respondents who were fully compliant answered yes and 54.1% of those non-compliant also answered yes. Cumulatively 27.8% of the total respondents answered no while 72.2% answered yes.

This is similar to Bwana and Mwakujonga (2013), on the issues in SACCOs Development in Kenya and Tanzania, who viewed that SACCOs face challenges from circulars imposed by the Ministry of Co-operative Development. It also similar to Makori (2013) finding, on the challenges facing D.T.S regulatory compliance, that in Africa, smaller SACCOs not supervised by regulator are overseen by government agency such as a Ministry's department. This implies that involvement of Ministry officials is a good measure of interest groups in this study.

**Table 4.24 Involvement of Ministry Officials & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Involvement of Ministry Officials	No	Count	17	13	30
		% within RCompliance	45.9%	18.3%	27.8%
Ministry Officials	Yes	Count	20	58	78
		% within RCompliance	54.1%	81.7%	72.2%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked the respondents whether in their view predatory (extreme) regulations by County governments affects regulation compliance. Table 4.25 displays the results as follows. 85.9% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no.

Cumulatively 28.7% of the total respondents answered no while 71.3% answered yes. This agrees with CMA (2014), on the SACCO regulator backing the CMA ban on county funds, that cautioned the public against buying the offer of shares by SACCOs fronted by County governments which were unapproved by the Capital Markets Authority. This means that that regulation by county governments is a good measure of interest groups in this study.

**Table 4.25 Predatory (Extreme) Regulations by County Governments & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Predatory (extreme) regulations by County Governments	No	Count	21	10	31
		% within RCompliance	56.8%	14.1%	28.7%
Governments	Yes	Count	16	61	77
		% within RCompliance	43.2%	85.9%	71.3%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked the respondents whether they think a unified National government policy is important in ensuring regulation compliance. Table 4.26 displays the results as follows. 93% of respondents who were fully compliant answered yes and 64.9% of those non-compliant also answered yes. Cumulatively 16.7% of the total respondents answered no while 83.3% answered yes.

This is similar to Bwana and Mwakujonga (2013), on the issues in SACCOs Development in Kenya and Tanzania, who found that the lack of national policy leads to bureaucratic bottlenecks and inefficiency in the administration of government services and was a constraint facing SACCOs. It also similar to ILO (2013), on the resilience in a downturn: The power of Financial Co-operatives, finding that the relationship between governments, aid agencies and cooperatives is a complex one which depends on the ability of governments to strengthen and regulate cooperatives without swamping them, and on the ability of the international development community to have patience and allow cooperative systems time to mature. This means that unified national government policy is a good measure of interest groups in this study.

**Table 4.26 Unified National Government Policy & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Unified National Government policy	No	Count	13	5	18
		% within RCompliance	35.1%	7.0%	16.7%
	Yes	Count	24	66	90
		% within RCompliance	64.9%	93.0%	83.3%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

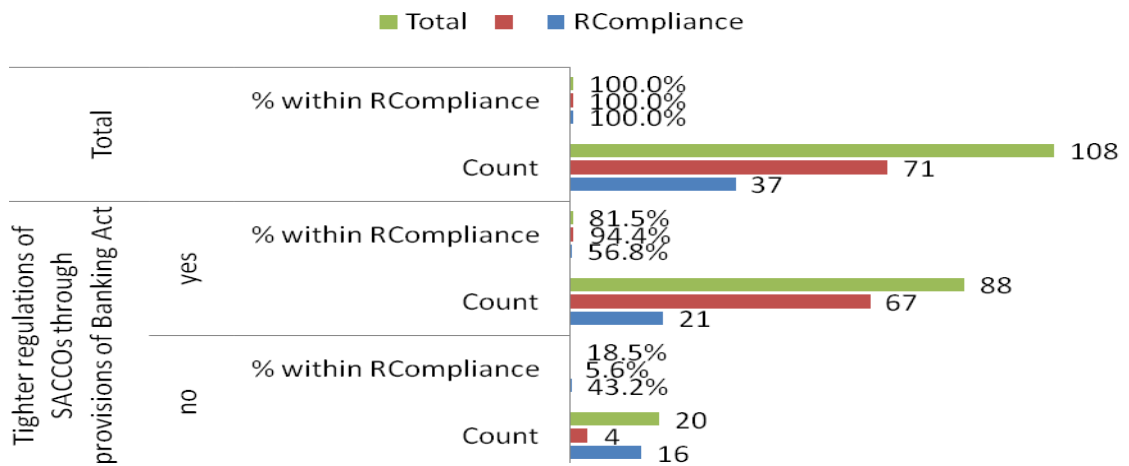
*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details of their answers on interest groups. From Table 4.23, 4.24, 4.25 and 4.26 it is evident that only a minority of respondents held a divergent view that interest groups do not influence regulation compliance. The response that best illustrates these findings are the 58% of respondents who were of the opinion that interest groups have no impact on regulation compliance with Apex bodies having systematically failed on key areas of lobbying. In respect to interest groups, the findings from this analysis are dissimilar to Ademba (2012a), on challenges facing SACCOs in Africa, who found that the new lobby systems/approaches are challenges affecting compliance. This finding implies that interest groups in so far as a policy is concerned should be studied.

#### ***b) Rules & Regulations***

The second indicator of legal environment was rules and regulations. The study asked the respondents as to whether they think tighter regulations of SACCOs through provisions of the Banking Act affects regulation compliance. Figure 4.27 displays the results as follows. 94.4% of respondents who were fully compliant answered yes and also 56.8% of those non-compliant answered yes. Cumulatively 18.5% of the total respondents answered no while 81.5% answered yes.

This is similar to the view of Bwana and Mwakujonga (2013), on issues in SACCOs development in Kenya and Tanzania, who found that some SACCOs in Kenya are actually larger (in asset terms) than some of the commercial banks leading to calls of provisions of the Banking Act to be applied and that in Tanzania, the government entity vested with oversight of the financial sector, the Bank of Tanzania has overall responsibility to coordinate the implementation of the microfinance policy including in SACCOs. It is also similar to Magali (2014), on the influence of leadership, corporate governance and regulations on credit risk management, who found that the regulatory and supervisory framework for SACCOs in Tanzania includes the Banking and Financial Institutions Act (2006) and the Bank of Tanzania Act (2006). It is also similar to Makori (2013) findings, on the challenges facing D.T.S regulatory compliance, that in Africa, the regulator, mostly the Central Bank, focuses mostly only on the country's largest SACCOs based on asset size or deposit base. This means that tighter regulations of SACCOs through provisions of banking act is a good measure of rules and regulations in this study.



**Figure 4.27 Tighter Regulations of SACCOs through Provisions of Banking Act**

The study asked whether the respondents consider understanding of Cooperative Societies Act important in regulation compliance. Table 4.27 displays the results as follows. 90.1% of respondents who were fully compliant answered yes and 62.2% of

those non-compliant also answered yes. Cumulatively 19.4% of the total respondents answered no while 80.6% answered yes. This is similar to Ademba (2012a), on challenges facing SACCOs in Africa, who found that changes in Co-operative legislation is an external challenge affecting African SACCOs.

This is also similar to Magali (2014), on the influence of leadership, corporate governance and regulations on credit risk management, who found that in Tanzania the government appointed cooperatives advisory committee helped formulate the Co-operative Societies' Act 2003 which assisted in regulation compliance. It also agrees with Makori (2013) findings, on the challenges facing D.T.S regulatory compliance, that the main content of the Co-operative Societies (Amendment) Act of 2004 reinforces state regulation of the co-operatives movement through the office of the Commissioner of Co-operatives development. This means that for this study understanding of the Cooperative Societies Act is a good measure of rules and regulations.

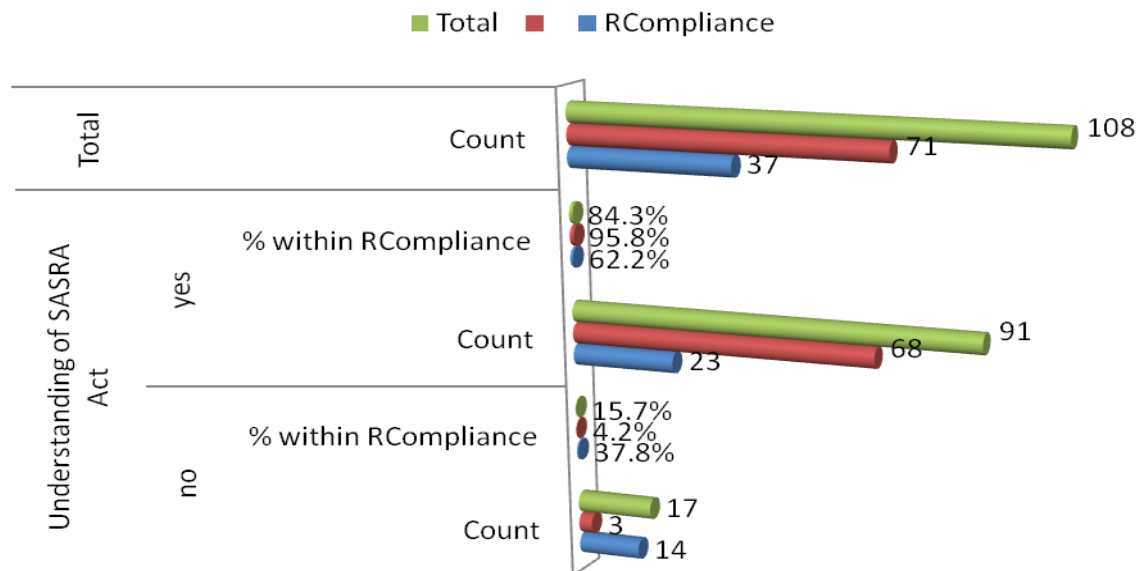
**Table 4.27 Understanding of Cooperative Societies Act & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Understanding of Cooperative Societies Act	No	Count	14	7	21
		% within RCompliance	37.8%	9.9%	19.4%
Act	Yes	Count	23	64	87
		% within RCompliance	62.2%	90.1%	80.6%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked whether the respondents consider the understanding of the SACCO Societies Act and Regulations important in regulation compliance. Figure 4.28 displays the results as follows. 95.8% of respondents who were fully compliant answered yes and also 62.2% of those non-compliant answered yes. Cumulatively 15.7% of the total respondents answered no while 84.3% answered yes.

This finding is similar to Kuria (2011), on Co-operatives in social development, that the rapid growth of the D.T.S Co-operative subsector necessitated the Government to enact a special legislation (SACCO Societies Act, 2008) under which a regulator was established to control the industry. It is also similar to Makori (2013), on the challenges facing D.T.S regulatory compliance in Kenya, who found that the SACCO Societies Act of 2008 provides for the licensing, regulation, supervision and promotion of SACCOs by SASRA. This means that understanding of SACCO Societies Act is a good measure of the legal environment in this study.



**Figure 4.28 Understanding of SACCO Societies Act & Regulation Compliance**

The study asked whether the respondents consider the understanding of the Public Procurement Act important in regulation compliance. Table 4.28 displays the results as follows. 98.6% of respondents who were fully compliant answered yes and 67.6% of those non-compliant also answered yes. Cumulatively 12% of the total respondents answered no while 88% answered yes. This is similar to Mugo (2013) finding, on the determinants of procurement regulatory compliance, that public procurement law should be implemented properly and that significant institutional developments of the new public procurement law should be enhanced which will ensure that the legal framework is complied with.

This is similar to Ombuki, et.al., (2014), on the environmental factors influence on procurement regulatory compliance, who found that the environmental factors influence procurement regulatory compliance. This is also similar to Kiama (2014) finding, on factors affecting implementation of Public Procurement Act in SACCOs, that to enhance transparency and accountability SASRA has directed the SACCOs to use public procurement guidelines as provided by the Public Procurement and Disposal Act of 2005. This means that understanding of the Public Procurement Act is a good measure of rules and regulations in this study.

**Table 4.28 Understanding of Public Procurement Act & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Understanding of Public Procurement Act	No	Count	12	1	13
		% within RCompliance	32.4%	1.4%	12.0%
	Yes	Count	25	70	95
		% within RCompliance	67.6%	98.6%	88.0%
Total	Count	37	71	108	
	% within RCompliance	100.0%	100.0%	100.0%	

*Note.* RCompliance = Regulation Compliance



The study asked whether in the respondents' opinion By- Law harmonisation is important in regulation compliance. Table 4.29 displays the results as follows. 95.8% of respondents who were fully compliant answered yes and 59.5% of those non-compliant also answered yes. Cumulatively 16.7% of the total respondents answered no while 83.3% answered yes. This is similar to Tache (2006) finding, on sustainable SACCO development, that members must be responsible enough in order to understand, adopt and amend the legal By- laws governing SACCOs in order to safeguard and benefit from their rights. This means that By-laws harmonization is a good measure of rules and regulations.

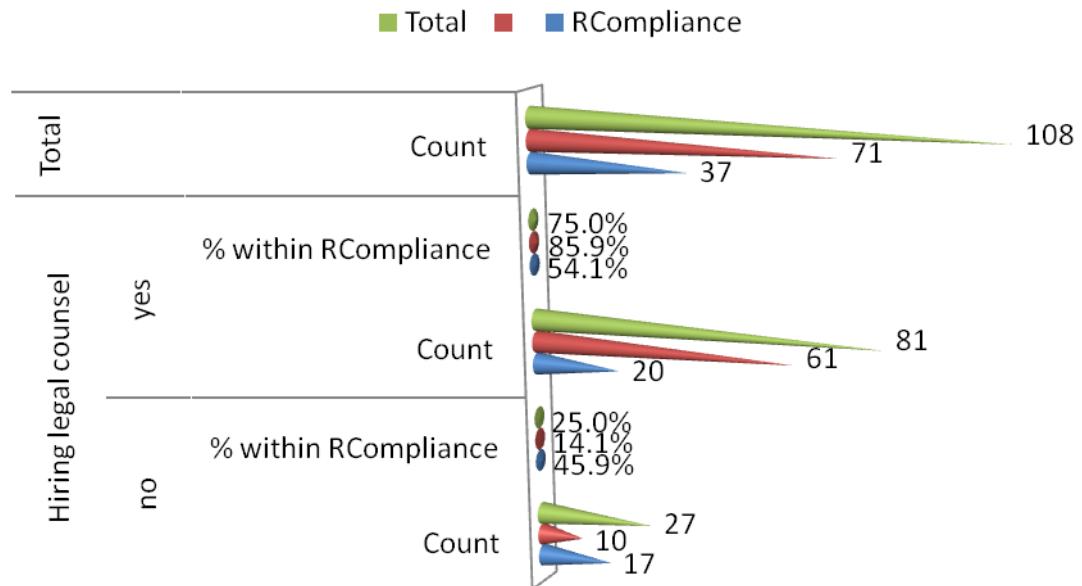
**Table 4.29 By-Laws Harmonisation & Regulation Compliance**

			RCompliance		Total
			No	Yes	
By-Laws harmonisation	No	Count	15	3	18
		% within RCompliance	40.5%	4.2%	16.7%
	Yes	Count	22	68	90
		% within RCompliance	59.5%	95.8%	83.3%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked whether in the respondents view hiring of a legal counsel affects regulation compliance. Figure 4.29 displays the results as follows. 85.9% of respondents who were fully compliant answered yes and 54.1% of those non-compliant also answered yes. Cumulatively 25% of the total respondents answered no while 75% answered yes.

This is similar to SASCCO (2010) finding, on the Annual Savings and Credit Co-operative Association of Africa Report, that understanding level of legislative issues is a major contributor towards effective sustainability of SACCO growth in Africa. This means that hiring legal counsel is a good measure of the legal environment.



**Figure 4.29 Hiring Legal Counsel & Regulation Compliance**

The study asked whether the respondents think the use of courts to challenge perceived excessiveness of law affects regulation compliance. Table 4.30 displays the results as follows. 88.7% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no.

Cumulatively 26.9% of the total respondents answered no while 73.1% answered yes. This is similar to SACCO (2008) findings, on SACCO Societies Act No. 14 of 2008, that the Cooperative Tribunal may reverse the decision of SASRA if: it fails to follow required procedures in making its decision; the Authority's decision was contrary to the Act and the Regulations; there was no factual basis for the Authority's decision; based

on a review of the record, the Authority committed a manifest error in its assessment of facts, or abused its discretion in taking its decision. Use of courts to challenge perceived excessiveness of law is therefore a good measure of rules and regulations in this study.

**Table 4.30 Use of Courts to Challenge Perceived Excessiveness of Law & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Use of courts to challenge perceived excessiveness of law	No	Count	21	8	29
		% within RCompliance	56.8%	11.3%	26.9%
	Yes	Count	16	63	79
		% within RCompliance	43.2%	88.7%	73.1%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details of the answers on rules and regulations. From Tables 4.27, 4.28, 4.29, 4.30 and Figures 4.27, 4.28 and 4.29 it is evident that only a minority of respondents held a divergent view that rules and regulation do not influence regulation compliance. The response that best illustrates these finding are the 53% of respondents who were of the opinion that changes in regulation do not impact on SACCOs. In respect rules and regulations, the findings from this analysis are dissimilar to Ademba (2012a) findings, on the challenges facing SACCOs in Africa, that changes in the Co-operative legislation is an external challenge affecting African SACCOs. This finding implies that rules and regulations in so far as a policy is concerned should be studied.

**c) Common Bond**

The study solicited from the respondents as to whether they think opening up of common bond as important in regulation compliance. Table 4.31 displays the results as follows. 91.5% of respondents who were fully compliant answered yes and 62.2% of those non-compliant also answered yes. Cumulatively 18.5% of the total respondents answered no while 81.5% answered yes.

This is similar to SACCO (2013) finding, on SACCO Supervision Annual Report, which asserts that the opening up of membership introduces new business risks including the guarantee mechanism whose strength is anchored on social collateral which is becoming less effective. It is also similar to Ademba (2012a), on the challenges facing SACCOs in Africa. who found that economic liberalisation, restructuring and reorganisation of firms in line with global trends in order to open up the common bond as a challenge facing African SACCOs. It further supports Bwana and Mwakujonga (2013), on the issues in SACCO development in Kenya and Tanzania, who found that the nature of SACCOs in Kenya and Tanzania is that, most SACCOs are formed by salary and wage earners who have a common bond, and whose employers are ready to effect check-off system from members’ monthly contributions and loan repayments. For this study, this means that opening up of common bond is a good measure of common bond.

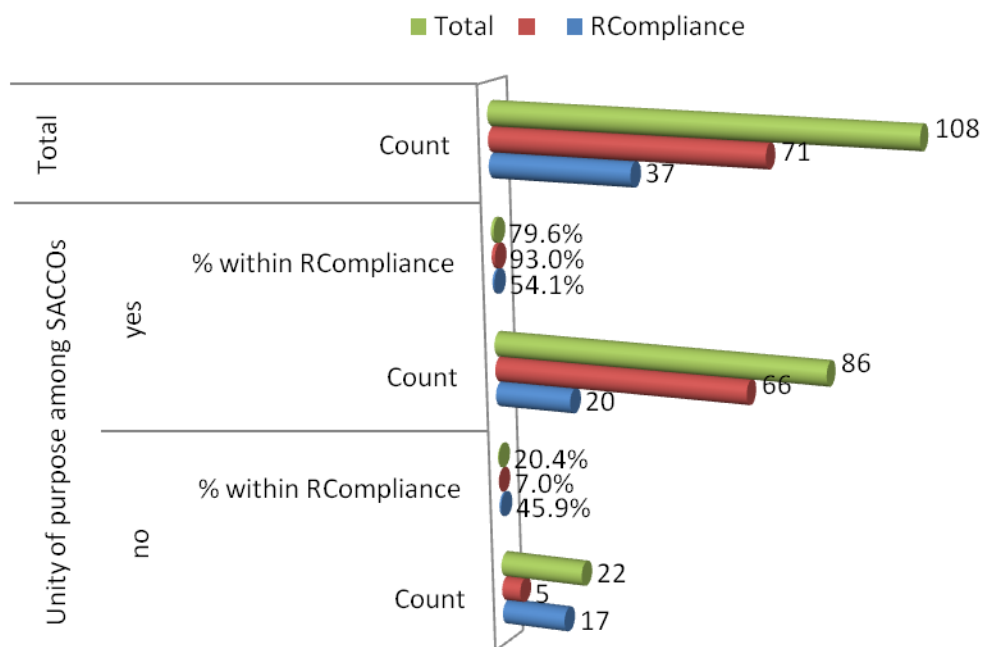
**Table 4.31 Opening up of the Common Bond & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Opening up of the common bond	No	Count	14	6	20
		% within RCompliance	37.8%	8.5%	18.5 %
	Yes	Count	23	65	88
		% within RCompliance	62.2%	91.5%	81.5%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study solicited from the respondents as to whether they consider unity of purpose among SACCOs important in regulation compliance. Figure 4.30 exhibits the results as follows. 93% of respondents who were fully compliant answered yes and 54.1% of those non-compliant also answered yes.

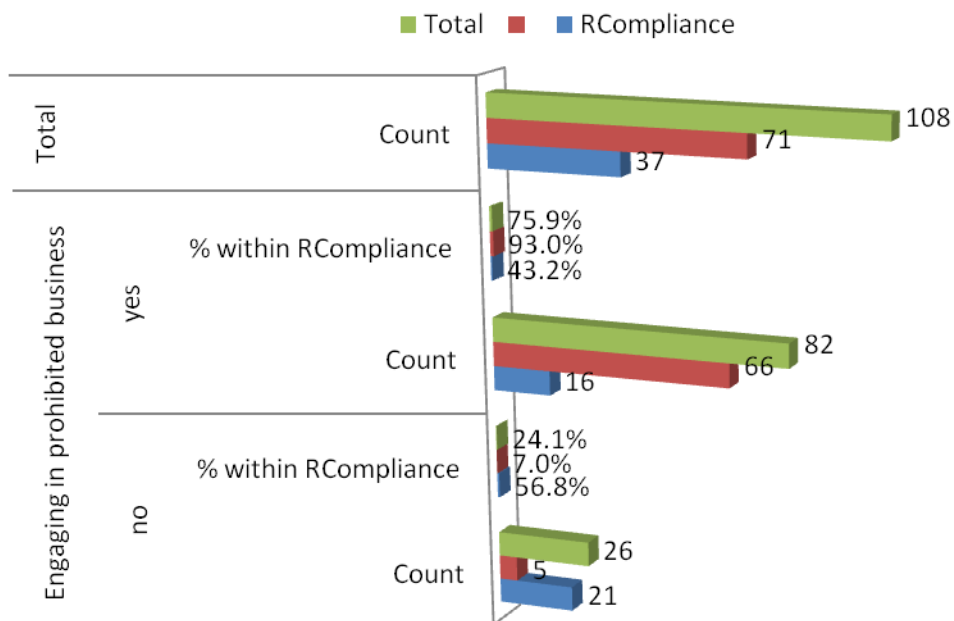
Cumulatively 20.4% of the total respondents answered no while 79.6% answered yes. This agrees with Tache (2006), on sustainable SACCO development, finding that among the principles that SACCOs must adhere to is cooperating among themselves in order to best serve the interests of their members and the community. This means that for this study unity of purpose is a good measure of the common bond.



**Figure 4.30 Unity of Purpose among SACCOs & Regulation Compliance**

The study solicited the respondents' opinion on whether engaging in prohibited business affects regulation compliance. Figure 4.31 exhibits the results as follows. 93% of respondents who were fully compliant answered yes while 56.8% of those non-

compliant answered no. Cumulatively 24.1% of the total respondents answered no while 75.9% answered yes. This agrees with SACCO (2013), on SACCO Supervision Annual Report, finding that D.T.S faced a challenge arising from the current regulations that prohibits certain investments. This means that engaging in prohibited business is a good measure of the common bond in this study.



**Figure 4.31 Engaging in Prohibited Business & Regulation Compliance**

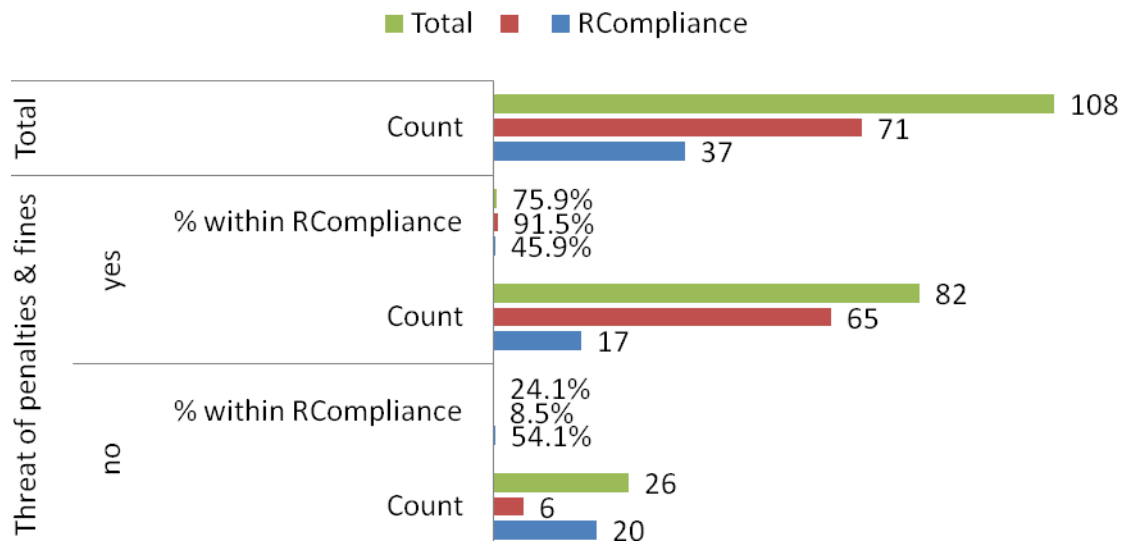
The study further queried the respondents to provide details of their answers on common bond. From Table 4.31, Figure 4.30 and Figure 4.31 it is evident that only a minority of respondents held a divergent view that common bond does not influence regulation compliance. The response that best illustrates these finding are the 47% of respondents who were of the opinion that regulation compliance is formal and structured and the 29% who viewed that engaging in prohibited business does not affect compliance. In respect to common bond the findings from this analysis are dissimilar to Ademba (2012a) finding, on the challenges facing SACCOs in Africa, that global trends leading

to opening up the common bond are a challenge facing African SACCOs. They are also dissimilar to SACCO (2013), on SACCO Supervision Annual Report, finding that D.T.S faced a challenge arising from the current regulations that prohibits certain investments. This finding implies that common bond in so far as a policy is concerned should be studied.

#### ***d) Rewards & Punishments***

The fourth indicator of legal environment was rewards and punishments. The study solicited from the respondents as to whether they think the threat of penalties and fines is important in regulation compliance. Figure 4.32 displays the results as follows. 91.5% of respondents who were fully compliant answered yes and 54.1% of those non-compliant answered no. Cumulatively 24.1% of the total respondents answered no while 75.9% answered yes. This is similar to Badaso (2014) view on challenges of implementing procurement policies in State Corporations that threat of being suspended or fired has in many cases intimidated public officers into obeying illegal directives leading to non-compliance.

It is also similar to Zubcic and Sims (2011) finding, on examining the link between enforcement activity and corporate compliance, that increased penalties leads to greater levels of compliance with laws. Furthermore it is similar to Gunningham and Kagan (2005) finding, on regulation and business behavior, that the threat of legal sanctions is essential to regulatory compliance. This means that threat of penalties and fines is a good measure of rewards and punishments in this study.



**Figure 4.32 Threat of Penalties & Fines & Regulation Compliance**

The study solicited from the respondents as to whether they considered enforcement by the regulator as affecting regulation compliance. Table 4.32 displays the results as follows. 93% of respondents who were fully compliant answered yes while 51.4% of those non-compliant answered no. Cumulatively 22.2% of the total respondents answered no while 77.8% answered yes.

This study is similar to Ademba (2012a) on the challenges facing SACCOs in Africa who found that regulation of business is an external challenge affecting African SACCOs. It is also similar to Zubcic and Sims (2011), on examining the link between enforcement activity and corporate compliance, finding that enforcement improves compliance with laws. This means that the contract enforcement by the regulator is a good measure of rewards and punishments.



**Table 4.32 Contract Enforcement by the Regulator & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Contract enforcement by the regulator		Count	19	5	24
	No	% within RCompliance	51.4%	7.0%	22.2%
		Count	18	66	84
	Yes	% within RCompliance	48.6%	93.0%	77.8%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details of their answers on rewards and punishments. From Figure 4.32 and Table 4.32 it is evident that only a minority of respondents held a divergent view that rewards and punishments do not influence regulation compliance. The response that best illustrates these findings are the 59% of respondents who were of the opinion that penalties are not necessary for SACCOs to comply. In respect to rewards and punishments, the findings from this analysis are dissimilar to Zubcic and Sims (2011), on examining the link between enforcement activity and corporate compliance, that increased penalties leads to greater levels of compliance with laws. Furthermore it is dissimilar to Gunningham and Kagan (2005) finding, on regulation and business behavior, that the threat of legal sanctions is essential to regulatory compliance. This finding implies that common bond in so far as a policy is concerned should be studied.

### e) Improving Legal Environment

The study inquired from the respondents in their view how SACCOs can improve the legal environment. The results are displayed in Table 4.33 as follows. Majority of respondents at 42.9% were of the view that SACCOs should ensure all internal stakeholders adhere to the relevant Acts, Regulations and By-Laws.

This was followed by 23.8% of respondents who wanted SACCOs to have in-house professional legal teams. 18.1% were of the view that lobbying for friendly and practicable legislation through the Apex Bodies should be done. This was closely followed by 15.2% who preferred SACCOs to engage external experts to advice the board. In total 105 respondents gave their opinion on improving legal environment out of the sample of 108.

**Table 4.33 How SACCOs can improve the Legal Environment**

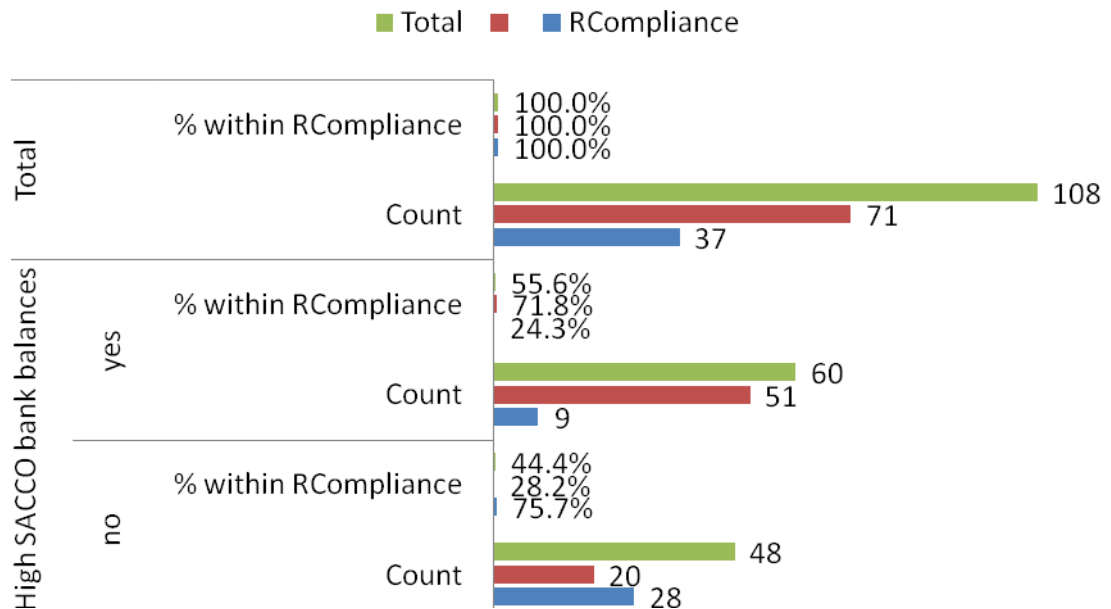
		Frequency	Percent	Valid Percent
Valid	Ensure all internal stakeholders adhere to the relevant ACTS, Regulations & By-Laws	45	41.7	42.9
	Have an In-house professional Legal Department	25	23.1	23.8
	Lobby for friendly and practicable legislation through the Apex bodies	19	17.6	18.1
	Engage external legal experts to advice the Board	16	14.8	15.2
	Total	105	97.2	100.0
Missing	99	3	2.8	
Total		108	100.0	

#### 4.5.5 Resource Availability

The study looked at four indicators of resource availability. These were; Liquidity, Financial capital, Financial property and Intangible assets. Respondents were asked various questions to operationalise the constructs. The results are presented as follows.

##### a) Liquidity

The study asked the respondents as to whether they think high SACCO bank balances are important in ensuring regulation compliance. Figure 4.33 shows the results as follows. 71.8% of respondents who were fully compliant answered yes while 75.7% of those non-compliant answered no. Cumulatively 44.4% of the total respondents answered no while 55.6% answered yes. This is similar to SACCO (2013), on the SACCO Supervision Annual Report, which found D.T.S require matching level of liquid resources to the short-term FOSA deposits and other liabilities in order to remain liquid. This means that high SACCO bank balances is a good indicator of liquidity.



**Figure 4.33 High SACCO Bank Balances & Regulation Compliance**

The study asked the respondents as to whether they consider high balances with financial institutions other than banks important in ensuring regulation compliance. Table 4.34 shows the results as follows. 83.1% of respondents who were fully compliant answered yes while 73% of those non-compliant answered no.

Cumulatively 36.1% of the total respondents answered no while 63.9% answered yes. This is similar to SACCO (2013) on the SACCO Supervision Annual Report finding that given the minimum regulatory ratio at 15% and to enhance sound liquidity management, D.T.S can only acquire external borrowings to the extent of 25% relative to total assets. This means that high balances with financial institutions other than banks are a good measure of liquidity.

**Table 4.34 High Balances with Financial Institutions other than Banks & Regulation Compliance**

			RCompliance		Total
			No	Yes	
High balances with financial institutions other than banks	No	Count	27	12	39
		% within RCompliance	73.0%	16.9%	36.1%
	Yes	Count	10	59	69
		% within RCompliance	27.0%	83.1%	63.9%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked the respondents on their opinion as to whether high level of government securities is important in ensuring regulation compliance. Table 4.35 shows the results as follows. 80.3% of respondents who were fully compliant answered yes while 73% of those non-compliant answered no.

Cumulatively 38% of the total respondents answered no while 62% answered yes. This is similar to Tache (2006) on sustainable SACCO development finding that government securities are a source of external fund mobilisation for SACCOs. This means that high levels of government securities are a good measure of liquidity in this study.

**Table 4.35 High Levels of Government Securities & Regulation Compliance**

			RCompliance		Total
			No	Yes	
High levels of government securities	No	Count	27	14	41
		% within RCompliance	73.0%	19.7%	38.0%
	Yes	Count	10	57	67
		% within RCompliance	27.0%	80.3%	62.0%
Total		Count	37	71	108
		% within RCompliance	100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked the respondents whether they think high member deposits affects regulation compliance. Table 4.36 shows the results as follows. 87.3% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no. Cumulatively 27.8% of the total respondents answered no while 72.2% answered yes. This is similar to SACCO (2013), on the SACCO Supervision Annual Report, that found the main source of funding for D.T.S were member deposits at 71.4% which had an impact on compliance. Therefore this means that high member deposits is a good measure of liquidity.

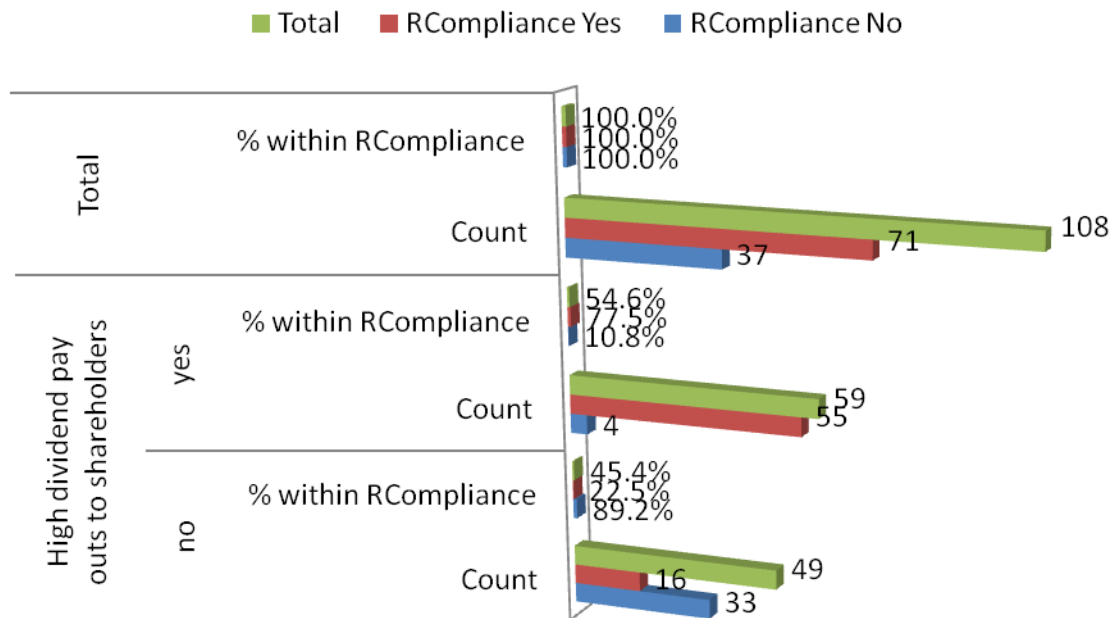
**Table 4.36 High Member Deposits & Regulation Compliance**

			RCompliance		Total
			No	Yes	
High member deposits	No	Count	21	9	30
		% within RCompliance	56.8%	12.7%	27.8%
	Yes	Count	16	62	78
		% within RCompliance	43.2%	87.3%	72.2%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study asked the respondents whether they think high dividend pay outs to shareholders is important in regulation compliance. Figure 4.34 shows the results as follows. 77.5% of respondents who were fully compliant answered yes while 89.2% of those non-compliant answered no. Cumulatively 45.4% of the total respondents answered no while 54.6% answered yes.

This is similar to SACCO (2013) on SACCO Supervision Annual Report, which found that for long SACCOs had preferred to generously distribute earnings to members by way of interest on deposits and dividends leaving the SACCO business with little funds. It is also similar to Tache (2006), on Sustainable SACCO development, who found that after the over head costs, reserves for loss, expansion costs and services are put aside, the remaining net profit from the loans is returned back to the SACCO members as dividend. This means that high dividend pay outs to shareholders is a good measure of resource availability.



**Figure 4.34 High Dividend Pay Outs to Shareholders & Regulation Compliance**

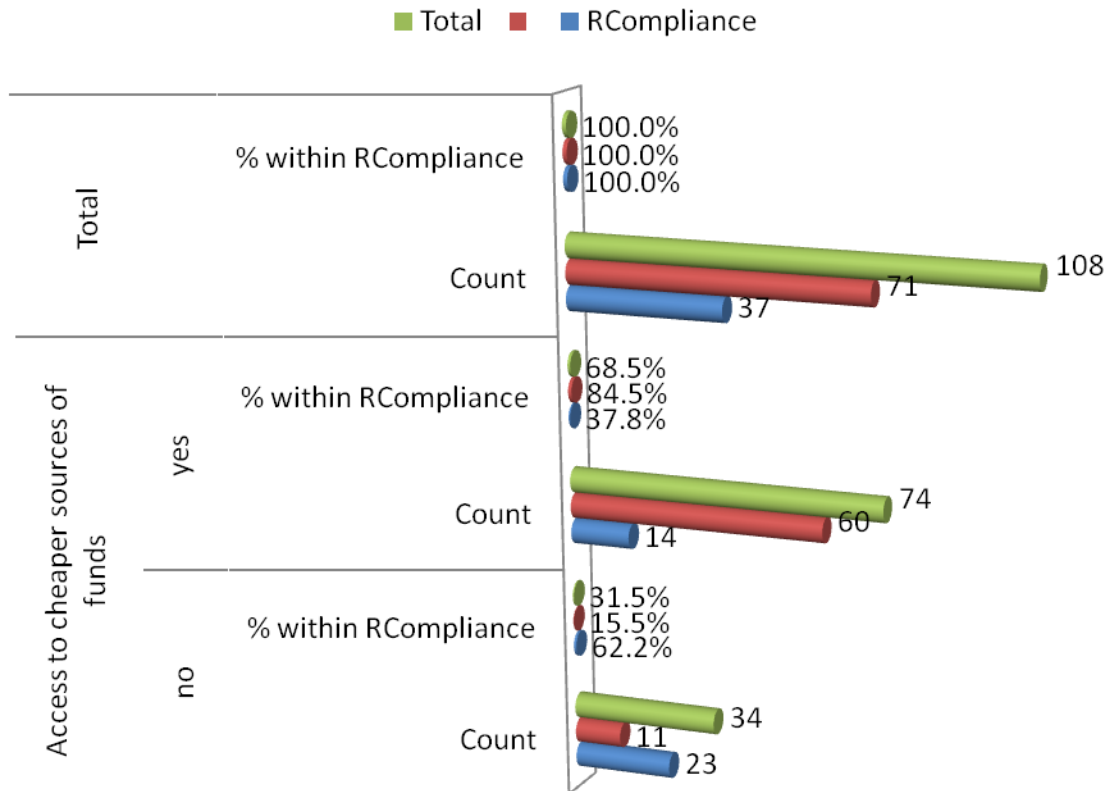
The study further queried the respondents to provide details of their answers on liquidity. From Table 4.34, Table 4.35, Table 4.36, Figure 4.33 and Figure 4.34 it is evident that only a minority of respondents held a divergent view that liquidity does not influence regulation compliance. The response that best illustrates these findings are the 41% of respondents who were of the opinion that liquidity is a sign of good performance hence did not impact on compliance and the 34% who viewed liquidity as not a regulatory requirement though it helps retain membership. In respect to liquidity, the findings from this analysis are dissimilar to SACCO (2013), on the SACCO Supervision Annual Report, that found the main source of funding for D.T.S were member deposits at 71.4% which had an impact on compliance. This finding implies that liquidity in so far as a policy is concerned should be studied.

***b) Financial Capital***

The second indicator of resource availability was financial capital. The study inquired from the respondents as to whether in their opinion access to cheaper sources of funds affects regulation compliance. Figure 4.35 shows the results as follows. 84.5% of respondents who were fully compliant answered yes while 62.2% of those non-compliant answered no.

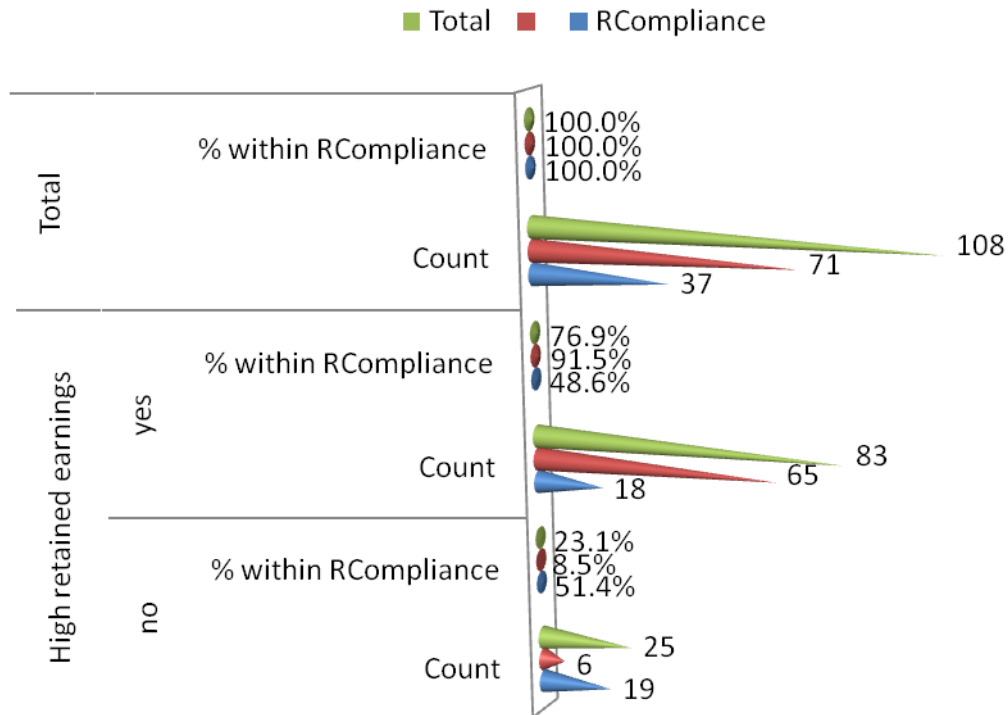
Cumulatively 31.5% of the total respondents answered no while 68.5% answered yes. This is similar to Bwana and Mwakujonga (2013) finding, on issues in SACCO development in Kenya and Tanzania, that SACCOs in Tanzania and Kenya face challenges in raising vast financial resources and are often limited in terms of their capacity access to cheap funds. This is also similar to Ondikei, et.al., (2011), on assessment of the effects of performance management practices on provision of financial services by Savings and Credit Cooperative Societies, who found that SACCOs rely on external sources of financing for their operations. It is also similar to SASCCO (2010) view, on the annual Savings and Credit Co-operative Association of Africa Report, that in Kenya and South Africa limited capacity and financial resources are amongst the main challenges affecting implementations of legislation. This means that access to cheaper sources of funds is a good measure of financial capital.





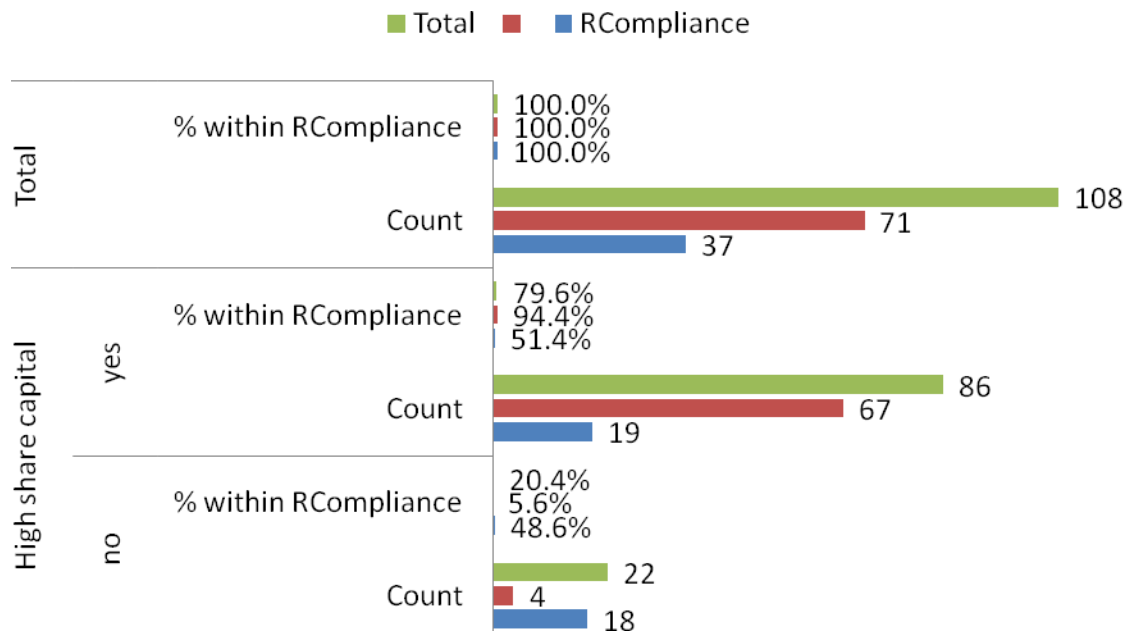
**Figure 4.35 Access to Cheaper Sources of Funds & Regulation Compliance**

The study inquired from the respondents as to whether they think high retained earnings affects regulation compliance. Figure 4.36 shows the results as follows. 91.5% of respondents who were fully compliant answered yes. 51.4% of those non-compliant also answered yes. Cumulatively 23.1% of the total respondents answered no while 76.9% answered yes. This is similar to SACCO (2013) finding, on the SACCO Supervision Annual report, that the increased retention of earnings is a significant development for the SACCO industry and contributes significantly in improving the regulation compliance of capital adequacy for the D.T.S.



**Figure 4.36 High Retained Earnings & Regulation Compliance**

The study inquired from the respondents as to whether they consider high share capital important in regulation compliance. Figure 4.37 shows the results as follows. 94.4% of respondents who were fully compliant answered yes. 51.4% of those non-compliant also answered yes. Cumulatively 20.4% of the total respondents answered no while 79.6% answered yes. This is similar to SACCO (2013), on the SACCO Supervision Annual report, that the average capital ratios for all the D.T.S marginally satisfied the regulatory minimum indicating the sustained effort by the SACCOs to comply. It is similar to ILO (2013) finding, on resilience in a downturn: The power of Financial Co-operatives, that one consequence of ownership by customers/members is that it is not easy for cooperatives to raise capital outside the virtuous circle of savings and credit. For this study, this means that high share capital is an important measure of financial capital.



**Figure 4.37 High Share Capital & Regulation Compliance**

The study inquired from the respondents as to whether they view high statutory reserves important in regulation compliance. Table 4.37 shows the results as follows. 90.1% of respondents who were fully compliant answered yes while 51.4% of those non-compliant answered no.

Cumulatively 24.1% of the total respondents answered no while 75.9% answered yes. This is similar to SACCO (2013) finding, on the SACCO Supervision Annual report, that share capital was at 17.3% of total D.T.S assets and that all the D.T.S complied with minimum core capital reserve requirement of Kshs.10 million but compliance with accompanying capital adequacy ratios still remains a challenge for a number of individual SACCOs. For this study, this means that high statutory reserves is an important measure of financial capital.

**Table 4.37 High Statutory Reserves & Regulation Compliance**

			RCompliance		Total
			No	Yes	
High statutory reserves	No	Count	19	7	26
		% within RCompliance	51.4%	9.9%	24.1%
	Yes	Count	18	64	82
		% within RCompliance	48.6%	90.1%	75.9%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details of the answers on financial capital. From Figure 4.35, Figure 4.36, Figure 4.37 and Table 4.37 it is evident that only a minority of respondents held a divergent view that financial capital does not influence regulation compliance. The response that best illustrates these findings are the 39% of respondents who were of the opinion that regulatory compliance is too systematic to influence compliance and the 28% who viewed an increase in reserves as being too subjective to affect regulation compliance. In respect to financial capital, the findings from this analysis are dissimilar to SACCO (2013) findings, on the SACCO Supervision Annual report, that the increased retention of earnings is a significant development for the SACCO industry and contributes significantly in improving the regulation compliance of capital adequacy for the D.T.S. This finding implies that financial capital in so far as a policy is concerned should be studied.

### ***c) Financial Property***

The third indicator of resource availability was financial property. The study inquired from the respondents as to whether they think adequate collateral to borrow funds affects regulation compliance. Table 4.38 exhibits the results as follows. 91.5% of respondents who were fully compliant answered yes.

51.4% of respondents who were non-compliant answered no. Cumulatively 23.1% of the total respondents answered no while 76.9% answered yes. This is similar to Bwana and Mwakujonga (2013) on issues in SACCO development in Kenya and Tanzania who found that the lack of appropriate and adequate collateral is a challenge facing SACCOs where commercial banks view SACCOs as a high risk to lending. For this study this means that adequate collateral to borrow funds is a good measure of financial property.

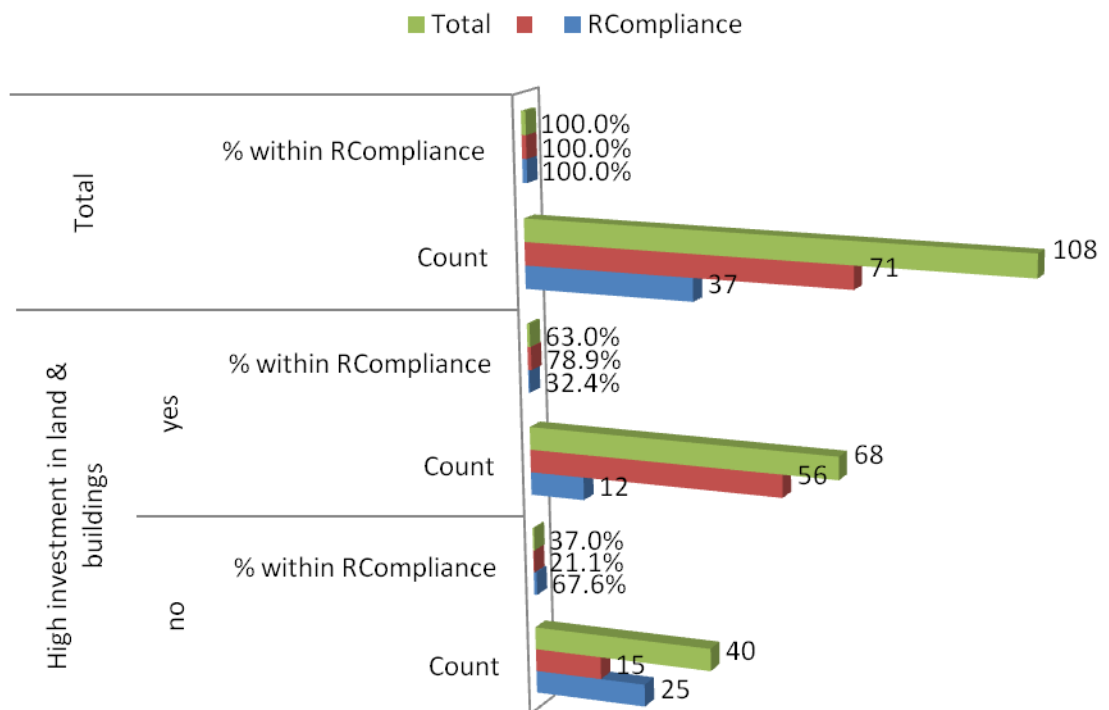
**Table 4.38 Adequate Collateral to Borrow Funds & Regulation Compliance**

			RCompliance		Total
			No	Yes	
Adequate collateral to borrow funds	No	Count	19	6	25
		% within RCompliance	51.4%	8.5%	23.1%
	Yes	Count	18	65	83
		% within RCompliance	48.6%	91.5%	76.9%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents as to whether they consider high investment in land and buildings important in regulation compliance. Figure 4.38 exhibits the results as follows. 78.9% of respondents who were fully compliant answered yes while 67.6% of those non-compliant answered no. Cumulatively 37% of the total respondents answered no while 63% answered yes. This is similar to SACCO (2013), on SACCO Supervision Annual report, that found land and building of the D.T.S compromised of 5.6% of the total assets and was significant in ensuring compliance.

It is also similar to Makori (2013) finding, on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies' regulatory compliance, that as a challenge to investment most SACCOs in the region had focused on investing in non-earning assets such as land and buildings that has impacted on regulation compliance. Thus high investment in land and buildings is a good measure of financial property.



**Figure 4.38 High Investments in Land & Buildings & Regulation Compliance**

The study inquired from the respondents as to their opinion on whether high investment in equipment and machinery affects regulation compliance. Table 4.39 exhibits the results as follows. 85.9% of respondents who were fully compliant answered yes. 54.1% of those non-compliant also answered yes. Cumulatively 25% of the total respondents answered no while 75% answered yes.

This is similar to SACCO (2013) on the SACCO Supervision Annual report which found that there was a 45.7% increment in the figures of property and equipment due to increased transparency due to regulatory requirements.

It is also similar to Bwana and Mwakujonga (2013) on issues in SACCO development in Kenya and Tanzania who viewed that SACCOs in developing countries face the use of inefficient equipment as a challenge. This is similar to Makori (2013) on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies' regulatory compliance who found that SACCOs are investing in non-earning assets which is not their mandate. This implies that the high investment in equipment and machinery is a good measure of financial property.

**Table 4.39 High Investment in Equipment & Machinery & Regulation Compliance**

			RCompliance		Total
			No	Yes	
High investment in equipment & machinery	No	Count	17	10	27
		% within RCompliance	45.9%	14.1%	25.0%
	Yes	Count	20	61	81
		% within RCompliance	54.1%	85.9%	75.0%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents as to whether they viewed equity investment in apex bodies as important in regulation compliance. Table 4.40 exhibits the results as follows. 93% of respondents who were fully compliant answered yes. 62.2% of those non-compliant also answered yes.

Cumulatively 17.6% of the total respondents answered no while 82.4% answered yes. This is similar to SACCO (2013) finding, on the SACCO Supervision Annual report, that equity investments declined relative to the assets as SACCOs complied with the prescribed regulatory limits on this class of investments. This means that equity investment in apex bodies is a good measure of financial property.

**Table 4.40 Equity Investment in Apex Bodies & Regulation Compliance**

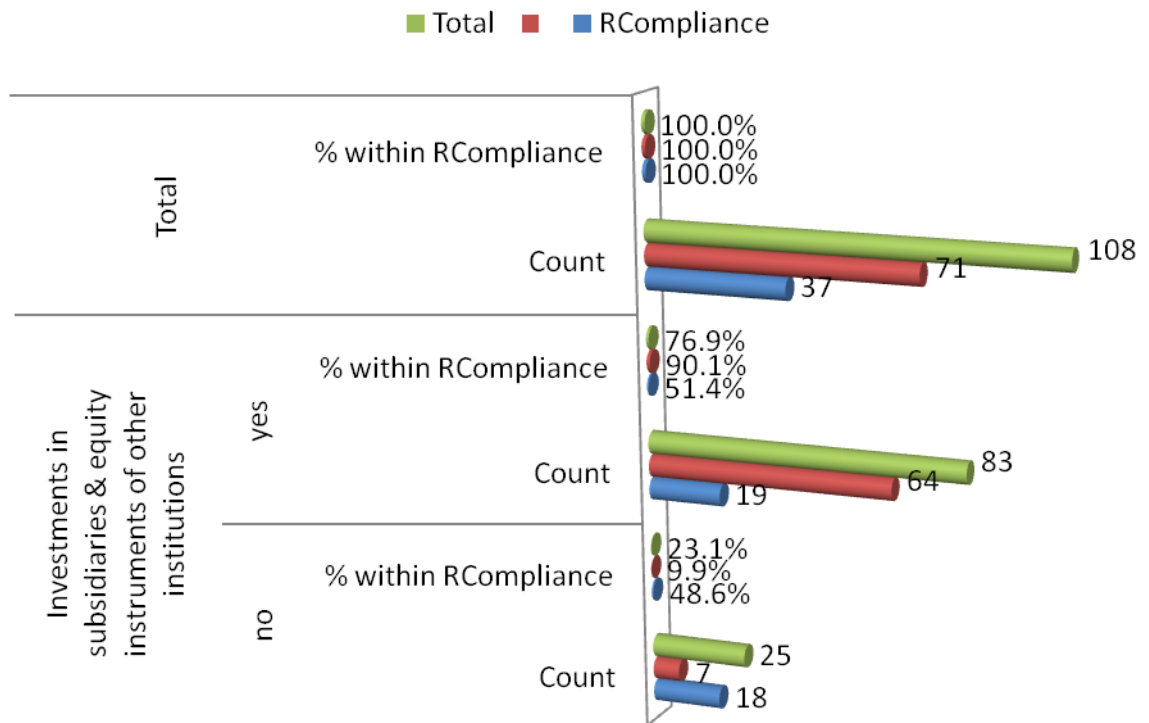
			RCompliance		Total
			No	Yes	
Equity investment in apex bodies	No	Count	14	5	19
		% within RCompliance	37.8%	7.0%	17.6%
	Yes	Count	23	66	89
		% within RCompliance	62.2%	93.0%	82.4%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study inquired from the respondents whether they think investments in subsidiaries and equity instruments of other institutions as important in regulation compliance. Figure 4.39 exhibits the results as follows. 90.1% of respondents who were fully compliant answered yes.

51.4% of those non-compliant also answered yes. Cumulatively 23.1% of the total respondents answered no while 76.9% answered yes. This is similar to SACCO (2013) finding, the SACCO Supervision Annual report, that equity investments declined relative to the assets as SACCOs complied with the prescribed regulatory limits on this class of investments. This means that investments in subsidiaries and equity instruments of other institutions are a good measure of financial property.





**Figure 4.39 Investments in Subsidiaries & Equity Instruments of other Institutions & Regulation Compliance**

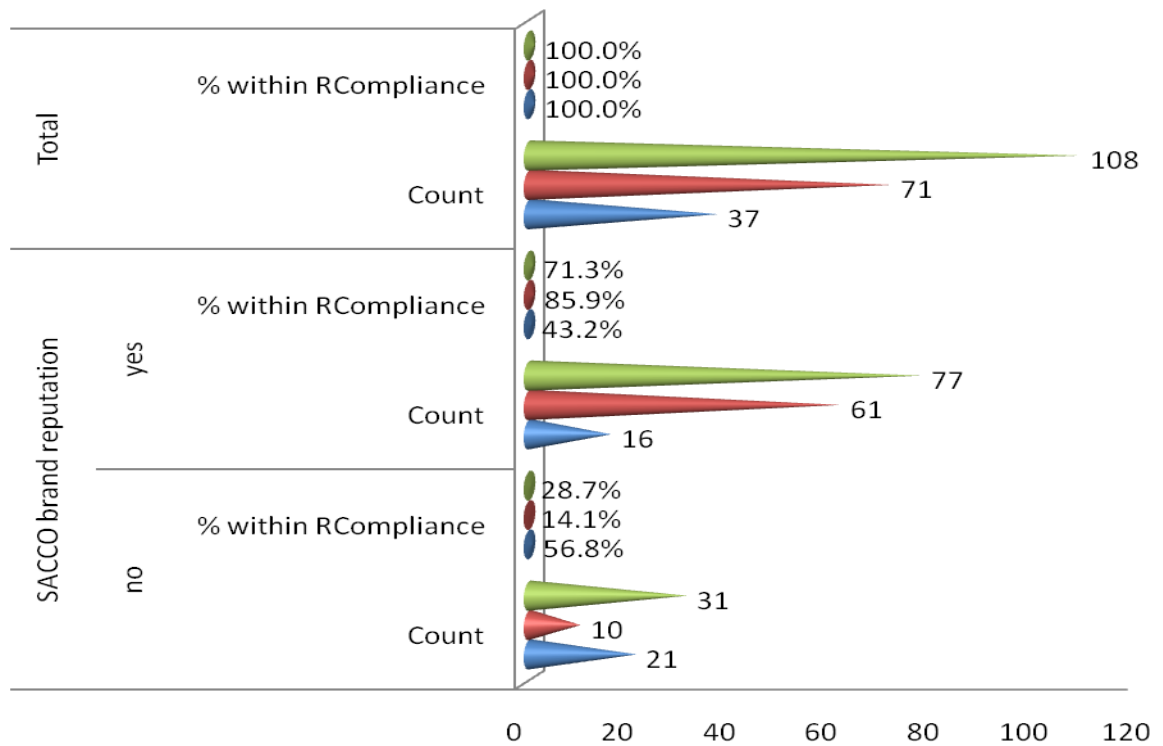
The study further queried the respondents to provide details of their answers on financial property. From Table 4.38, Table 4.39, Table 4.40, Figure 4.38 and Figure 4.39 it is evident that only a minority of respondents held a divergent view that financial property does not influence regulation compliance. The response that best illustrates these findings are the 47% of respondents who were of the opinion regulations are statutory and not influenced by investments and the 33% who viewed the control of high investment in land, building, equipment and machinery as important but not critical in regulation compliance.

In respect to financial property, the findings from this analysis are dissimilar to SACCO (2013), on SACCO Supervision Annual report, that found land and building of the D.T.S compromised of 5.6% of the total assets and was significant in ensuring compliance. It is also dissimilar to Makori (2013) finding, on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies' regulatory compliance, that as a challenge to investment most SACCOs in the region had focused on investing in non-earning assets such as land and buildings that has impacted on regulation compliance. This finding implies that financial property in so far as a policy is concerned should be studied.

***d) Intangible Assets***

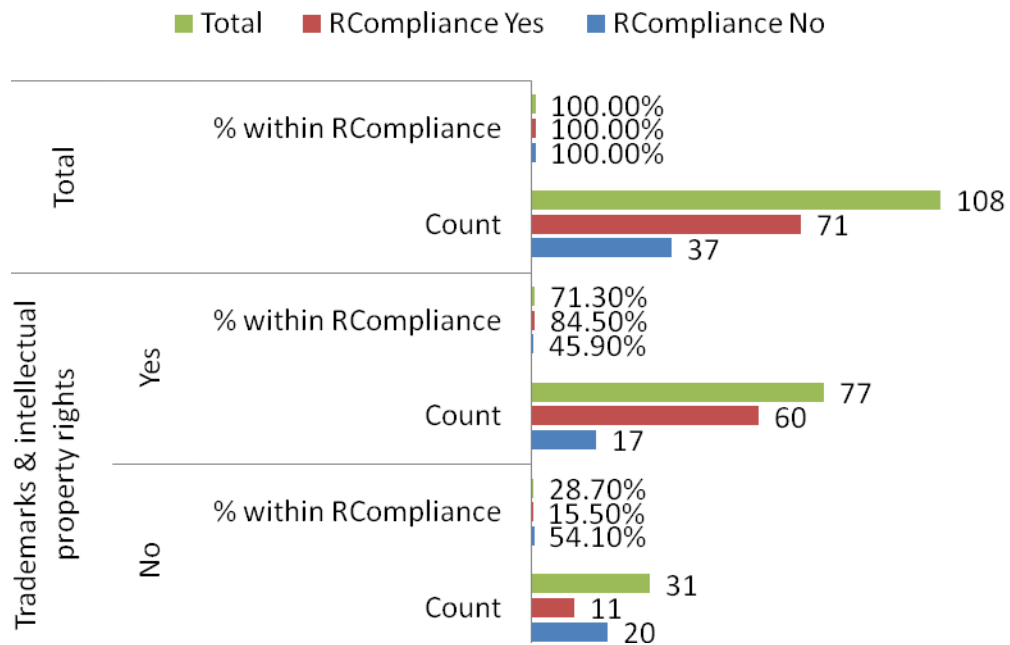
The fourth indicator of resource availability was intangible assets. The study inquired from the respondents as to whether in they think SACCO brand reputation affects regulation compliance. Figure 4.40 exhibits the results as follows. 85.9% of respondents who were fully compliant answered yes while 56.8% of those non-compliant answered no.

Cumulatively 28.7% of the total respondents answered no while 71.3% answered yes. This is similar to Jurevicius (2013) on the Resource based view that intangible assets being everything else that has no physical presence such as brand reputation are an important asset that can still be owned and utilised by an organisation. SACCO brand reputation is therefore a good measure of intangible assets in this study.



**Figure 4.40 SACCO Brand Reputation & Regulation Compliance**

The study inquired from the respondents as to whether in they consider trademarks and intellectual property rights important in regulation compliance. Figure 4.41 exhibits the results as follows. 84.5% of respondents who were fully compliant answered yes while 54.1% of those non-compliant answered no. Cumulatively 28.7% of the total respondents answered no while 71.3% answered yes. This is similar to Jurevicius (2013) on the resource based view that resources can be intangible such as trademarks and intellectual property that have attributes that provide competitive advantage. This means that for this study trademarks and intellectual property rights are a good measure of intangible assets.



**Figure 4.41 Trademarks & Intellectual Property Rights & Regulation Compliance**

The study further queried the respondents to provide details of the answers on intangible assets. From Figures 4.40 and 4.41 it is evident that only a minority of respondents held a divergent view that intangible assets do not influence regulation compliance. The response that best illustrates these findings are the 42% of respondents who were of the opinion that regulation compliance is systematic and not influenced by intangible assets and the 32% who viewed that SACCO business do not need branding/ trademarks/ property rights as they are standardised. In respect to intangible assets, the findings from this analysis are dissimilar to SACCO (2013), on SACCO Supervision Annual report, that found due to competitive pressure and to improve on compliance a total of 47 DTs had changed their names in the period 2011-2013. This finding implies that intangible assets in so far as a policy is concerned should be studied.

#### **e) Improving Resource Availability**

The study inquired from the respondents as to how SACCOs can improve resource availability. Table 4.41 exhibits the results as follows. 28.3% advised SACCOs to mobilise members to increase share savings. 14.2% viewed having professional management team and B.O.D as important.

11.3% wanted SACCOs to build strategic alliances with other institutions. 10.4% wanted SACCOs to deal only in core business of saving and lending. 9.4% advised SACCOs to invest in near cash interest bearing instruments, another 9.4% wanted SACCOs to develop strong national and regional brands. 7.5% were of the view that SACCOs must embark on cost cutting and abide by budgets. 5.7% wanted SACCOs to form a communal fund to save and borrow from while 3.8% advised D.T.S to source for cheaper source of funds internationally.

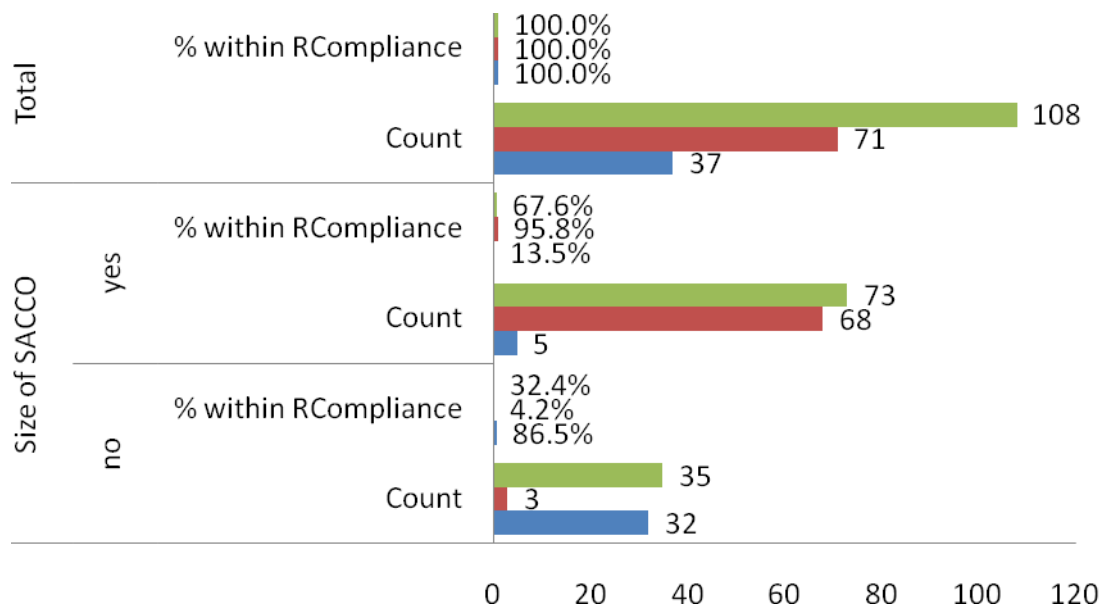
**Table 4.41 How SACCOs can improve Resource Availability**

		Frequency	Percent	Valid Percent
	Mobilise members to increase their share savings	30	27.8	28.3
	Having professional management team & B.O.D.	15	13.9	14.2
	Build strategic alliances with other institutions	12	11.1	11.3
	Deal only in core business of saving & lending	11	10.2	10.4
Valid	Invest in near cash interest bearing instruments	10	9.3	9.4
	Develop strong national & regional brands	10	9.3	9.4
	Embark on cost cutting and abide by budgets	8	7.4	7.5
	SACCOs should form a communal fund to save & borrow from	6	5.6	5.7
	Source for cheaper source of funds internationally	4	3.7	3.8
	Total	106	98.1	100.0
Missing	99	2	1.9	
Total		108	100.0	

#### 4.5.6 SACCO Size

The study looked at SACCO size as the intervening variable. SACCO size was determined by the asset base and as such was categorised into large, medium and small. Respondents were asked various questions regarding SACCO size. The results are presented as follows. The study asked the respondents whether in their view they think

size of the SACCO affects regulation compliance. Figure 4.42 show the results as follows. 95.8% of respondents who were fully compliant answered yes while 86.5% of those non-compliant answered no. Cumulatively 32.4% of the total respondents answered no while 67.6% answered yes. This is similar to Makori (2013), on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies' regulatory compliance, who noted that challenges to the successful implementation of the new regulatory framework differ significantly both because of the size and diversity of the SACCOs. This means that the size of SACCO is a good measure of SACCO size in this study.



**Figure 4.42 Size of SACCO & Regulation Compliance**

The study further queried the respondents to provide details of their answers on SACCO size. From Figure 4.42 it is evident that only a minority of respondents held a divergent view that size of SACCO does not influence regulation compliance. The response that best illustrates these findings are the 46% of respondents who were of the opinion that regulations exist to serve all SACCOs and is not affected by size and the 26% who viewed that regardless of SACCO size performance is what matters most.

In respect to SACCO size, the findings from this analysis are dissimilar to Makori (2013), on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies’ regulatory compliance, who found that challenges to the successful implementation of the new regulatory framework differ significantly both because of the size and diversity of the SACCOs. This finding implies that SACCO size in so far as a policy is concerned should be studied.

The study asked the respondents whether in their opinion SACCO size was regularly discussed as of the important agendas in board meetings. Table 4.42 show the results as follows. 95.8% of respondents who were fully compliant answered yes while 83.8% of those non-compliant answered no. Cumulatively 31.5% of the total respondents answered no while 68.5% answered yes. This is similar to SASCCO (2010), on the annual Savings and Credit Co-operative Association of Africa report, which found that among the noticeable concern within the SACCO sector, is how to encourage viable SACCOs by understanding the relevance of size on their sustainability. This means that the regular discussion of SACCO size as an agenda in board meetings is a good measure of SACCO size.

**Table 4.42 SACCO Size Regularly Discussed as important Agenda in Board Meetings & Regulation Compliance**

			RCompliance		Total
			No	Yes	
SACCO size regularly discussed as important agenda in board meetings	No	Count	31	3	34
		% within RCompliance	83.8%	4.2%	31.5%
	Yes	Count	6	68	74
		% within RCompliance	16.2%	95.8%	68.5%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

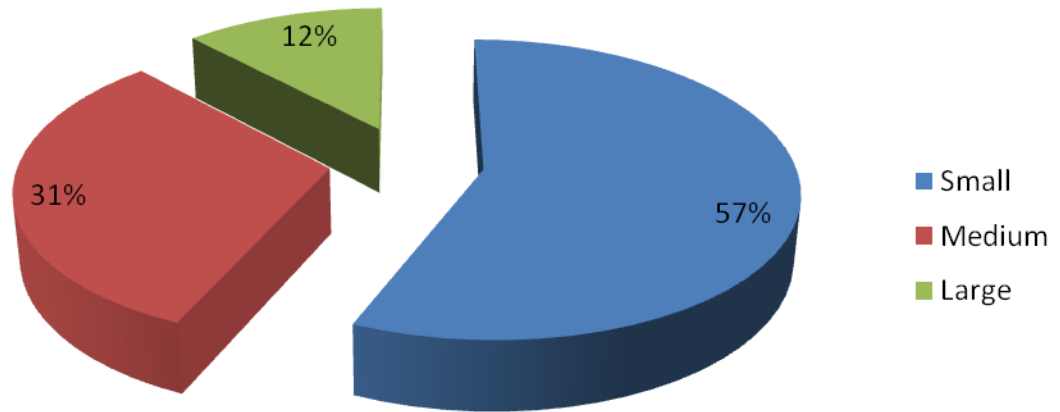
*Note.* RCompliance = Regulation Compliance



The study further queried the respondents to provide details of their answers on SACCO size being discussed as an important agenda in the board. From Table 4.42 it is evident that only a minority of respondents held a divergent view that SACCO size was not regularly discussed as one of the important agendas in board meetings. The response that best illustrates these findings are the 38% of respondents who were of the opinion size does not affect the regulation compliance of SACCOs as long as they are stable and the 29% who viewed that board meetings are meant for discussing the operation of the society not the size. In respect to SACCO size, the findings from this analysis are dissimilar to Makori (2013), on the challenges facing Deposit-Taking Savings and Credit Cooperative Societies' regulatory compliance, who found that challenges to the successful implementation of the new regulatory framework differ significantly both because of the size and diversity of the SACCOs. This finding implies that SACCO size in so far as a policy is concerned should be studied.

The study utilised content analysis in classifying the respondents' D.T.S. According to SACCO (2013) D.T.S were ranked according to asset size. D.T.S size was categorised into three: Large D.T.S having assets over Kes.4 billion; Medium D.T.S with assets more than Kes.1 billion but less than Kes.4 billion; Small D.T.S with asset base below Kes.1 billion. The content analysis of SACCO size is found in Appendix I.

Figure 4.43 show the results as follows. 57% (61) of D.T.S were classified as small, 31% (34) as medium and 12% (13) as large. This is similar to SACCO (2013) on the SACCO supervision annual report that found out of 135 D.T.S, 11% were large, 30% medium and 59% small. It is also similar to Owen (2007) on the rural outreach and Financial Co-operatives that found 20% of the SACCOs were large, 30% medium and 50% small. This means that for this study the sample represented the population well.



**Figure 4.43 Classification of SACCO**

The study asked the respondents in their view how SACCOs can increase their assets size. Table 4.43 show the results as follows. 26.4% of respondents wanted SACCOs to grow members deposit portfolio, 22.6% advised for the increase in loan lending portfolio, 12.3% were of the view that marketing of innovative products and services should be done.

9.4% of the respondents were of the opinion that SACCOs should diversify out of their core business of saving and lending. 8.5% advised SACCOs to increase their share capital, 6.6% wanted SACCOs to have professional management. 5.7% each wanted SACCOs to reduce their overall operational cost and to open up their common bonds respectively. Only 2.8% guided SACCOs to merge. Two respondents did not present their views.

**Table 4.43 How SACCOs can improve their assets size**

		Frequency	Percent	Valid Percent
Valid	Grow members deposit portfolio	28	25.9	26.4
	Increase loan lending portfolio	24	22.2	22.6
	Marketing innovative products & services	13	12.0	12.3
	Diversify out of core business of saving & lending	10	9.3	9.4
	Increase SACCO Share Capital	9	8.3	8.5
	Through professional management	7	6.5	6.6
	Reduce overall operational costs	6	5.6	5.7
	Opening up of common bond	6	5.6	5.7
	Merge with other SACCOs	3	2.8	2.8
	Total	106	98.1	100.0
Missing	99	2	1.9	
Total		108	100.0	

#### 4.5.7 Regulation Compliance

The study looked at regulation compliance as the dependent variable. Respondents were asked various questions regarding regulation compliance. The results are presented as follows. The study asked the respondents whether in their view the measure of regulation as being either fully compliant or non-compliant is adequate to evaluate regulation compliance. Table 4.44 exhibits the results as follows. 98.6% of respondents who were fully compliant answered yes while 83.8% of those non-compliant answered no.

Cumulatively 29.6% of the total respondents answered no while 70.4% answered yes. This finding closely matches the expert opinion from those who specialise in the industry who concurred on the validity of the data collection instruments.

**Table 4.44 Adequacy of Measuring Regulation Compliance as either Fully Compliant or Non-Compliant & Regulation Compliance**

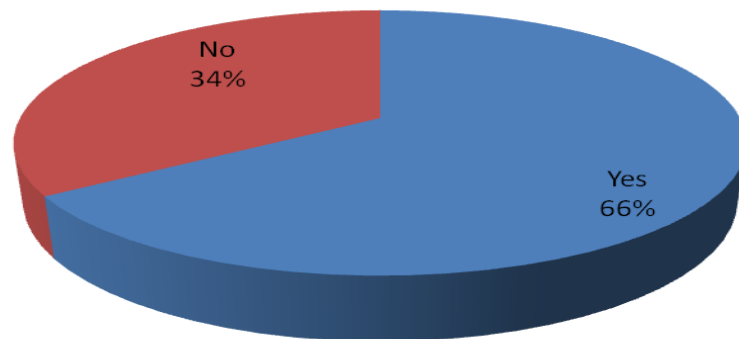
			RCompliance		Total
			No	Yes	
Adequacy of measuring regulation compliance as either fully compliant or non-compliant	No	Count	31	1	32
		% within RCompliance	83.8%	1.4%	29.6%
	Yes	Count	6	70	76
		% within RCompliance	16.2%	98.6%	70.4%
Total	Count		37	71	108
	% within RCompliance		100.0%	100.0%	100.0%

*Note.* RCompliance = Regulation Compliance

The study further queried the respondents to provide details of their answers on the adequacy of measuring regulation compliance as either fully compliant or non-compliant. From Table 4.89 it is evident that only a minority of respondents held a divergent view that the measure to evaluate regulation compliance as being either fully compliant or non-compliant was inadequate. The response that best illustrates these findings are the 53% of respondents who were of the opinion that SASRA cannot be trusted to enforce regulation as it is structurally weak & only interested in charging various fees on the SACCOs. In respect to the adequacy of measuring regulation compliance as either fully compliant or non-compliant, the findings from this analysis are dissimilar to SACCO (2013), on SACCO supervision annual report, that found the SASRA had concluded implementation of its Strategic Plan, which was informed by the national priorities set out in the Vision 2030 strategy document and other policy

documents. This plan was instrumental in setting up the structure and systems of the Authority. This finding implies that adequacy of measuring regulation compliance as either fully compliant or non-compliant in so far as a policy is concerned should be studied.

The study asked the respondents whether their D.T.S were fully compliant. Figure 4.44 exhibits the results as follows. 66% (71) were fully compliant while 34% (37) were non-compliant. This supports the earlier finding on the measure of regulation as being either fully compliant or non-compliant is adequate to evaluate regulation compliance that most respondents (70.4%) found that the measure of regulation as adequate.



**Figure 4.44 Regulation Compliance**

The study further queried the respondents to provide details of their answers on whether their D.T.S are fully compliant or not. From Figure 4.44 is evident that only a minority of respondents were not fully compliant. The response that best illustrates these findings are the 51% of respondents who were of the opinion that SASRA's criteria of rating of SACCOs is not clear. In respect to whether D.T.S are fully compliant or not, the findings from this analysis are dissimilar to SACCO (2013), on SACCO supervision annual report, that found to be in line with peer regulators, SASRA had adopted a framework for licensed SACCOs in respect of their capital adequacy, asset quality, management,

earnings and liquidity to assess their financial soundness and suitability. This finding implies that whether D.T.S are fully compliant or not in so far as a policy is concerned should be studied. The study asked the respondents in their view how SACCOs can improve on regulation compliance. Table 4.45 displays the results as follows. 35.2% of the respondents were of the opinion that SACCOs need to operate and adhere to SASRA set standards, 20.4% advised on the continuous training of staff, the board and members on regulatory requirements. 11.1% each guided on the need to increase financial provisions to meet capital requirements and employing qualified personnel respectively. 9.3% wanted SACCOs to improve on corporate governance within the board. 8.3% advised on the need to benchmark with the best practices within industry, 2.8% wanted SACCOs to implement comprehensive business and strategic plans while 1.9% wanted SACCOs to limit the duration board members serve.

**Table 4.45 How SACCOs can improve on Regulation Compliance**

	Frequency	Percent
Operate & adhere to SASRA set standards	38	35.2
Continuous training of staff, board & members on regulatory requirements	22	20.4
Increase financial provisions to meet capital requirements	12	11.1
Employ qualified personnel	12	11.1
Improve on corporate governance within the Board	10	9.3
Benchmarking on best practices within industry	9	8.3
Implement comprehensive business and strategic plans	3	2.8
Limit duration board members serve	2	1.9
Total	108	100.0

## **4.6 Assessing Usefulness of Logistic Regression Model**

Various methods were used to assess the usefulness of the logistic regression model. The first method was classification accuracy. The second method was checking the significance of variables not in the equation. This was followed by using a model summary that tested both the Cox & Snell R Square and the Nagelkerke R Square. In addition an alternative model to the Chi square was derived using the Hosmer and Lemeshow test. Finally a case processing summary highlighting the recommended number of cases per independent variable in logistic regression was done.

### **4.6.1 Classification Accuracy**

Classification accuracy was used to assess the usefulness of the model. This compared the predicted group membership based on the logistic model to actual, known group membership, which is the value for the dependent variable. To characterise the model as useful, the study compared the overall percentage accuracy rate produced at the last step in which variables are entered to 25% more than the proportional by chance accuracy.

SPSS reported that the overall accuracy rate at 88.9% as provided in Table 4.46. This presents the results when the predictors; corporate governance, management information system, senior management skills, legal environment and resource availability are included. The model as provided in Table 4.46 appears good, but the study went further to evaluate model fit and significance as well. In this study, 91.5% were correctly classified for the fully compliant group and 83.8% for the non compliant group. Overall 88.9% were correctly classified.

**Table 4.46 Classification Table<sup>a</sup>**

Observed		Predicted			
		RCompliance		Percentage Correct	
		No	Yes		
Step 1	RCompliance	No	31	6	83.8
		Yes	6	65	91.5
Overall Percentage					88.9

a. The cut value is .500

The number of cases in each group as found in the Classification Table at Step 0 (before any independent variables are included) gave a rate of 65.7% as follows in Table 4.47. The table suggests that if we knew nothing about our variables and guessed that a D.T.S is not fully compliant we would be correct 65.7% of the time. The proportion of cases in the largest group is equal to the overall percentage (65.7%). Comparatively therefore the 88.9% classification provided in Table 4.46 (model with predictors) is a considerable improvement on the 65.7% (model without predictors) provided in Table 4.47 and therefore the model with predictors is a significantly better model.

**Table 4.47 Classification Table<sup>a, b</sup>**

Observed		Predicted			
		RCompliance		Percentage Correct	
		No	Yes		
Step 0	RCompliance	No	0	37	.0
		Yes	0	71	100.0
Overall Percentage					65.7

a. Constant is included in the model.

b. The cut value is .500



The proportional by chance accuracy rate was computed by calculating the proportion of cases for each group based on the number of cases in each group in the classification table at Step 0 (Table 4.47), and then squaring and summing the proportion of cases in each group ( $0.37^2 + 0.71^2 = 0.641$ ). The proportional by chance accuracy criteria is 66.1% ( $1.25 \times 64.1\% = 80.125\%$ ). The accuracy rate computed by SPSS in Table 4.46 was 88.9% which is greater than the proportional by chance accuracy criteria of 80.125%. This study thus satisfies the criteria for classification accuracy.

#### 4.6.2 Variables not in the Equation

The variables not in the equation table tell us whether each independent and intervening variable improves the model. This is presented in Table 4.48. The answer is yes for all variables since all of them have significance level of below 0.05. Resource availability, management information systems and senior management skills gave the highest scores, while size gave the lowest score.

**Table 4.48 Variables not in the Equation**

		Score	Df	Sig.	
Step 0	Variables	CGovernance	43.144	1	.000
		MIS	54.058	1	.000
		SMskills	50.225	1	.000
		LEnviron	38.323	1	.000
		RAvailability	52.756	1	.000
		Ssize	6.253	2	.044
		Ssize(1)	6.227	1	.013
		Ssize(2)	4.118	1	.042
	Overall Statistics	70.836	7	.000	

### 4.6.3 Model Summary

The model summary derived from SPSS as shown in Table 4.49 indicates that using Cox and Snell R Square 59% of the variation in the dependent variable is explained by the logistic model. The Nagelkerke modification that does range from 0 to 1 is a more reliable measure of the relationship. This shows that there is an 81.6% relationship between the predictors and the prediction.

**Table 4.49 Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	42.452 <sup>a</sup>	0.590	0.816

A model summary was derived without including the intervening variable SACCO size; this is depicted in Table 4.50. This shows that both the Cox & Snell R Square and the Nagelkerke R Square were much lower as compared to Table 4.49. This implies that SACCO size has a positive intervening influence in the relationship between the dependent variable and the independent variables.

**Table 4.50 Model Summary without Intervening Variable**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	52.430 <sup>a</sup>	0.551	0.761

The study further compared the individual independent variables' R Square with and without the influence of the intervening variable. This is shown in Table 4.51. The results concur with those provided in Table 4.49 and Table 4.50. It shows that when having SACCO size as the intervening variable, both the Cox & Snell R Square and the Nagelkerke R Square are higher. Thus SACCO size has a positive intervening influence in the relationship between the dependent variable and the individual independent variables.

**Table 4.51 R Square Comparatives**

Independent Variable	R Square	With SACCO Size	Without SACCO Size
Corporate	Cox & Snell R Square	0.378	0.345
Governance	Nagelkerke R Square	0.522	0.477
Management	Cox & Snell R Square	0.446	0.431
Information Systems	Nagelkerke R Square	0.616	0.596
Senior Management	Cox & Snell R Square	0.415	0.394
Skills	Nagelkerke R Square	0.574	0.544
Legal Environment	Cox & Snell R Square	0.362	0.310
	Nagelkerke R Square	0.500	0.429
Resource	Cox & Snell R Square	0.450	0.418
Availability	Nagelkerke R Square	0.621	0.578

**4.6.4 Hosmer and Lemeshow Test**

An alternative model to the Chi square is the Hosmer and Lemeshow test. This test divides subjects into 10 ordered groups of subjects. It then compares the number actually in each group (observed) to the number predicted by the logistic regression model (predicted) as shown in Table 4.52.

**Table 4.52 Contingency Table for Hosmer and Lemeshow Test**

	RCompliance = No		RCompliance = Yes		Total	
	Observed	Expected	Observed	Expected		
Step 1	1	11	10.993	0	.007	11
	2	10	10.738	0	.262	11
	3	8	8.453	3	2.547	11
	4	5	4.804	6	6.196	11
	5	2	1.422	9	9.578	11
	6	0	0.362	11	10.638	11
	7	0	0.150	11	10.850	11
	8	0	0.060	11	10.940	11
	9	0	0.014	11	10.986	11
	10	0	0.002	9	8.998	9

The Hosmer and Lemeshow statistic in the study had a significance of 0.996 as depicted in Table 4.53 which means that it is not statistically significant and therefore the model used in the study is quite a good fit. Since the Hosmer and Lemeshow goodness of fit test statistic is greater than .05, we fail to reject the null hypothesis that there is no difference between observed and model predicted values, implying that the model's estimates fit the data at an acceptable level (Hosmer, Lemeshow and Sturdivant, 2013). That is, a well-fitting model shows non-significance on the Hosmer and Lemeshow goodness of fit test. This desirable outcome of non-significance indicates that the model prediction does not significantly differ from the observed.

**Table 4.53 Hosmer and Lemeshow Test**

Step	Chi-square	Df	Sig.
1	1.269	8	.996

**4.6.5 Case Processing Summary**

According to Hosmer, Lemeshow and Sturdivant (2013) for logistic regression the minimum number of cases per independent variable is ten to one with a preferred ratio of twenty to one. In this analysis, there are 108 valid cases and 5 independent variables. The ratio of cases to independent variables is 21.6 to 1, which satisfies the minimum requirement. In addition, the ratio of 21.6 to 1 satisfies the preferred ratio of 20 to 1. The case summary is as follows in Table 4.54.

**Table 4.54 Case Processing Summary**

Unweighted Cases <sup>a</sup>		N	Percent
	Included in Analysis	108	100.0
Selected Cases	Missing Cases	0	.0
	Total	108	100.0
Unselected Cases		0	.0
Total		108	100.0

## **4.7 Checking for Presence of Outliers**

The presence of outlying observations can radically alter the outcome of analysis. Dropping outliers may therefore be appropriate. As a general principle dropping outliers is justified only if outlying cases will be analysed separately because a different model dynamics applies or if they represent a trivial proportion of the data (Garson, 2012). To check for outliers the study first plotted a classplot then generated a list of cases that did not fit the model well.

### **4.7.1 Classification Plot.**

Figure 4.45 shows the classification plot or histogram of predicted probabilities that provides a visual demonstration of the correct and incorrect predictions. This is also called the classplot or the plot of observed groups and predicted probabilities. The X axis is the predicted probability from .0 to 1.0 of the dependent being classified '1'. The Y axis is frequency: the number of cases classified. Inside the plot are columns of observed 1's and 0's (or equivalent symbols).

The resulting plot was very useful for spotting possible outliers. The study looked for two things. Firstly, that a U-shaped rather than normal distribution was desirable. A U-shaped distribution indicates the predictions are well-differentiated with cases clustered at each end showing correct classification. A normal distribution indicates too many predictions close to the cut point, with a consequence of increased misclassification around the cut point which is not a good model fit. For these around .50 you could just as well toss a coin. Figure 4.45 clearly shows that the class plot was a U – shaped. Secondly, that the research expected only a few errors. The 'Y's' to the left are false positives. The 'N's' to the right are false negatives. Examining this plot shows that there were indeed only a few errors as expected.



According to Schmuck (2013) standardised residuals should follow a normal distribution: 95% of all cases should lie between +/-1.96, and 99% of all cases should lie between +/-2.58. To test for outliers, binary logistic regression was ran in SPSS and checked for outliers. The research inspected standardized residuals for outliers (ZResid in Table 4.55) and considered removing the case number 41 that exceed > 2.58.

**Table 4.55 Casewise List<sup>b</sup>**

Case	Selected Status <sup>a</sup>	Observed	Predicted	Predicted	Temporary Variable	
		RCompliance		Group	Resid	ZResid
41	S	Y**	0.098	N	0.902	3.042
55	S	N**	0.822	Y	-0.822	-2.151
95	S	Y**	0.235	N	0.765	1.806

a. S = Selected, U = Unselected cases, and \*\* = Misclassified cases.

b. Cases with studentized residuals greater than 2.000 are listed.

Next, the outlier was excluded and the logistic regression ran a second time on the remaining 107 cases. The resulting classification table gave a value of 65.4%. This is shown in Table 4.56 that follows.



**Table 4.56 Revised Classification Table<sup>a,b</sup>**

Observed		Predicted			
		RCompliance		Percentage	
		No	Yes	Correct	
Step 0	RCompliance	No	0	37	.0
		Yes	0	70	100.0
Overall Percentage					65.4

a. Constant is included in the model.

b. The cut value is .500

The research then compared the accuracy rates of the models with the outliers (base model) and without the outliers (revised model). The initial classification table as provided in Table 4.47 was 65.7%. The difference between these and the classification table in Table 4.56 (65.4%) is 0.3%. This is less than 2% therefore the study progressed with the results of the base model at classification rate 65.7% (Table 4.47) which includes all outliers.

#### 4.8 Logistic Regression

The dependent variable was encoded as Yes for full compliance and No for otherwise. The dependent variables required a yes or no answer and as such are dichotomous in nature. Logistic regression was thus used to analyse the relationship between the dependent and independent variables. By using SPSS, the model was constructed to predict the group with the higher numeric code. This was coded as 0 for No and 1 for Yes as depicted in Table 4.57.

**Table 4.57 Dependent Variable Encoding**

Original Value	Internal Value
No	0
Yes	1

**4.8.1 Overall Relationship between Independent and Dependent Variables**

The SPSS output for logistic regression begins with output for a model that contains no independent variables. As shown in Table 4.58 for this study the initial -2 Log Likelihood was 138.832, which we can think of as a measure of the error associated trying to predict the dependent variable without using any information from the independent variables.

**Table 4.58 Iteration History<sup>a,b,c</sup>**

Iteration	-2 Log likelihood	Coefficients Constant	
	1	138.844	0.630
Step 0	2	138.832	0.652
	3	138.832	0.652

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 138.832

c. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Thereafter the independent variables were entered. The -2 log likelihood was again measured. This was found to be at 44.982 as displayed in Table 4.59 which provides the iteration history as follows.

**Table 4.59 Iteration History<sup>a,b,c,d</sup>**

Iteration	-2 Log likelihood	Coefficients Constant
	64.642	-8.895
	49.459	-14.945
	43.988	-21.135
Step 1	42.588	-26.178
	42.454	-28.345
	42.452	-28.626
	42.452	-28.630
	42.452	-28.630

a. Method: Enter

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 138.832

d. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

The difference between ending and beginning -2 log likelihood is the model chi-square that is used in the test of overall statistical significance in this study as shown in Table 4.60. In this study, the model chi-square is 96.379 (138.832 – 42.452), which is statistically significant. This also tests the overall relationship between independent and dependent variables.

**Table 4.60 Omnibus Tests of Model Coefficients**

	Chi-square	Df	Sig.
Step	96.379	7	.000
Step 1	96.379	7	.000
Model	96.379	7	.000

The presence of a relationship between the dependent variable and combination of independent variables is based on the statistical significance of the model chi-square at step 1 (Table 4.60) after the independent variables have been added to the analysis. In this analysis, the probability of the model chi-square (96.379) was 0 which is less than the level of significance of 0.05. The null hypothesis that there is no difference between the model with only a constant and the model with independent variables was rejected.

The existence of a relationship between the independent variables and the dependent variable is supported. Furthermore, in logistic regression, the presence of a relationship between the dependent variable and combination of independent variables entered after the intervening variables have been included is based on the statistical significance of the block chi-square for the second block of variables in which the predictor independent variables are included. In this analysis, the probability of the block chi-square (96.379) was 0, less than the level of significance of 0.05. The null hypothesis that there is no difference between the model with only a constant and the control variables versus the model with the predictor independent variables was rejected. The contribution of the relationship between the predictor independent variables and the dependent variable was supported.

#### **4.8.2 Test for Multicollinearity**

According to Garson (2012) multicollinearity is an unacceptable high level of intercorrelation among the independents, such that the effects of the independents cannot be separated. Multicollinearity in the logistic regression solution was detected by examining the standard errors for the b coefficients. A standard error larger than 2.0 indicates numerical problems such as; multicollinearity among the independent variables, zero cells for a dummy coded independent variable because all of the subjects have the same value for the variable, and 'complete separation' whereby the two groups in the dependent event variable can be perfectly separated by scores on one of the independent variables. Analyses that indicate numerical problems should not be

interpreted. None of the independent variables nor the intervening variable in this analysis had a standard error larger than 2.0 as shown in Table 4.61 (The check for standard errors larger than 2.0 does not include the standard error for the constant.)

**Table 4.61 Test for Multicollinearity**

		B	S.E.
Step 1 <sup>a</sup>	CGovernance	3.306	1.662
	MIS	2.615	1.321
	SMskills	3.086	1.502
	LEnviron	3.711	1.723
	RAvailability	3.976	1.866
	Ssize		
	Ssize(1)	1.165	1.205
	Ssize(2)	3.979	1.629
	Constant	-28.630	7.141

a. Variable(s) entered on step 1: CGovernance = Corporate Governance, MIS = Management Information Systems, SMskills = Senior Management Skills, LEnviron = Legal Environment, RAvailability = Resource Availability, Ssize = SACCO Size.

#### **4.8.3 Relationship of Individual Independent Variables to Dependent Variable**

When assessing the contribution of individual predictors in the model, the study examined the significance of the Wald statistic. The Wald statistic, analogous to the t-test in linear regression, is used to assess the significance of coefficients. According to Menard (2002) the Wald statistic is the ratio of the square of the regression coefficient to the square of the standard error of the coefficient and is asymptotically distributed as a chi-square distribution.

The relationship between the individual independent variables to dependent variables is displayed in Table 4.62. According to Sweet and Grace-Martin (2012) the odds ratio is a ratio of odds at two values of the independent variable that are one unit apart. It indicates how many times higher the odds of occurrence are for each one-unit increase in the independent variable.

**Table 4.62 Variables in the Equation**

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	CGovernance	3.306	1.662	3.958	1	0.047	27.281
	MIS	2.615	1.321	3.918	1	0.048	13.671
	SMskills	3.086	1.502	4.221	1	0.040	21.884
	LEnviron	3.711	1.723	4.641	1	0.031	40.899
	RAvailability	3.976	1.866	4.543	1	0.033	53.308
	Ssize			7.143	2	0.028	
	Ssize(1)	1.165	1.205	.934	1	0.334	3.205
	Ssize(2)	3.979	1.629	5.965	1	0.015	53.472
	Constant	-28.630	7.141	16.074	1	0.000	.000

a. Variable(s) entered on step 1: CGovernance = Corporate Governance, MIS = Management Information Systems, SMskills = Senior Management Skills, LEnviron = Legal Environment, RAvailability = Resource Availability, Ssize = SACCO Size.

### ***Corporate Governance***

According to Studysites (2014) the Exp(B) column presents the extent to which raising the corresponding measure by one unit influences the odds ratio. We can interpret Exp(B) in terms of change in odds. If the value exceeds 1, then the odds of an outcome occurring increase; if the figure is less than 1, any increase in the predictor leads to a drop on the odds of the outcome occurring,

The probability for corporate governance was 0.047 as provided in Table 4.62. This is less than the level of significance of 0.05. The null hypothesis that the b coefficient for corporate governance was equal to zero was rejected. This supports the relationship that corporate governance significantly affects compliance of SASRA regulations. The value of Exp (B) is 27.281 and implies that a one unit increase in corporate governance increased the odds by approximately twenty seven times and a half that survey respondents belong to the fully compliant group.

### ***Management Information Systems***

The probability for management information systems was 0.048, less than the level of significance of 0.05 as depicted in Table 4.62. The null hypothesis that the b coefficient for management information systems was equal to zero was rejected. This supports the relationship that management information systems significantly affect compliance of SASRA regulations. The value of Exp(B) was 13.671 and implies that a one unit increase in management information system increased the odds by approximately thirteen and a three quarter times that survey respondents belong to the fully compliant group.

### ***Senior Management Skills***

The probability for the variable senior management skills was 0.040, less than the level of significance of 0.05 as shown in Table 4.62. The null hypothesis that the b coefficient for senior management skills was equal to zero was rejected. This supports the relationship that senior management skills significantly affect compliance of SASRA regulations. The value of Exp(B) was 21.884 and implies that a one unit increase in senior management skills increased the odds by approximately twenty two times that survey respondents belong to the fully compliant group.

### ***Legal Environment***

Table 4.62 shows that the probability for the variable legal environment was 0.031, less than the level of significance of 0.05. The null hypothesis that the b coefficient for legal environment was equal to zero was rejected. Hence this supports the relationship that legal environment significantly affects compliance of SASRA regulations. The value of  $\text{Exp}(B)$  was 40.899 which implies that a one unit improvement in Legal Environment increased the odds by forty one times that survey respondents belong to the fully compliant group.

### ***Resource Availability***

Table 4.62 shows the probability for the variable resource availability was 0.033, less than the level of significance of 0.05. The null hypothesis that the b coefficient for resource availability was equal to zero was rejected. Hence this supports the relationship that resource availability significantly affects compliance of SASRA regulations. The value of  $\text{Exp}(B)$  was 53.308 which implies that a one unit improvement in resource availability increased the odds by approximately fifty three and a half times that survey respondents belong to the fully compliant group.

### ***Size***

The probability for the variable size was 0.028, less than the level of significance of 0.05 as depicted in Table 4.62. The null hypothesis that the b coefficient for resource availability was equal to zero was rejected. Hence this supports the relationship that size significantly affects compliance of SASRA regulations.

The probability for the variable small size was 0.334, more than the level of significance of 0.05. The null hypothesis that the b coefficient for small size was equal to zero was accepted. Hence this does not support the relationship that small size significantly affects compliance of SASRA regulations.



The probability for the variable medium size was 0.015, less than the level of significance of 0.05. The null hypothesis that the b coefficient for medium size was equal to zero was rejected. Hence this supports the relationship that medium size significantly affects compliance of SASRA regulations. The value of  $\text{Exp}(B)$  was 53.472 and implies that a one unit improvement in medium size increased the odds by approximately fifty three and a half times that survey respondents belong to the fully compliant group.

#### 4.9 Optimum Model

The optimum model for this study is derived from the above findings based on the significance level as follows:

$$\pi(x) = \frac{1}{1 + e^{-(-28.63 + 3.711x_1 + 3.976x_2 + 3.086x_3 + 3.306x_4 + 2.615x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl})}}$$

.....Equation (9)

$$g(x) = \ln \frac{\pi(x)}{1-\pi(x)} = -28.63 + 3.711x_1 + 3.976x_2 + 3.086x_3 + 3.306x_4 + 2.615x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl}$$

.....Equation (10)

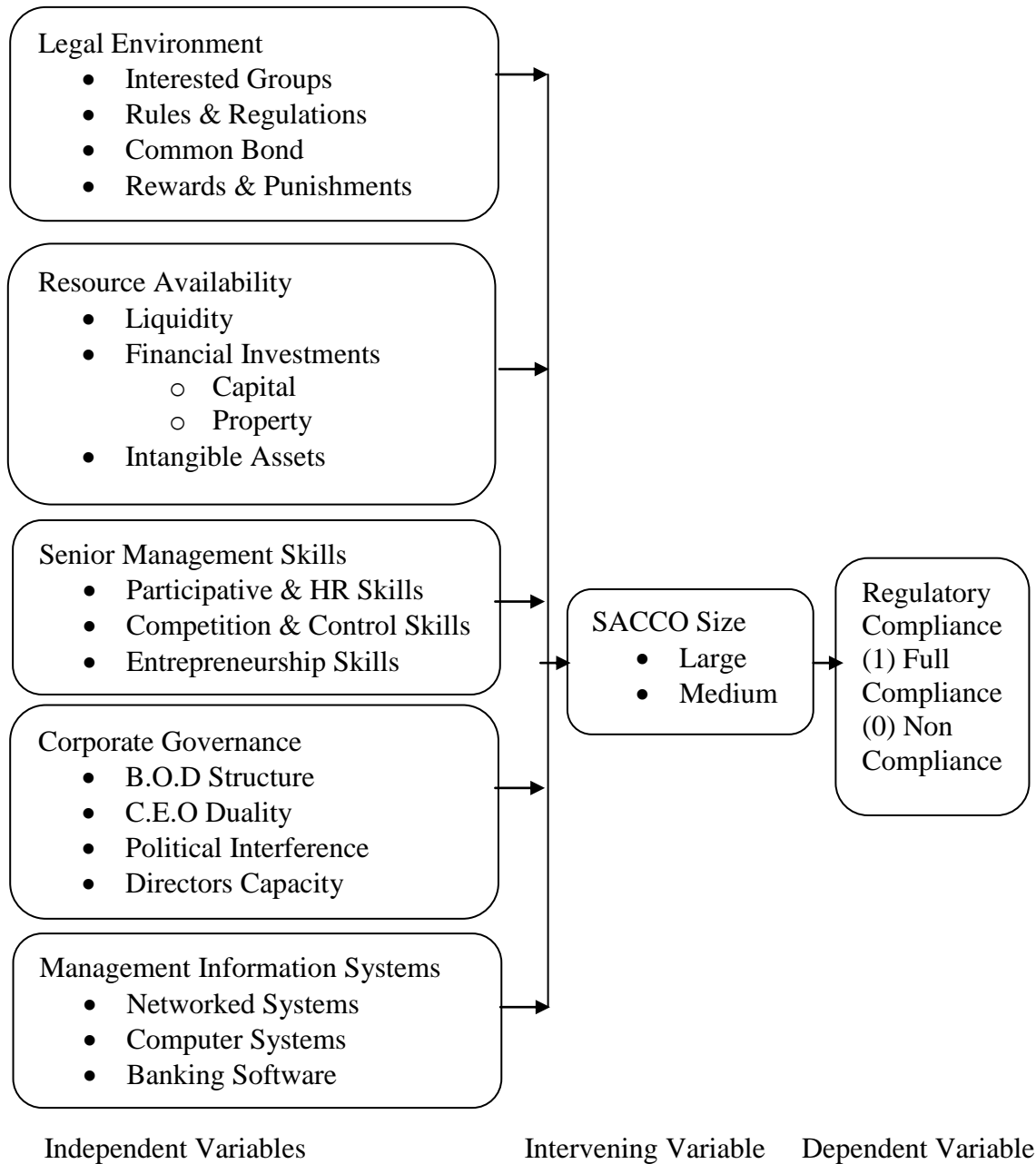
And equivalently:

$$\frac{\pi(x)}{1-\pi(x)} = e^{-28.63 + 3.711x_1 + 3.976x_2 + 3.086x_3 + 3.306x_4 + 2.615x_5 + \sum_{l=1}^{Kj-1} \alpha_{jl} D_{jl}}$$

....Equation (11)

Where  $X_1$  = Legal Environment,  $X_2$  = Resource Availability,  $X_3$  = Senior Management Skills,  $X_4$  = Corporate Governance,  $X_5$  = Management Information Systems,  $\beta_0$  = Constants or the intercept from the linear regression equation,  $\beta_i$  = slope of the line or regression surface,  $\sum_{l=1}^{Kj-1} \beta_{jl} \alpha_{jl}$  denotes the intervening variable where  $j = 2$ .

The Optimum conceptual framework is as shown in Figure 4.46. The dependent variable in this study was regulatory compliance while the independent variables were legal environment, resource availability, senior management skills, corporate governance and management information system. The intervening variable was SACCO size.



**Figure 4.46 Optimum Conceptual Framework**

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of major findings of the study, relevant conclusions and recommendations. The study sought to investigate the challenges to regulation compliance by D.T.S in Kenya. Specifically, the study looked at the effect of corporate governance, management information system, senior management skills, legal environment and resource availability on regulation compliance. The intervening variable for the study was SACCO size. This chapter presents a summary of the major findings of the study and discusses the implications of the findings. The summary is done in line with the objectives of the study with a logical interpretation derived from the findings and conclusions. Finally the chapter makes recommendations on possible areas of further research.

#### **5.2 Summary of the Major Findings**

A logistic regression analysis was conducted to investigate the challenges to regulation compliance. A test of the full model against a constant only model was statistically significant, indicating that predictors as a set reliably distinguished between full compliance and non-compliance (chi square= 6.379,  $p < .000$  with  $df=7$ ). Nagelkerke's  $R^2$  of 0.816 indicated a moderately strong relationship between prediction and grouping.

Prediction success overall was 88.9% (83.8% for No and 91.5% for Yes). The Wald criterion demonstrated that all the independent variables; legal environment ( $p=0.031$ ), resource availability ( $p=0.033$ ), senior management skills ( $p=0.040$ ), corporate governance ( $p=0.047$ ) and management information systems ( $p=0.048$ ) made significant contributions to prediction. The intervening variable size ( $p=0.028$ ) also made a significant contribution to prediction. However small SACCO size ( $p=0.334$ ) was not a significant predictor.

### **5.2.1 Corporate Governance**

The study sought to investigate the state of corporate governance in D.T.S and found that D.T.S considered corporate governance as significantly affecting compliance of SASRA regulations in Kenya. The respondents scored highly on the indicators of corporate governance. These were B.O.D Structure, C.E.O Duality, Political Interference and Directors Capacity. The corporate governance value of Exp (B) is 27.281 and implies that a one unit increase in corporate governance increased the odds by approximately twenty seven times and a half that survey respondents belong to the fully compliant group.

The study further established that while corporate governance influences regulation compliance, SACCO size has a significant intervening influence in this relationship. This was demonstrated by the increase in the value of both the Cox & Snell and Nagelkerke  $R^2$  at the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and the corporate governance.

### **5.2.2 Management Information System**

The study sought to investigate the state of management information systems in D.T.S and found that D.T.S considered management information systems as significantly affecting compliance of SASRA regulations in Kenya. The respondents scored highly on the indicators of management information systems. Specifically, networked systems, computer systems and banking software were found to be good indicators of management information systems. The management information systems value of Exp(B) was 13.671 and implies that a one unit increase in management information system increased the odds by approximately thirteen and a three quarter times that survey respondents belong to the fully compliant group.

The study further established that while management information systems influences regulation compliance, SACCO size has a significant intervening influence in this relationship. This was demonstrated by the increase in the value of both Cox & Snell and Nagelkerke  $R^2$  at the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and management information system.

### **5.2.3 Senior Management Skills**

The study sought to investigate the state of senior management skills in D.T.S and found that D.T.S considered senior management skills significantly affecting compliance of SASRA regulations in Kenya. The respondents scored highly on the indicators of senior management skills. Specifically, participative and human resource skills, competition and control skills, and entrepreneurship skills were found to be good indicators of management information systems. The senior management skill value of  $\text{Exp}(B)$  was 21.884 and implies that a one unit increase in senior management skills increased the odds by approximately twenty two times that survey respondents belong to the fully compliant group.

The study further established that while senior management skills influences regulation compliance, SACCO size has a significant intervening influence in this relationship. This was demonstrated by the increase in the value of both Cox & Snell and Nagelkerke  $R^2$  at the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and senior management skills

#### **5.2.4 Legal Environment**

The study sought to investigate the state of legal environment in D.T.S and found that legal environment significantly affects compliance of SASRA regulations in Kenya. The respondents scored highly on the indicators of legal environment. Specifically, interest groups, rules and regulations, common bond, rewards and punishments were found to be good indicators of legal environment. The legal environment value of Exp(B) was 40.899 which implies that a one unit improvement in legal environment increased the odds by forty one times that survey respondents belong to the fully compliant group.

The study further established that while legal environment influences regulation compliance, SACCO size has a significant intervening influence in this individual relationship. This was demonstrated by the increase in the value of both Cox & Snell and Nagelkerke  $R^2$  at the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and legal environment.

#### **5.2.5 Resource Availability**

The study sought to investigate the state of resource availability in D.T.S and found that resource availability significantly affects compliance of SASRA regulations in Kenya. The respondents scored highly on the indicators of resource availability. Specifically, liquidity, financial capital, financial property and intangible assets were found to be good indicators of resource availability.

The resource availability value of Exp(B) was 53.308 which implies that a one unit improvement in resource availability increased the odds by approximately fifty three and a half times that survey respondents belong to the fully compliant group. The study further established that while resource availability influences regulation compliance, SACCO size has a significant intervening influence in this individual relationship. This was demonstrated by the increase in the value of both Cox & Snell and Nagelkerke  $R^2$  at

the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and resource availability.

### **5.3 Conclusion**

The study reviewed both theoretical and empirical literature. This literature review revealed that there is an interrelationship between regulation compliance and the five independent variables. These variables were; corporate governance, management information systems, senior management skills, legal environment and resource availability.

This study confirmed the interrelationship and also established that while the above independent variables mentioned influenced regulation compliance, SACCO size had a significant intervening influence in this relationship among D.T.S in Kenya. This was demonstrated by the increase in the value of both Cox & Snell and Nagelkerke  $R^2$  at the introduction of the SACCO size in the moderated logistic regression analysis done in order to establish the intervening influence of SACCO size in the relationship between the regulation compliance and the independent variables. However, small SACCO size was not found to be significant as compared to large and medium SACCO size.

### **5.4 Recommendations of the Study**

On corporate governance the study recommends that SACCOs need to separate the role of the B.O.D from that of the C.E.O. The SACCOs need to also educate members to be empowered in vetting/voting in professional directors and provide continuous board training in corporate governance. Furthermore SACCOs require considering engaging only in their core business of saving and lending. In addition the SACCOs need to enhance professional management and transparency in their recruitment process. Lastly the study also recommends that SACCOs set minimum qualifications for their board members.



On management information systems, the study recommends that SACCOs need to have dynamic MIS system with regular upgrades. They require considering integrating their BOSA and FOSA banking software with the SASRA reporting portal. Of importance as well is for SACCOs to carry out regular MIS training of staff. The study further recommends that SACCOs need to benchmark with other financial institutions. To fill in the gaps that exist within the organisation the study advises SACCOs to have in-house dedicated IT departments and also establish operational MIS policies. Lastly the study recommends that transparent procuring from reputable firms is required in SACCOs and where possible the regulator needs to accredit software vendors for the SACCOs.

On senior management skills the study makes the following recommendations. The SACCOs need to embrace capacity building and the training of senior management. In addition, mentorship and exchange programs across SACCOs have to be encouraged. The study further advises SACCOs to not only employ competent managers, but also to encourage internal promotions for effective succession planning in order to improve the senior management skills.

On the legal environment, the study recommends that SACCOs need to ensure all internal stakeholders adhere to the relevant Acts, regulations and by-laws. SACCOs require having in-house professional legal teams. The study further advises SACCOs to lobby for friendly and practical legislation through apex bodies. Lastly, the study recommends that SACCOs engage external experts to advise the board.

On resource availability the study makes the following recommendations. SACCOs need to mobilise members to increase their share savings. They require having professional management team and B.O.D. The SACCOs need to build strategic alliances with other institutions but in the same breadth they should deal only in core business of saving and lending. The study advises SACCOs to invest in near cash interest bearing instruments.

They need to develop strong national and regional brands. Importantly as well is that SACCOs must embark on cost cutting and abide by budgets. They require considering forming a communal fund to save and borrow from and where possible they should source for cheaper source of funds internationally.

On SACCO size the study recommends that SACCO grow members deposit portfolio. They need to increase in loan lending portfolio in addition to marketing of innovative products and services. SACCOs need to consider diversifying out of their core business of saving and lending. Furthermore, SACCOs are advised to increase their share capital and also employ professional management staff. The study further advises SACCOs to reduce their overall operational cost and to open up their common bonds respectively. Where possible the study recommends that SACCOs require merging.

In order to improve on regulation compliance the study recommends that SACCOs need to operate and adhere to SASRA set standards. SACCOs require carrying out continuous training of staff, board and members on regulatory requirements. The study further recommends that the SACCOs need to increase their financial provisions to meet capital requirements and they must also employ qualified personnel. The study further recommends that SACCOs improve on corporate governance within the board. They need to benchmark with the best practices within the industry and implement comprehensive business and strategic plans. Lastly the study advises SACCOs to limit the duration board members serve.

### **5.5 Contribution to Knowledge**

This study contributes to the literature in several ways. This study researched on the five independent variables with size being the intervening variable. This had not been done from most of the literature reviewed. The knowledge gained is that although SACCO size is significant in regulation compliance, small SACCO size is not significant while both large and medium SACCO sizes are significant.

Secondly, that in order of significance the most challenging factors that affects regulation compliance in D.T.S in Kenya are; legal environment, resource availability, senior management skills, corporate governance and management information skills.

### **5.6 Suggested Areas for Further Research**

The study involved 215 D.T.S in Kenya. Generalisation of these findings to other financial institutions such as banks and micro- financial institutions shall therefore be difficult. Obscurity might also arise in using survey questionnaires since they are based on the presumption that participants shall answer in a truthful and precise way. The respondents might opt to give responses that they believe are socially desirable or politically correct, but which might be incorrect and untruthful.

Based on the study and the findings there are challenges to SACCOs complying with the regulatory requirements. The factors studied could not be exhaustive. Therefore there is need for further research to be conducted to establish other challenges to D.T.S regulatory compliance given the SACCO sector contribution to the national economy. This study recommends that a similar study can be done targeting both the D.T.S and non D.T.S in Kenya or alternatively the study can research on a different intervening variable other than SACCO size.

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## APPENDICES

### APPENDIX I: LETTER OF INTRODUCTION

Date: .....

Dear Sir/ Madam

#### **RE: COLLECTION OF RESEARCH DATA**

I am a student at Jomo Kenyatta University of Agriculture & Technology (JKUAT) pursuing a Degree of Philosophy in Business Administration in Strategic Management. I am carrying out a research on “*Challenges to Regulation Compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya.*” I am in the process of gathering relevant data for the purpose of this study. You have been identified as a key respondent in this study and I would like to kindly invite you to participate in my Ph.D research. I therefore write to request for your invaluable assistance towards making this study a success by taking time off your busy schedule to respond to the attached questionnaire.

The information collected and used in the Ph.D dissertation will be kept strictly confidential and purely for academic purposes. You will also remain completely anonymous throughout the data processing. The final report will be availed to you once all analyses are completed. I would appreciate if you could fill the questionnaire within the next 3 days to enable early finalisation of the study. I appreciate your consideration, time and look forward to your responses to the questionnaire.

Yours Sincerely

**Gamaliel Hassan Alukwe**

**Student Reg. No. HD433-3504/2012: Mobile Contact: 0721888-488**

## APPENDIX II: QUESTIONNAIRES

This questionnaire is to collect data for purely academic purposes. All the information will be treated as confidential. **DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE.** The questionnaire is meant to investigate the challenges to regulation compliance by Deposit Taking Savings and Credit Co-operative Societies in Kenya.

Kindly answer all questions by either ticking the option that applies or filling in the blank space.

### Section I: Background Information

a) Gender:

Male

Female

b) Age bracket:

Below 20

21-30

31-40

41-50

51-60

Over 60

c) Level of education

Certificate

Diploma

Bachelors

Masters

Doctoral

Other (Specify)

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d) How many years have you worked in the SACCO industry? \_\_\_\_\_

e) How many years have you worked in Senior Management in the SACCO industry?

0-3

4-6

7-9

10-12

Over 12 Years

f) In which County is your head office located? \_\_\_\_\_

**SECTION II: Corporate Governance**

This section queries corporate governance as a challenge to regulation compliance.

Please respond as appropriate.

<b>a) Board of Director (B.O.D) Structure</b>	<b>Yes</b>	<b>No</b>
Do you consider B.O.D size important in ensuring regulation compliance?		
In your opinion does the B.O.D composition of odd or even numbers as relates to voting matter in regulation compliance?		
Do you think the number of board meetings held affects regulation compliance?		
In your opinion is the shareholders role in director appointment important in regulation compliance?		

Please explain your answer:

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<b>b) Chief Executive Officer (C.E.O) Duality</b>	<b>Yes</b>	<b>No</b>
In your view does the Committees authority in comparison to that of the C.E.O's affect regulation compliance?		
In your opinion is the distinction between the Chairman's & C.E.O's role important in ensuring regulation compliance?		
Do you think the founder syndrome or duration the board members have sat in the board affects regulation compliance		

Please explain your answer:

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c) <b>Political Interference</b>	<b>Yes</b>	<b>No</b>
Do you consider independence of directors from voting members/ delegates as affecting regulation compliance?		
Do you think B.O.D commitment in enhancing member interest influences regulation compliance?		

Please explain your answer:

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d) <b>Directors Capacity</b>	<b>Yes</b>	<b>No</b>
Do you think skills and education level of directors influences regulation compliance?		
Do you consider having non-professional volunteers assuming highly technical roles influences regulation compliance?		
In your opinion does the directors knowledge to question information provided influence regulation compliance?		

Please explain your answer:

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e) In your view, how can SACCOs improve in corporate governance?-

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**SECTION III: Management Information Systems**

This section queries management information systems as a challenge to regulation compliance. Please respond as appropriate.

<b>a) Networked Systems</b>	<b>Yes</b>	<b>No</b>
Do you consider the use of mobile services important in ensuring regulation compliance?		
Do you think the existence of Local Area Networks affects regulation compliance?		
In your opinion is the use of internet important in ensuring regulation compliance?		

Please explain your answer:

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<b>b) Computer Systems</b>	<b>Yes</b>	<b>No</b>
Do you consider use of computers with Windows 7 or above affects regulation compliance?		
Do you think existence of ICT policies and procedures affects regulation compliance?		
In your opinion does prevalence of manual systems affect regulation compliance?		

Please explain your answer:

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<b>c) Banking Software</b>	<b>Yes</b>	<b>No</b>
Do you think the use of customised banking systems affects regulation compliance?		
Would you say the integration of FOSA & BOSA software affects regulation compliance?		

Please explain your answer:

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d) In your view, how can SACCOs improve in management information systems?-

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#### **SECTION IV: Senior Management Skills**

This section queries senior management skills as a challenge to regulation compliance.

Please respond as appropriate.

<b>a) Participative &amp; Human Resources Skills</b>	<b>Yes</b>	<b>No</b>
Do you think ability to motivate and inspire staff affects regulation compliance?		
Do you consider ability to communicate facts effectively affects regulation compliance?		
In your opinion is team building capacity important in ensuring regulation compliance?		
In your view is senior staff retention capacity important in ensuring regulation compliance?		
Do you think clear career development path is important in ensuring regulation compliance?		

Please explain your answer:

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<b>b) Competition &amp; Control Skills</b>	<b>Yes</b>	<b>No</b>
Do you think level of assertiveness affects regulation compliance?		
Do you consider power & influence capacity as affecting regulation compliance?		
In your opinion is capacity to assess compliance/detect fraud important in ensuring regulation compliance?		
In your view is formal training of internal audit team in finance & accounts important in ensuring regulation compliance?		

Please explain your answer:

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<b>c) Entrepreneurship Skills</b>	<b>Yes</b>	<b>No</b>
Do you think creative problem solving affects regulation compliance?		
Do you consider innovation ability as affecting regulation compliance?		
In your opinion does leveraging of leadership styles to different audiences affect regulation compliance?		
In your view is building of network allies important in regulation compliance?		

Please explain your answer:

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d) In your view, how can SACCOs improve in senior management skills?-

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**SECTION V: Legal Environment**

This section queries legal environment as a challenge to regulation compliance. Please respond as appropriate.

<b>a) Interest Groups</b>	<b>Yes</b>	<b>No</b>
Do you think lobbying of legislative bodies by KUSCCO & KERUSSO affects regulation compliance?		
In your opinion does involvement of Ministry officials affect regulation compliance?		
In your view do predatory (extreme) regulations by County governments affect regulation compliance?		
Do you think a unified National government policy is important in ensuring regulation compliance?		

Please explain your answer:

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<b>b) Rules &amp; Regulations</b>	<b>Yes</b>	<b>No</b>
Do you think tighter regulations of SACCOs through provisions of the Banking Act affects regulation compliance?		
Do you consider understanding of Cooperative Societies Act important in regulation compliance?		
Do you consider understanding of the SACCO Societies Act & Regulations important in regulation compliance?		
Do you consider understanding of Public Procurement Act important in regulation compliance?		
In your opinion is By- Law harmonisation important in regulation compliance?		
In your view does hiring of a legal counsel affect regulation compliance?		
Do you think use of courts to challenge perceived excessiveness of law affects regulation compliance?		

Please explain your answer:

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<b>c) Common Bond</b>	<b>Yes</b>	<b>No</b>
Do you think opening up of common bond as important in regulation compliance?		
Do you consider unity of purpose among SACCOs important in regulation compliance?		
In your opinion does engaging in prohibited business affect regulation compliance?		

Please explain your answer:

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<b>d) Rewards &amp; Punishments</b>	<b>Yes</b>	<b>No</b>
Do you think threat of penalties & fines is important in regulation compliance?		
Do you consider contract enforcement by the regulator impacts regulation compliance?		

Please explain your answer:

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e) In your view, how can SACCOs improve the legal environment?-

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**SECTION VI: Resource Availability**

This section queries resource availability as a challenge to regulation compliance. Please respond as appropriate.

<b>a) Liquidity</b>	<b>Yes</b>	<b>No</b>
Do you think high SACCO bank balances are important in ensuring regulation compliance?		
Do you consider high balances with financial institutions other than banks important in ensuring regulation compliance?		
In your opinion are high levels of government securities important in ensuring regulation compliance?		
Do you think high member deposits affect regulation compliance?		

In your view are high dividend pay outs to shareholders important in regulation compliance?		
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Please explain your answer:

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<b>b) Financial Capital</b>	<b>Yes</b>	<b>No</b>
In your opinion does access to cheaper sources of funds affect regulation compliance?		
Do you think high retained earnings affect regulation compliance?		
Do you consider high share capital important in regulation compliance?		
In your view are high statutory reserves important in regulation compliance?		

Please explain your answer:

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<b>c) Financial Property</b>	<b>Yes</b>	<b>No</b>
Do you think adequate collateral to borrow funds affects regulation compliance?		
Do you consider high investment in land and buildings important in regulation compliance?		
In your opinion does high investment in equipment and machinery affect regulation compliance?		
In your view is equity investment in apex bodies important in regulation compliance?		
Do you think investments in subsidiaries & equity instruments of other institution as important in regulation compliance?		

Please explain your answer:

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<b>d) Intangible Assets</b>	<b>Yes</b>	<b>No</b>
Do you think SACCO brand reputation affects regulation compliance?		
Do you consider trademarks and intellectual property rights important in regulation compliance?		

Please explain your answer:

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e) In your view, how can SACCOs improve resource availability?-

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**SECTION VII: SACCO size**

This section queries SACCO size as a challenge to regulation compliance. SACCO size classification is provided through content analysis. Please respond as appropriate.

a) In your view do you think size of the SACCO affects regulation compliance?

Yes

NO

Please explain your answer:

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b) In your opinion is SACCO size regularly discussed as one of the important agendas in board meetings?

Yes

NO

If not considered as one of the important agendas, please explain:

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c) In your view, how can SACCOs increase their assets size?-

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### **SECTION VII: Regulation Compliance**

This section queries regulation compliance as the dependent variable in the study. Please respond as appropriate.

a) In your view is the measure of regulation as being either fully compliant or non compliant adequate to evaluate regulation compliance?

Yes

No

Please explain your answer:

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b) Is your Deposit Taking SACCO fully compliant?

Yes

No

Please explain your answer:

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c) In your view, how can SACCOs improve on regulation compliance?

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I wish to thank you most sincerely for affording time out of your busy schedule to respond to the research questionnaire.

**APPENDIX III: SAMPLING FRAME: LIST OF D.T.S PER COUNTY**

No	County Name	DTS
1	Baringo	2
2	Bomet	10
3	Bungoma	7
4	Busia	1
5	Elgeyo/ Marakwet	2
6	Embu	7
7	Garissa	0
8	Homabay	4
9	Isiolo	1
10	Kajiado	2
11	Kakamega	4
12	Kericho	7
13	Kiambu	16
14	Kilifi	3
15	Kirinyaga	6
16	Kisii	9
17	Kisumu	7
18	Kitui	2
19	Kwale	1
20	Laikipia	2
21	Lamu	1
22	Machakos	2
23	Makueni	0
24	Mandera	0
25	Marsabit	1
26	Meru	14
27	Migori	1
28	Mombasa	7
29	Muranga	6
30	Nairobi	45
31	Nakuru	6

32	Nandi	5
33	Narok	2
34	Nyamira	1
35	Nyandarua	5
36	Nyeri	10
37	Samburu	2
38	Siaya	1
39	Taita/Taveta	1
40	Tana River	1
41	Tharaka Nithi	2
42	Trans-Nzoia	2
43	Turkana	0
44	Uasin- Gishu	5
45	Vihiga	1
46	Wajir	0
47	West Pokot	1
	Total	215

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*Note.* Adopted from SACCO supervision report, pg 32, by SASRA, 2013

**APPENDIX IV: STRATIFIED SAMPLE SIZE**

	County Name	DTS	DTSf	S
1	Baringo	2	0.01	1
2	Bomet	10	0.05	6
3	Bungoma	7	0.03	5
4	Busia	1	0.00	1
5	Elgeyo/ Marakwet	2	0.01	1
6	Embu	7	0.03	5
7	Garissa	0	0	0
8	Homabay	4	0.02	3
9	Isiolo	1	0.00	1
10	Kajiado	2	0.01	1
11	Kakamega	4	0.02	3
12	Kericho	7	0.03	5
13	Kiambu	16	0.07	10
14	Kilifi	3	0.01	2
15	Kirinyaga	6	0.03	4
16	Kisii	9	0.04	6
17	Kisumu	7	0.03	5
18	Kitui	2	0.01	1
19	Kwale	1	0.00	1
20	Laikipia	2	0.01	1
21	Lamu	1	0.00	1
22	Machakos	2	0.01	1
23	Makueni	0	0	0
24	Mandera	0	0	0
25	Marsabit	1	0.00	1
26	Meru	14	0.07	9
27	Migori	1	0.00	1
28	Mombasa	7	0.03	5
29	Muranga	6	0.03	4
30	Nairobi	45	0.21	29
31	Nakuru	6	0.03	4

32	Nandi	5	0.02	3
33	Narok	2	0.01	1
34	Nyamira	1	0.00	1
35	Nyandarua	5	0.02	3
36	Nyeri	10	0.05	6
37	Samburu	2	0.01	1
38	Siaya	1	0.00	1
39	Taita/Taveta	1	0.00	1
40	Tana River	1	0.00	1
41	Tharaka Nithi	2	0.01	1
42	Trans-Nzoia	2	0.01	1
43	Turkana	0	0	0
44	Uasin- Gishu	5	0.02	3
45	Vihiga	1	0.00	1
46	Wajir	0	0	0
47	West Pokot	1	0.00	1
	Total	215	1.00	139

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*Note.* Adopted from SACCO supervision report, pg 32, by SASRA, 2013

Where No = Number, D.T.S = Total number of D.T.S Population, DTSf = D.T.S population in fraction, S = DTSf x 139 = Sample.

**APPENDIX V: TOTAL VARIANCE EXPLAINED**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	25.002	34.250	34.250	25.002	34.250	34.250
2	4.669	6.396	40.645	4.669	6.396	40.645
3	3.214	4.402	45.047	3.214	4.402	45.047
4	2.596	3.556	48.603	2.596	3.556	48.603
5	2.433	3.333	51.936	2.433	3.333	51.936
6	2.110	2.890	54.826	2.110	2.890	54.826
7	1.841	2.522	57.348	1.841	2.522	57.348
8	1.717	2.353	59.700	1.717	2.353	59.700
9	1.698	2.326	62.026	1.698	2.326	62.026
10	1.607	2.201	64.227	1.607	2.201	64.227
11	1.417	1.941	66.168	1.417	1.941	66.168
12	1.300	1.781	67.949	1.300	1.781	67.949
13	1.283	1.757	69.706	1.283	1.757	69.706
14	1.213	1.661	71.367	1.213	1.661	71.367
15	1.180	1.616	72.983	1.180	1.616	72.983
16	1.026	1.406	74.389	1.026	1.406	74.389
17	.987	1.352	75.741			
18	.953	1.305	77.046			
19	.914	1.252	78.298			
20	.891	1.220	79.518			
21	.853	1.168	80.686			
22	.815	1.117	81.803			
23	.762	1.044	82.847			
24	.746	1.022	83.869			

25	.683	.935	84.805
26	.644	.882	85.686
27	.630	.863	86.549
28	.627	.859	87.408
29	.596	.816	88.225
30	.553	.757	88.982
31	.543	.745	89.726
32	.491	.672	90.398
33	.465	.637	91.035
34	.438	.600	91.636
35	.417	.571	92.207
36	.396	.542	92.749
37	.386	.529	93.278
38	.370	.507	93.784
39	.347	.476	94.260
40	.319	.437	94.697
41	.305	.417	95.115
42	.294	.403	95.518
43	.289	.396	95.914
44	.250	.343	96.257
45	.231	.317	96.573
46	.213	.292	96.865
47	.202	.277	97.142
48	.174	.238	97.380
49	.171	.234	97.614
50	.160	.219	97.833
51	.158	.217	98.050
52	.141	.193	98.242
53	.133	.182	98.425

54	.124	.169	98.594		
55	.113	.154	98.748		
56	.100	.137	98.885		
57	.099	.135	99.021		
58	.095	.130	99.151		
59	.086	.118	99.270		
60	.079	.108	99.378		
61	.065	.089	99.466		
62	.060	.082	99.548		
63	.055	.075	99.623		
64	.050	.068	99.691		
65	.044	.060	99.751		
66	.035	.049	99.799		
67	.031	.043	99.842		
68	.029	.040	99.882		
69	.023	.032	99.914		
70	.020	.027	99.941		
71	.017	.024	99.964		
72	.014	.019	99.984		
73	.012	.016	100.000		

Extraction Method: Principal Component Analysis.



## APPENDIX VI: COMMUNALITIES

	Initial	Extraction
Board of Directors size	1.000	.350
B.O.D even or odd composition as relates to voting	1.000	.343
B.O.D gender composition	1.000	.063
Number of board meetings held	1.000	.328
Shareholder role in director appointment	1.000	.332
Committees authority in comparison to C.E.O's authority	1.000	.338
Distinction between Chairman's & C.E.O's role	1.000	.328
Founder syndrome or duration board members have sat in the board	1.000	.361
Using directorship as a stepping stone to politics	1.000	.355
Independence of directors from voting members/ delegates	1.000	.338
Tolerance to external politicians	1.000	.036
B.O.D commitment in enhancing member interests	1.000	.132
Skills & education level of directors	1.000	.321
Non-professional volunteers assuming highly technical roles	1.000	.307
Directors knowledge to question information	1.000	.343
Use of mobile services	1.000	.452
Existence of Local Area Networks	1.000	.496
Use of internet	1.000	.596
Use of computers with Windows 7 or above	1.000	.396
Existence of ICT policies & procedures	1.000	.457
Prevalence of manual systems	1.000	.490
Use of customised banking systems	1.000	.385
Integration of FOSA & BOSA software	1.000	.321
Ability to motivate & inspire staff	1.000	.449
Ability to communicate facts effectively	1.000	.500
Team building capacity	1.000	.632

Senior staff retention capacity	1.000	.543
Clear career development path	1.000	.519
Level of assertiveness	1.000	.420
Power & influence capacity	1.000	.551
Capacity to assess compliance/detect fraud	1.000	.469
Formal training of internal audit team in finance & accounts	1.000	.398
Creative problem solving	1.000	.594
Innovation ability	1.000	.590
Leveraging of leadership styles to different audiences	1.000	.506
Building of network allies	1.000	.432
Lobbying of legislative bodies by KUSSCO & KERUSSO	1.000	.568
Commercialisation of Cooperative Bank	1.000	.283
Involvement of Ministry Officials	1.000	.356
Predatory (extreme) regulations by County Governments	1.000	.449
Unified National Government policy	1.000	.515
Tighter regulations of SACCOs through provisions of Banking Act	1.000	.596
Understanding of Cooperative Societies Act	1.000	.539
Understanding of SASRA Act	1.000	.689
Understanding of Public Procurement Act	1.000	.545
By-Laws harmonization	1.000	.680
Hiring legal counsel	1.000	.417
Use of courts to challenge perceived excessiveness of law	1.000	.584
Opening up of the common bond	1.000	.478
Unity of purpose among SACCOs	1.000	.581
Engaging in prohibited business	1.000	.621
Threat of penalties & fines	1.000	.513
Contract enforcement by the regulator	1.000	.627
High SACCO bank balances	1.000	.506

High balances with financial institutions other than banks	1.000	.471
High levels of government securities	1.000	.488
High member deposits	1.000	.367
High dividend pay outs to shareholders	1.000	.396
Access to cheaper sources of funds	1.000	.476
High retained earnings	1.000	.502
High share capital	1.000	.497
High statutory reserves	1.000	.430
Adequate collateral to borrow funds	1.000	.439
High investment in land & buildings	1.000	.342
High investment in equipment & machinery	1.000	.408
Equity investment in apex bodies	1.000	.446
Investments in subsidiaries & equity instruments of other institutions	1.000	.448
SACCO brand reputation	1.000	.360
Trademarks & intellectual property rights	1.000	.340
Size of SACCO	1.000	.586
SACCO size regularly discussed as important agenda in board meetings	1.000	.545
Adequacy of measuring regulation compliance as either fully compliant or non-compliant	1.000	.624
RCompliance	1.000	.706

Extraction Method: Principal Component Analysis.

**APPENDIX VII: DISTRIBUTION OF YEARS IN INDUSTRY**

	Frequency	Percent	Cumulative Percent
1	2	1.9	1.9
2	1	.9	2.8
3	3	2.8	5.6
4	8	7.4	13.0
5	15	13.9	26.9
6	3	2.8	29.6
7	7	6.5	36.1
8	2	1.9	38.0
9	7	6.5	44.4
10	7	6.5	50.9
11	6	5.6	56.5
12	7	6.5	63.0
13	3	2.8	65.7
14	4	3.7	69.4
15	9	8.3	77.8
16	1	.9	78.7
17	4	3.7	82.4
18	1	.9	83.3
19	1	.9	84.3
20	5	4.6	88.9
21	2	1.9	90.7
22	1	.9	91.7
23	2	1.9	93.5
25	1	.9	94.4
27	3	2.8	97.2
30	3	2.8	100.0
Total	108	100.0	

**APPENDIX VIII: HEAD OFFICE COUNTY**

	Frequency	Percent
Nairobi	27	25.0
Kiambu	8	7.4
Nyeri	6	5.6
Bomet	5	4.6
Meru	5	4.6
Mombasa	5	4.6
Kirinyaga	4	3.7
Nakuru	4	3.7
Kakamega	3	2.8
Kericho	3	2.8
Kisii	3	2.8
Kisumu	3	2.8
Muranga	3	2.8
Bungoma	3	2.8
Embu	3	2.8
Kilifi	2	1.9
Uasin Gishu	2	1.9
Baringo	1	0.9
Kajiado	1	0.9
Kitui	1	0.9
Laikipia	1	0.9
Machakos	1	0.9
Migori	1	0.9
Nandi	1	0.9
Narok	1	0.9
Nyamira	1	0.9
Nyandarua	1	0.9

Samburu	1	0.9
Siaya	1	0.9
Taita/ Taveta	1	0.9
Busia	1	0.9
Tharaka Nithi	1	0.9
Trans-Nzoia	1	0.9
Elgeyo/Marakwet	1	0.9
Homabay	1	0.9
Isiolo	1	0.9
Total	108	100.0

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**APPENDIX IX: CONTENT ANALYSIS ON SACCO SIZE**

R	C	R	C	R	C	R	C
1	Small	34	Medium	67	Small	100	Small
2	Small	35	Small	68	Small	101	Medium
3	Medium	36	Small	69	Small	102	Medium
4	Small	37	Large	70	Small	103	Small
5	Small	38	Small	71	Small	104	Small
6	Medium	39	Medium	72	Small	105	Large
7	Small	40	Medium	73	Large	106	Large
8	Small	41	Small	74	Small	107	Medium
9	Small	42	Small	75	Small	108	Medium
10	Medium	43	Small	76	Medium		
11	Small	44	Medium	77	Medium		
12	Small	45	Small	78	Small		
13	Small	46	Medium	79	Small		
14	Small	47	Small	80	Medium		
15	Large	48	Small	81	Large		
16	Small	49	Medium	82	Small		
17	Small	50	Medium	83	Small		
18	Small	51	Medium	84	Medium		
19	Small	52	Small	85	Large		
20	Small	53	Large	86	Small		
21	Small	54	Small	87	Small		
22	Small	55	Medium	88	Medium		
23	Medium	56	Small	89	Large		
24	Small	57	Medium	90	Large		
25	Medium	58	Small	91	Large		
26	Small	59	Small	92	Medium		
27	Small	60	Small	93	Medium		
28	Small	61	Medium	94	Medium		
29	Small	62	Medium	95	Medium		
30	Small	63	Small	96	Medium		
31	Medium	64	Small	97	Medium		
32	Small	65	Large	98	Medium		
33	Large	66	Small	99	Small		

**Note**

R = Respondent's D.T.S

C = SACCO Size classification

