

**DETERMINANTS OF INNOVATION STRATEGIES AMONG SAVINGS  
AND CREDIT CO-OPERATIVE SOCIETIES IN MOMBASA COUNTY,  
KENYA**

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D61/73441/2009**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD  
OF THE DEGREE OF MASTER OF BUSINESS  
ADMINISTRATION (STRATEGIC MANAGEMENT) SCHOOL OF  
BUSINESS, UNIVERSITY OF NAIROBI**

**2016**

## DECLARATION

This research project report is my original work and has not been submitted to any other university for award of a degree.

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This research project report has been submitted for examination with my authority as the university supervisor

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## **ACKNOWLEDGEMENT**

First and foremost, I would like to thank God for the gift of life, health, strength and knowledge that he bestowed upon me and for enabling me complete this research study. My sincere gratitude to my Supervisor, Dr. Jackson Maalu and project coordinator DR Joseph Aranga, for the continuous support I received from them during the study. I would also like to thank my all the MBA Lecturers for building my knowledge during the study.

I would like to thank my MBA colleagues, friends and my loving family for all the guidance, motivation and support in all stages of this project.

I would like to appreciate all those who made this research project a success. God bless you all

## **DEDICATION**

I dedicate this project to my family and friends. A special feeling of gratitude to my loving Mum and Dad who believed in the pursuit of academic excellence and who taught me that even the largest task can be accomplished if it is done one step at a time. Also would like to thank my Siblings and my Dearest Fiancé for the long Support during the period.

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## **ABBREVIATIONS AND ACRONYMS**

<b>BOSA</b>	Back-office Savings Activities
<b>FOSA</b>	Front Office Savings Activities
<b>SACCO</b>	Savings and Credit Cooperative
<b>SASRA</b>	Sacco Societies Regulatory Authority
<b>RBV</b>	Resource-Based View
<b>ATM</b>	Automated teller Machine

## **ABSTRACT**

A crucial aspect in the success of firms is their capacity to innovate. This research intended to examine the topic of innovation, by examining the key determinants of innovation strategy in organization. Innovation as area of study has been covered a lot in in SACCOS in terms of innovation and performance, and types of innovation. The study focused on determinants of innovation strategy in the SACCOS industry which contributed in the literature of innovation study in SACCOS. The research objective was determinants of innovation Strategy among SACCOSs in Mombasa County. The research aim was to establish the Managerial, Organizational and environmental determinants factor of innovation SACCOs. The research was supported by literature review on theories of innovation search as Technology Push, institutional and Resource Base theory. The literature focused on Managerial, organizational and environmental determinants factors of innovation. The research used Questionnaire to collect the data. Results of the data were analyzed in descriptive and factor analysis where statistical package for social science 20 was used. The results of the factor analysis showed that Managerial Determinant had two factors that are. Top leader Factor where Board support for innovation and Manager Drive innovation, factor two was support by management investment project enhance innovation. Organization determinants of innovation had three factors that is organization structure and resource factor, organization process and recruitment of new employee's factor contribute innovation in the organization. Environmental determinant factors were grouped into industry level factors such as competition in the industry and customer requirement factor. The research concludes that; top leader influence, organization structure and resource, and industry competition factors as the main determinant of innovation strategies that influence innovation at managerial, organizational and environmental level respectively. The study recommends study on individual level of innovation search as Managerial determinants of innovation in organization like top leader character, age and size, intellectual factor, and human capital factor and further research on determinants of innovation strategies in the SACCO industry at National level, Coastal region, other counties, and other industry

# CHAPETER ONE: INTRODUCTION

## 1.1 Background of the study

Studies done show that, “Innovation as a general concept is a popular managerial phenomenon. It seems widely accepted that in today’s competitive global business environment, in order to sustain high performance, firms must embrace innovation as one of the strategic keys for success. But are there identifiable innovation determinants that lead to success?” (Read, 2000 p 110) according to Mohr “Throughout its implementation, innovation is influenced by multiple and different determinants” (as cited in Winand, Vos, Zintz & Scheerder, 2013 p 5). As cited Read (2000) determinants of innovation were rated from interms of higer to lowest frequency as “management support for innovative culture, customer/market focus, Communication/networking, Human resource strategies that emphasize innovation, Team Structures, Knowledge Management and Leadership, creative development, strategic posture, flexible structures, continuous improvement, technology adoption, and Internal factors such as the managerial willingness to innovate may be decisive to initiate the discussion about innovation”.

The research was supported by, institutional Theory, Technological push theory, and resource based theory. The institutional theory is relevant because determinants of innovation in organization are influenced by, “mimetic pressures are observed when firms adopt a practice or innovation imitating competitors” (Soares-Aguiar and Palma-Dos-Reis 2008 as cited in Oliveira & Martins 2010) impacted by knowledge, experience and experience of those occupying managerial role (Hambrick & Mason, 1984). Technology Push theory looks at how innovation can be determine by technology factor where in organization are required by the market driven or changes of technology for firms to be innovative (Dosi,1982). Under resource base view Kostopoulos, Spanos & Prastacos (2006) ability of the organization to have asset resource in form of tangible (financial and Physical) or intangible (employees knowledge, experience and skills, firm reputation, brand name, organization procedures) influence innovation to occur.

The SACCO system is a mutual membership organization focusing on the mobilization of domestic savings in form of shares and deposits from which credit is extended to members.

Credit is usually assessed as a multiple of the amount of deposit/shares held by a member (Nyatichi, 2015). In Kenya SACCO have embraced innovation such as technology innovation, where there are SACCO such as Stima SACCO being national has use latest software to embrace is wider market in Kenya, ability to access forms on line, product innovation such as M-pawa ability to borrow loan via mobile phone. The Sacco Sub Sector is divided into non-deposit taking business known as Back Office Service Activity (BOSA) business which under Co-operative ministry. The Sacco Societies Regulatory Authority (Sasra) was formally established in 2009. SASRA regulate deposit taking business known as Front Office Service Activity (FOSA). According to district co-operative office in 2015, Mombasa County had 244 active Sacco, 7 of which operate FOSA, and membership of 65,336.

### **1.1.1 Concept of Innovation Strategy**

Kodama, (2011) states that, “Strategic innovation involves the continuous strategic creation of new products, services, and business models to acquire long-term and sustainable competitive excellence. It embraces the radical reform of conventional products and services and creation of new business models that transform existing business rules”. Innovation is viewed widely in products and process; similarly it can be viewed as marketing and organization innovation. Schumpeter (1934) studies states that innovation is coming up something new such as, product, market, production methods, supply sources and business organization. Rowley, (2011) Defines an innovation is a change, in a product, service, process or, more widely, an organization. According to O'Sullivan (2008) “Innovation is the process of making changes to something established by introducing something new... that adds value to customers... and then learning from that process so that innovation can be repeated continuously”.

Innovation is seen as, “the development and commercialization of products and processes those are new to the firm, new to the market, or new to the world. The activities involved range from identifying problems and generating new ideas and solutions, to implementing new solution and diffusing new technologies” (Goldberg, Goddard, Kuriakose, and Racine, 2011). In Oslo Manual innovation has been defined as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations” (OECD, 2005)

### **1.1.2 Determinants of Organization Innovation strategy**

Literature on determinants of organization innovation is covered widely by research, where authors such as Damanpour and Schneider (2006) viewed the determinants of innovation in form of the following categorical factors, managerial, organizational and environmental. The research literature has encompassed the Managerial, organizational and environmental level determinants of innovation. The determinants have been used as subject of the research among SACCOs in Mombasa County

As cited in Winand, Vos, Zintz & Scheerder,( 2013 ) “The managerial level refers to individuals in the organization, their relationships with each other, their involvement in the decision making processes, and their leadership. From the managerial point of view, attitude of decision makers towards change and newness is considered crucial”. In their study Damanpour and Schneider,(2006) found that “top managers heavily influence organizational capabilities by establishing organizational culture, motivating and enabling managers and employees, and building capacity for change and innovation”. According to Crossan & Apaydin, (2010) "management has the ability to develop and maintain an environment that fosters innovation and to provide the necessary resources to implement it. This leadership commitment may be exhibited by executives, managers, and/or board members”. Leaders or top managers are viewed as powerful internal factor for innovation to occur in the organization, where they integrate, coordinate and reconfigure resource for organization innovation (Xu, Sirmon, & Gao, 2010)

According to Damanpour and Schneider, (2006) organizational level determinants of innovation refer to organizations characteristics, Size and level of funding as vital process for innovation. In the works of Rui (2011) strategy, structure and system, culture, climate of an organizational, availability of resources and skills, teamwork, leadership and research all encompass organization level factors of innovation. According to Dewar and Dutton (1986) organization that have good technical specialist, educated and technical employees, provide the organization with human capital resource for innovation. The ability of an organization to be innovative is basically based on its human resource availability, where the human resource capital which has equipped itself with technical skills that are advance, knowledge in research and development

and risk taker, have the ability to implement innovation (Hitt, Bierman, Shimizu and Kochlar 2001; Canto and Gonzales 1999; Kessler and Chakrabarti 1999 as cited in Do et al., 2011). According to Gomes, Machado, & Alegre (2015) organizations that have adopted innovation in its mission, objective, and strategies will implement ideas of innovation easily.

According to Damanpour and Schneider, “Environmental level refers to the sector with which organizations operate” (as cited in Winand et al, 2013). In their study Frambach and schillewart stated that, competition and external pressure from stakeholder, causes organization to innovate in order to remain relevant in the market. (as cited in Winand et al, 2013). Similarly the external environment determinants of innovation include utilization of opportunities, and curbing down challenges (Damanpour & Schneider, 2006). “One area of environmental determinants is related to the specific market, sector, or industry that the organization operates in. For example, local governments may need to innovate to meet the needs of the public”(Walker, 2008). Jaskyte and Lee (2006) research of nonprofit organizations show that to be able to adopt and implement innovation, an organization has to have resource, information and technical assistance of human.

Walker research states that, “The larger social, economic, political, and cultural environments in which the organization operates may also be determinants of organizational innovativeness” ( as cited in Hoeber & Hoeber, 2012). Slapper stated that “To illustrate, organizations may need to adopt new policies, or respond to new legislation enacted by government” ( as cited in Hoeber & Hoeber, 2012). Koberg works state that "Customers, clients, suppliers, law makers and other authorities influence the environment of organizations. These bodies, directly or indirectly can push organizations to innovate in different ways. Thus, companies need to understand their environment and adapt themselves to evolving conditions” (as cited in Gungor & Gozlu, 2012).

In the works of Silva and Leitão, (2007) stated that, “The importance of the technological capacity of the firm to obtain new knowledge, to stimulate learning, and to explore external knowledge”. Also they stated that ability of an organization to have technological capacity, enable organization to adopt and reproduce new knowledge from external sources, hence the organization become more innovative. Terziovski, (2010) suggests that “organizations with the

ability to redesign their work processes continuously by taking advantage of advanced technology and such continuous improvement methods as total quality management and just-in-time are received recognition for being innovative”. The ability of the organization to have, “Technical resources such as engineering and production equipment, manufacturing facilities and information technology systems have been found to have a positively impact on innovation” (Song and Parry 1997; Gatignon and Xuereb 1997; Mitchell and Zmund 1999 as cited in Do, Voley, Mazzarol, & Rebound, 2011).

### **1.1.3 Savings and Credit Co-operative Societies in Kenya**

According to the Sacco society act of Kenya co-operative has been defined as, "autonomous association of persons united voluntarily to meet their common economic, social, cultural needs and aspiration through a jointly owned, democratically controlled enterprise" (ROK, 2008). According to Waweru (2011) “Savings and Credit Cooperative societies (SACCOS) are voluntary associations or cooperative financial institution owned and controlled by their members and operated for the purposes of promoting saving, providing credit at low interest rates and providing other financial services to its members” as cited in (Mumanyi, 2014).

The successful co-operative business model is traced back to 1844 when the Eminent Pioneers of Rochdale started their co-operative society. In Kenya was stated in 1908 the Lumbwa Cooperative was established and was the preserve of white settlers to develop their agriculture to procure their farm inputs and market farm produce (Nyatichi, 2015). In Kenya co-operative societies were first recognized in 1931. As period passed Cooperative society grew which made the government of Kenya to enact Co-operative Societies Act of 1966 that lead to creating a ministry of Co-operative Development (Nyatichi, 2015). Maina and Kibanga, stated that at the time of Kenya independence Sacco number had grew to more than 600 primary co-operative societies, as at 1964 Sacco's were under the umbrella of Kenya National Federation of Co-operatives ( as cited in Fujo and Ali, 2016)

According to Gamba and Komoi (2005) in 1963 there were 1,000 co-operative which rapidly grew to 7,000 by 1999. Currently they are 14,000 co-operative societies, categorize as National Co-operative Societies, Co-operative and primary unions, which are governed by Co-operative



Alliance of Kenya (CAK) (About CAK, n.d). According to Gatuguta, Kimotho, and Kiptoo (2014) “The SACCO sector has grown to a point where some SACCOS are bigger than commercial banks e.g Mwalimu SACCO

Cooperatives cut across all sectors of the economy and provide an important framework for mobilization of both human and capital resources. To ensure an enabling environment for cooperatives to prosper in Kenya, the Ministry of Cooperative Development and Marketing established the Sacco Societies Regulatory Authority (SASRA) to regulate deposit taking Saccos, the Ethics Commission for Cooperative Societies (ECCOS) to address governance matters, revitalized the Cooperative Alliance of Kenya (CAK) which is the apex body of cooperatives, to enable it play a more critical role in modernization of the cooperative sector including participation in serious investments.

SACCOs are member-owned financial institutions that offer savings and credit services to their members their members. The majority of the urban based SACCOs (such as those found in Mombasa County) draw their membership from salaried employees of the government, industries, government state owned corporations and the informal sector. They have a regular saving system through monthly salary deductions from employees, unlike the rural SACCOs where the saving pattern is irregular and depends on earnings from the sale of the farmers” crop (Njanja & Pelissier, 2010 as cited in Muteke, 2015). According to the district co-operative office 2015, Mombasa County had 248 active SACCOS, 7 which operate FOSA, with membership of 65,336. The number above makes it important as subject to study.

SACCOS have embrace the following types of innovation technology, product market,service and process. Technology innovation search as new computer software’s search Navision to improve loan processing, enable wider network connectivity in different geographical position, creation of websites to improve accessibility for members. SACCO is embracing use of mobile phone technology to come up loan products via mobile phone search as M-Pawa, deposit and withdrawal of savings account via mobile phone. Adopting ATM service where members have ATM debit cards that they use to withdraw and use at point of sale places to purchase and pay for bills. Market innovation has been embraced by SACCO by opening new branches across

Kenya. Also Sacco have embrace new customer base where previous members of SACCOS were original affiliated with mother company through the creation of FOSA which operates as deposit taking activity. Service innovation and process innovation has been adopted in SACCOs where they improved their service by easy accessibility of their facilities, process innovation by improving the time taken to access loans at faster time.

## **1.2 Research Problem**

Innovation as stated WIPO (1999 as cited in Ismail & Abmajid, 2007) that,” is a very complex process as it is conditioned by a variety of factors and elements. Identifying these elements as the determinants of innovation is very important in order to understand how organization innovates”. (p.41). in their works Ismail and Abmajid (2007), state: despite the significance of the determinants of innovation, researchers have made relatively little progress towards understanding what determines the success of innovation. (p.41). Mohr in his study stated that “Throughout its implementation, innovation is influenced by multiple and different determinants” (as cited in Winand,Vos, Zintz & Scheerder,2013).

The business environment of financial institution in Kenya is highly turbulent, where changes in technology, customer driven environment, and competition have made institution such as bank and micro financial institution to embrace innovation for its existence and relevance to the business environment. SACCOs industry are no exception and must therefore, remain more innovative to be relevant in a very competitive and turbulent business environment. Innovation that SACCOs have embraced to increase its performance and relevance are technology, market, process, customer, and products innovation. According to district co-operative office in 2015, Mombasa County had a total number of 248 active registered co-operatives, 65,336 members. Out of the 248 SACCOs, 7 are operating Front Office Services Activities (FOSA) where deposit taking activity is done, such as micro finance and banking where customer deposit and withdraw cash vie savings and current accounts.

Various study on determinants of innovation done internationally , for instance Ulusoy, Áznday, and Alpkan, (2015) in there study of determinants of innovativeness model for manufacturing firms Marmara region in Turkey showed innovation strategy act as major determinant in driving

innovation in firm and it is achieved through support of top management, the study recommended further study into different region and culture like in Kenya no study is available on manufacturing industry and any other industry. Lin, (2006) showed their positive relationship, on individual, organizational and environmental factors as determinant of innovation. He recommended further research to other factors such as technological context in determining innovation, in organization innovation in global supply chain. Top managers in organization play bigger role in innovation determinant through creating a condition of the innovation generation process and focus on the possible factors that would enable them to successfully new possibilities, create new ideas and commercialize those in order to improve the organization's effectiveness and competitiveness (Magdalene,2015).

In Kenya academicians have studied innovation as topic in different perspective...where strategic innovation, in products, cost management, continuous quality improvement of service and entering of new market has enhanced performance of organization (Lilly and Juma 2014) Process, Product, and Institutional innovation are type of financial innovation that improve performance of SACCOS, where product act as the biggest contributor of financial performance innovation. He recommended further research on Sacco in other region apart from Mombasa County on financial innovation and performance (Muteke, 2005). Determinants of innovation studies are scarce on SACCOs and other industry in Kenya. The research tends to answer the following question: what are the determinants of innovation strategy among savings and credit co-operative societies in Mombasa County, Kenya?

### **1.3 Research Objective**

To establish the determinants of innovation strategies among the SACCOS in Mombasa, County Kenya

### **1.4 Value of the Study**

The study is expected to generate new knowledge which enables cooperatives to be innovative and remain competitive in the global market. The SACCOs will gain insight on determinants of innovation within the industry that they will copy and adopt in order remain relevant within the turbulent organizational environment. Furthermore, it is noted that there is limited research undertaken by cooperatives, government or training institutions leading to limited reliable data

on cooperatives hence there is need to utilize the research findings from this study for their growth and progress

The SACCO industry being major contributor to the economy it has embrace new ways of thinking and operation by adopting strategies that have improved SACCO performance and studies done on strategy that have contributed to the growth of the industry. The study will enable Policy makers will also gain insight to the wide literature on strategic innovation and how innovation comes to into existence in organization, by forming policies that can guide their entire industry to emphasize determinants of innovation as factor to embrace innovation in SACCOS.

Researchers and scholars will gain through as a new area of research by looking at determinants of innovation in other organization apart from SACCO and SACCO in other region of Kenya apart from Mombasa. The results of this study will contribute to the existing knowledge of innovation as strategy, which fellow strategic academician will use as point of reference.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The chapter tends to cover theories that link with topic of study, various determinants of innovation and empirical review on innovation determinants literatures

### **2.2 Theoretical Review**

This section covers three theories; Intuition Theory, Technology Push Theory and Resource Base Theory. The theories serve basis of some determinants of innovation in organization.

#### **2.2.1 Institutional Theory**

Selznick (1949) being founder of institutional theory stated that organization exist in an institutional where its structure is influenced by external factors that make organization be adaptive to the environment it operates. According to Scott (2001 as cited in Oliveira, & Martins, 2010) states that Institutional theory views organization as an in element in institutional environment which it operates within other industry and it helps an organization to shapes its self in its structure and actions. According to DiMaggio and Powell (1983) “Institutional theory, view organization decisions are not purely on efficiency goal, but also by social and cultural factors and concerns for legitimacy. Institutions are transported by cultures, structures, and routines and operate at multiple levels. The theory claims that firms become more similar due to isomorphic pressures and pressures for legitimacy” (as cited in Oliveira, & Martins, 2010). This means that organization in the same industry tends to be homogenous over time, due to competition and customer pressure from big organization in the industry. For example the SACCOs industry is being driven by innovation to change the way they do things in order to conform to the norms of financial institution search as banks competition for same customers, enhance customer attraction and retention, technological change.

Di Maggio and Powell study (as cited in Mellat, 2015) stated that, “A conventional argument of institutional theory is that pressure for institutional conformity leads to a company’s adoption of the same strategies and structures as those adopted by other actors within the organizational field.” Hence having copycat environment industry. Similarly authors such Kondra, Hinings and Powell stated that, “Indeed, institutional theory has successfully

explained how conforming to societal expectations increases legitimacy, reduces uncertainty, and increases standardization. However, institutional theory has been criticized”(as cited in Mellat,2015) Deep house stated that, “for ignoring organizational diversity and how organizations change since, under the institutional perspective, there are few incentives to innovate since adopting unique strategies can seriously hinder the company’s legitimacy” (as cited in Mellat,2015).

Lundvall (2007 as cited in Gronning, 2008) stated that, “there is a need to understand how the core of the innovation system is embedded in the wider set of institutions that shape people and relationships between people. Education systems, welfare regimes, labour markets and financial markets may be more or less supportive to the micro-structure. The core of the innovation system may evolve at a more rapid rate than the wider setting making radical reform necessary. On the other hand there is a lot of slack and incompetence in the micro-structure and changes in the wider setting may be helpful to overcome such”. Ottenbacher and Harrington study reveal that, organization top managers and the environment that an institution operate influence strategic decisions, organizational and process innovations ( as cited in Lavandoski, Vargas-Sánchez, Pinto, & Silva,2016 ) Soares-Aguiar and Palma-Dos-Reis, (2008), stated that “Mimetic pressures are observed when firms adopt a practice or innovation imitating competitors.”

### **2.2.2 Technology Push Theory**

The idea of technology push is sourced from Schumpeter who views that technology pushes innovation to enable creation of new industry, new ways of production which results new products of a firm (Schumpeter, 1939). Christensen and Dosi studies stated that, “Technology-push innovation comes from radical changes in technology without any change in the meaning of products. The invention of color TV sets (on top of the existing black and white TV sets) is an example. Technology Push innovation definitely does not come from users” (as cited in Verganti , 2014). The ability of organization to innovate can be pushed by technology, where authors such as Herstatt & Lettl, (2004) define technology push as change in technology or introduction of new technology that act as driving force for organization to have innovative products and solution for market challenges. They further stated that, new technology is viewed in the form of research and development unit, an application orientated development unit, a combination of

both or a cooperation extending beyond the confines of a single company's Research and development.

According to Klevorick, Levin, Nelson, and winter (1995 as cited in Rake, 2012), they stated that: Technology-push hypothesis, claiming that scientific and technological progress are the primary drivers of the rate and direction of innovative activities. The generation of new scientific and technological knowledge leads to a steady renewal of the pool of technological opportunities, i.e., an industry's set of possibilities for innovative activities. In addition Jafee in his study states, "Technological opportunities reflect the state of knowledge at a particular point in time, which determines the cost and difficulty of successful innovative activities". (as cited in Rake, 2012). In the works of Dosi (1988 as cited in Rake, 2012) that, "Technological opportunities are bound to technological paradigms determining the scope of potential innovations and the effort necessary to achieve these along specific trajectories. New paradigms generate new opportunities for previously infeasible product development and productivity increases. It is, however, the expected economic returns that lead to dedicating resources to the exploitation of the existing opportunities".

### **2.2.3 Resource Base Theory**

According to works by Kostopoulos, Spanos, & Prastacos (2006) resource base theory is seen as organizational asset that are held semi-permanently. Barney in his study states that this resource, " includes financial, physical, human, commercial, technological, and organizational assets used by firms to develop, manufacture, and deliver products and services to its customers "( as cited in Kostopoulos, Spanos, & Prastacos 2006). According to Kostopoulos, Spanos, & Prastacos (2006) the resource are classified as tangible (financial or physical) or intangible (i.e., employee's knowledge, experiences and skills, firm's reputation, brand name, organizational procedures). According to Barney (1991), "firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness", . the ability for an organization to have different resource and capabilities contributes positive output of innovation process.

In Penrose works of (1959 as cited in Kostopoulos, Spanos, & Prastacos 2006) stated that, " it is the heterogeneity, not the homogeneity, of the productive services available from its resources that give each firm its unique character. The notion of firm's resources heterogeneity is the basis of the RBV". In the works of Wernerfelt (1984) "The significance of the resource perspective as a new direction in the field of strategic management was broadly recognized with the path-breaking article by .in addition Wernefelt stated that" evaluating firms in terms of their resources could lead to insights that differ from traditional perspectives". Similarly Lynch, (2007) stated that, an organization that has equipped itself with enormous skilled resource, either operating in service or manufacturing industry, will invest in organization innovation. In the works of Tornatzky and Fleischer (1990 as cited in Lin, 2006) stated that: internal linkages and communication among the employees, the quality of human resources, top management leadership behavior and the amount of internal slack resources would significantly influence the adoption of innovation. A firm with higher quality of human resources such as better education or training will have higher ability in innovation.

### **2.3 Empirical Study**

The study of determinants of innovation in organization has been done by various authors, studies conducted by Dotun, (2015) found that investment in the R&D, government support, and access to foreign inputs are crucial determinants of innovation activities of the Nigerian SMEs. Other studies conducted showed that there are three level of determinant of innovation in organization; Individual level are determine with such factors as motivation, cognitive behavior, skills and knowledge, and job characteristic. Organizational level determined with such factors as leadership, Organizational Formation of climate for innovation, Strategy, Size, Resource, Culture, and Environment. Team level determinant are influenced by Task feature, Team background and structure, Team process and Relationship between teams (Rui, 2011)

Ahmed (2011) in his study found that size of firm is an important factor in determination of innovation, where large and medium firm a have capability to innovate than small. In a study of handicraft industry of Fiji and Tonga by Naidu, Chand,& Southgate (2014) eight determinants were identified as; value adding, design uniqueness, new product development, cultural



uniqueness, using advanced technology, experience of owner, ability of owner to adapt to trends in market and quality of raw materials have significant impact on level of innovation .

In their study Damanpour (1991 as cited in Berglund, 2004) identified the following as determinants of innovation, "specialization, functional differentiation, professionalism, and formalization, and centralization, managerial attitude toward change, managerial tenure, technical knowledge resources, administrative intensity, slack resources, external communication, internal communication, and vertical integration". Ulusoy, Áznday, and Alpkan, (2015) in their study of determinants of innovativeness model for manufacturing firms' in Marmara region in Turkey. Their study found that the general characteristic of firm size, age, firm ownership status and foreign capital are determinants of innovation, where firm size affects innovation where medium and large firms are more innovative than smaller firms.

On the other hand characteristic such as firm age, firm ownership status, and existence of foreign capital in a firm did not yield significant effects on innovativeness. Large firm industry is likely to be involved in research and development than small firms and medium manufacturing industry due to them having high finance resource availability. The ability of organization to have Intellectual capital showed that intelligence, talent, creativity, specialization and productivity of the human resources available, make firms to be more innovative. Where human resource determine innovation through good ideas, share of knowledge, communicate, detect and solve problem, and experience make them to be more innovative, than organization that lack human intellectual property, having organization with well-set hierarchy structure where for innovation to succeed they need top management support to act as determinants of innovation success against all barriers. Business strategy where innovation is part of the organization strategic direction makes strategy as determinants of innovation. In conclusion top management support was considered major determinants of innovation, the study recommended further study into different region and culture like in Kenya no study is available on manufacturing industry and any other industry.

Lin, (2006) carried out study on determinants of organization innovation of 114 logistics companies in Taiwan. The data analysis method used was factor analysis. The study divided the factors that determine organization innovation into three individual, organizational and environmental factors as determinant of innovation, and all showed positive relation as determinants of innovation. Logistic companies enhanced information technology innovation through training and educating that improves employee's attitude towards job assignment, having high quality human resource; allocate resources and government support respectively as factor for innovation success. He recommended further research to other factors such as technological context in determining innovation, in organization innovation in global supply chain.

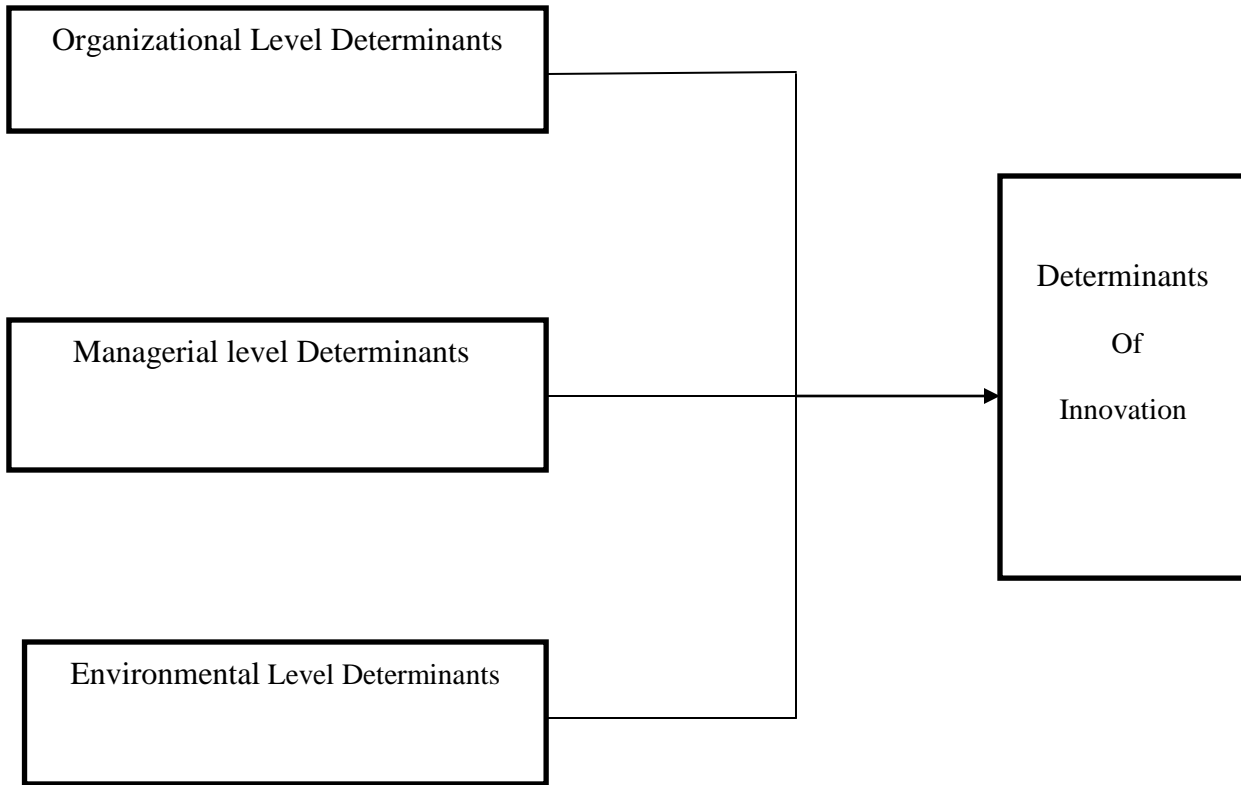
Magdalene, (2015) did innovation process and its determinants. The research aim was to look at factors that influence innovation generation process in organization, top managers and environment context. The study showed that human resource factor contribute to innovation by having qualified employees, specialization affect innovation process through ideas generation, depth and diversity of knowledge base stimulate creativity hence generation of innovation, organization with rigid rules and job description make development and commercialization of innovation hard for employees, but when innovation as part of their strategic plan, make organization members be original in solution or make invention as their priority, top managers in organization play bigger role in innovation determinant through creating a condition of the innovation generation process and focus on the possible factors that would enable them to successfully new possibilities, create new ideas and commercialize those in order to improve the organization's effectiveness and competitiveness. Financial resources is not major factor in innovation only applies during development and commercialization stage, where post invention stage where ideas have been generated already. Dynamism in environment uncertainty, technology turbulence and competitive intensity factors make organization to be innovative. Where the organization tend to be innovative to meet needs of the market and new niches, experiment with new technology solution, contrary hostility and complexity only affect innovation generation process.

Lilly and Juma (2014) conducted a study on Kenya commercial banks, where their research covered on how strategic innovation influenced performance. The study concluded product innovation, cost management innovation, continuous quality improvement innovation and entry to new markets innovation have positive impact on performance of bank. Mutuku, (2014) in his study of relationship between financial innovation and efficiency of SACCOs in Kenya. The study concluded that credit risk and capital employed greatly influenced efficiency of SACCOs in Kenya while management quality and size influenced efficiency negligibly. Also it strongly recommends the adoption of innovation strategies by the various SACCOs operating in Kenya so as to enhance efficiency in operations, boost profitability and attract more public attention.

## **2.4 Conceptual Framework**

Muegenda and Mugenda (2003 as cited by Karanja,2013) defined," conceptual framework is a hypothesized model identifying the model under study and the relationship between the dependent and independent variables". For the purpose of this research, a conceptual framework has been developed showing the relationship between the independent and dependent variables.

The dependent variable is Determinant of innovation independent variables include; Organizational level, Managerial level and Environmental level determinants.



**Figure 1.1-Conceptual Framework**

## **2.5 Summary of the Literature Review**

This chapter has reviewed literature on three theories on innovation that cover determinants of innovation. The Institutional theory which states that organization innovation is influenced by the institutional environment it operates, if the industry leaders drive innovation small organization will copy the industry norms and follow suite to practice innovation. Technology push theory states that innovation in organization can be determine by technology influence factor, where technological changes makes organization to use the technology to be innovative by developing new product and process. Resource base theory that states for firms to be innovative such factors financial, human, physical ,commercial, technology and assets or organization to be factors in determining innovation, where intangible asset such as intellectual property where knowledge human resource, experience.

The empirical literature showed that most of the studies done on determinants of innovation in organization were done in countries outside Kenya, where study focused on manufacturing

industry, logistics service and organization innovation process. Locally empirical study done on innovation influence on performance of commercial banks, in the Sacco industry innovation enhances efficiency and increase profitability. The literature on determinants of organization innovation showed such factors as top management, environment, technology, human and finance resource, organization size, age, capital, specialization, and intellectual property as factors that determine innovation.

There is limited research that has been carried out on SACCO's sector in Kenya on innovation, where most of the research done focused on innovation strategy that enhance performance and internationally studies on determinants of innovation have been done. None of the studies show locally that determinant of innovation has been on SACCOs and especially Mombasa County SACCOs. Based on the above evaluation, there is a gap in empirical literature review that motivates the researcher to conduct the research on establishing the determinants of organization innovation among the SACCOs in Mombasa County.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter presents the research design and methodology that will be used to conduct the study. It presents the research design, the study population, data collection and data analysis

### **3.2 Research Design**

A descriptive survey study was used to conduct the research. According to Mwiriki a descriptive survey it portrays the data collected and analyzed based on the present trends, present events and different factor relationship in present time. The research design was appropriate because it will enabled to compare all SACCO that operate FOSA activity within Mombasa county, based on the Determinants factors of innovation Strategy used by the SACCOs. A descriptive was also suitable because of its ability to analyze and compare relation of the variable.

Descriptive research was useful the study since the research intended to look at the problem at hand and thoroughly define it, clarify it, and obtain pertinent information that will be of use to policy makers in SACCOs. Kothari stated that descriptive research: will have the ability to accommodate census, ability to distinguish small differences between diverse samples groups; ease of administering and recording questions and answers; increased capabilities of using advanced statistical analysis; and abilities of tapping into latent factors and relationships. (2004 as cited in Wandera, 2011).

### **3.3 Population of study**

Target population refers to the total number of subjects or the total environment of interest to the researcher (Oso and Onen, 2009). Ngechu in his study defined a population," is well defined or set of people, services, elements, events, and groups of things or household that is being investigated. (as cited in Wandera, 2011). The study of the population comprised of all seven licensed SACCOs, which operate FOSA activities in Mombasa County as per the Ministry of industrialization and co-operative development office. The population of interest is the grouping of all items in the study or ability to generalize character of the group in area of study. The population of interest was SACCOs in Mombasa County.

### **3.4 Data Collection**

Data was collected by use of questionnaires that was administered by dropping and picking later method. Questionnaire method was preferred because of its convenience and ease of administration. The questionnaire as was in two sections. Section A contained general information on the respondents and SACCOs while section B focused on determinants of organization innovation and it was measured by 5 likert scale of “Totally agree’ and ‘Totally disagree’.

The questionnaire was self-administered to chief executive officers and senior managers of respective companies who were considered as key in innovators developers. The study had targeted 24 respondents, whom comprised of the Chief Executive officers, Branch Managers, Fosa Managers, I.T managers, Operational Managers and Finance/Chief accountant of SACCOs. This was because of their level of involvement in the innovation and the business development process and therefore they were adequately informed on the topic under study. Since the population is relatively small, the researcher used census method targeting all the SACCOs that operated FOSA in Mombasa County.

### **3.5 Data Analysis Techniques**

The study results was analysed by descriptive statistical tools. Demographic data was analysed by use of descriptive statistics where results presented used frequency distribution, percentages, mean and standard deviation. The data was presented in form of frequency tables, charts and bar graphs.

A data reduction technique (factor analysis) was used to reduce the various dominant determinant factors of organization innovation for easier and faster interpretation, where Statistical Package for Social Scientist (SPSS) version 20 was used. The determinants that influenced the study were organizational, managerial and environment. Bartholomew, Knott, & Moustaki, stated that," Factor analysis operates on the notion that measurable and observable variables can be reduced to fewer latent variables that share a common variance and are unobservable, which is known as reducing dimensionality” ( as cited in Young & Pearce, 2013).

## CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

### 4.1 Introduction

Data presentation analysis and findings will be covered in this chapter, also demographic information search as the back ground information of the respondents in terms of work experience, position and education level. The study looks at the people concerned with innovation activities in organization. The chapter will looked at various determinants factor variable in organization innovation. Finally the chapter will conclude with discussion of the findings and summary of the research results.

### 4.2 Response rate

The study focused on 24 respondents as they were found to be appropriate for the study. The respondents comprised of Managing Director, General Manager, Operations Manager, Finance Manager, Fosa Managers Human resource manager and Customer Service Manager at the head office of each of the four supermarkets. They were 18 questionnaires collected back, which represented 75% rating of the data collected. In studies conducted by Mugenda and Mugenda (2003) he recommended ratings of 50% acceptable and 60% above as very acceptable.

### 4.3 Back Ground information of respondents

#### 4.3.1 Gender of respondents

Table 4.1-Gender of Respondents

Gender	Frequency	Percentage
Male	12	67%
Female	6	33%
Total	18	100%

Source: primary data

As per above table 67 % and 33% respondents were male and females respectively. Mombasa county SACCOs industry offering FOSA activities is mainly male dominated in the managerial position.



### 4.3.2 Position in the Organization

The research asked the respondents to give information on their position they hold in the organization. The findings shows that the respondents worked at different position in the SACCOs such as Chief Exceutive officers, Finance Managers, public relationship managers, Chief Accountant, Internal Auditors Managers, Manager operations & strategy, General Manager Operation, and Seniors Accounts. The results indicates that the respondents were familiar with determinants of innovation strategy in the organization by virtue of their position they hold to manage the affairs of the SACCOs.

### 4.3.3 Years of service

**Table 4.2-Years of Service**

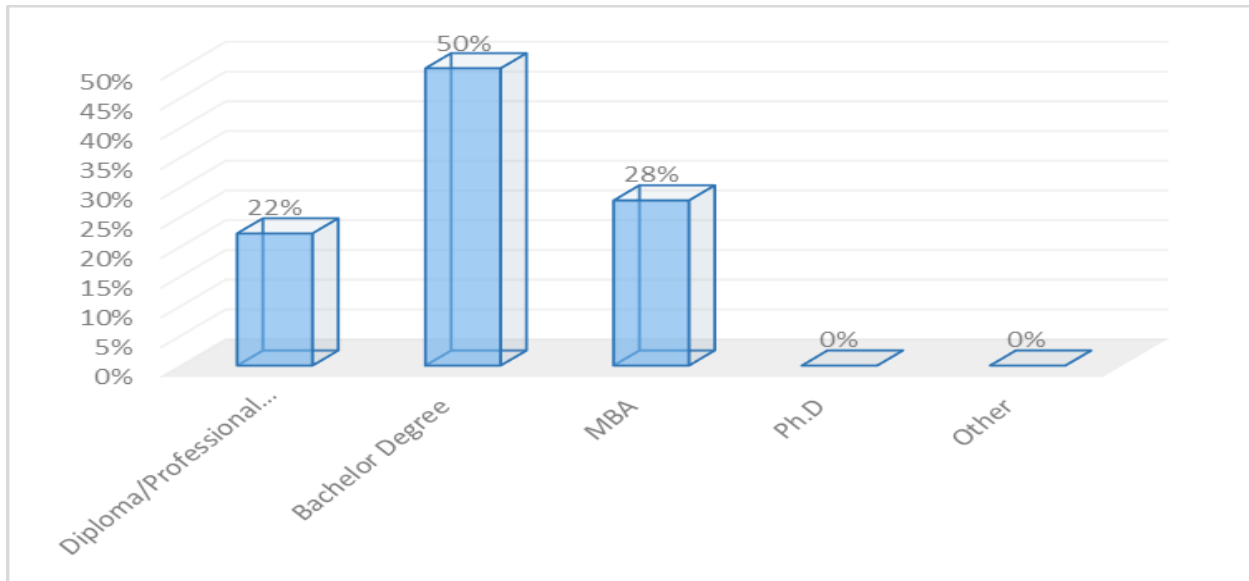
<b>Years</b>	<b>Frequency</b>	<b>Percentange</b>
<b>0-4 yrs.</b>	13	72%
<b>5-10 yrs.</b>	3	17%
<b>11yrs&gt;...</b>	2	11%
<b>Total</b>	18	100%

**Source: Research data 2016**

Results in Table 4.2 shows that 72% of the respondents indicated they had worked in the company for less than four years this is because most of the Managers were new in the organization, between 5-10 years old of service were 17%, 11% indicated they had worked for 11 years and above. The results indicate that though majority of the respondents had few years of service in the company but they were part of the organization ability to recruit new recruits to drive innovation in the organization. The respondents who had 11 years and above are employees who had grown with the company from junior manager to chief executive position in the company. This enhances the credibility of the responses as they theoretically have an understanding of the organization's strategy.

### 4.3.4 Education levels

**Figure 4. 1-Education Level**



**Source: Research data2016**

Results in Figure 4.1 shows that 22% of the respondents indicated their academic level was Diploma and professional course search as C.P.A.K, 50% of the respondents hold bachelor’s degree, 28% of the respondents were had an MBA, while there was 0% for both Ph.D. and other level of education. 78% of the respondents had Bachelor’s degree and above were more qualified to answer the questionnaires due to their understandability of the knowledge of innovation and they were mainly from bigger SACCOs in Mombasa County. The 22% were mainly respondents from small SACCOs though they operated FOSA activities the company’s had less financial muscle to higher more educated employees.

### 4.3.5 Innovation activities in the organization

**Table 4. 3-Innovation activities in the organization**

Category	Frequency	Percentage
CEO	0	0%
Top Managers	9	50%
All Employees	6	33%
Development Partners	0	0%
others	3	17%
Total	18	100%

**Source: Research data 2016**

The respondents were asked to indicate who is mainly concerned with innovation activities in the organization. 50% of the respondents stated that top managers are mainly drivers of innovation activities, 33% indicated that all employees of the company are involved in the innovation activities, 17% stated others such as the C.E.O, Top managers, all employees and directors combine are involved in driving innovation activities in the organization. From the respondents it shows that 50% representing the majority indicate innovations in the organization are mainly driven by top managers, this indicates that determinants of innovation are mainly works of top managers in the organization.

**4.4 Determinants factors relating to managerial level of innovation**

The results from the respondents based on the descriptive statistic as below shows that managers drive for innovation in the organization had the highest mean of 4.24, support from management and ideas generation for innovation are encouraged by management had same mean of 4.06, management being receptive for new ideas got mean of 3.88, leaders of organization being risk takers got mean of 3.76, board support for innovation and availability of several option for financial support to actualize innovation were ranked the same with mean of 3.65, the term risk taker and top leader being risk takers had mean of 3.59 & 3.47 respectively, senior managers encourage of innovators to bend rules and rigid procedure was ranked last with mean of 2.76

**Table 4. 4-Descriptive Statists**

	Mean	Std. Deviation	Analysis N
Is there Support from/of higher management in the organization with respect to the implementation of the innovation	4.06	.827	17
Is The development of new and innovative ideas are encouraged by Management	4.06	.827	17
Is Upper management aware and very receptive to ideas and suggestions of innovation	3.88	.857	17
Do Senior managers encourage innovators to bend rules and rigid Procedures in order to keep promising ideas on track	2.76	1.200	17
Are Top leaders risk takers and often recognized for their willingness to Champion new projects, whether eventually successful or not	3.47	1.179	17
There are several options within the organization for individuals to get financial support to actualize their innovative projects	3.65	1.057	17
Do Leaders of the organization as individual risk takers are often recognized for their willingness to champion new projects, whether eventually successful or not	3.76	.664	17
Is the term risk taker considered a positive attribute for people in work area to be innovative	3.59	1.228	17
Board support innovation activity by enhancing policies and incentive for innovation ideas generated	3.65	1.115	17
Managers drive innovation in the organization	4.24	.664	17

**Source: Research data 2016**

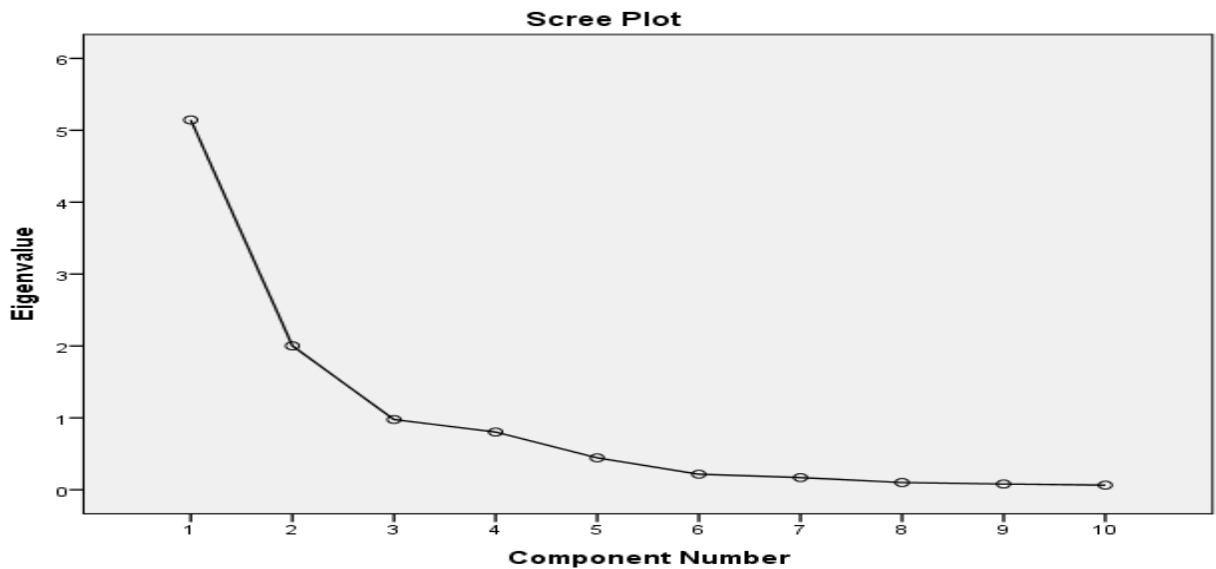
The results of factor analysis for 10 variables in relation managerial level of innovation as per below, table of the total variance analysis result and the scree plot, the data extracted to two factors, this is based on the factors with eigenvalues of greater than one. Where eigenvalue for component 1, & 2 are 5.144 & 2.002 respectively, the two factors consist of 71.454% of the total Variance, where component one, and two 50.802% & 20.653% of the variance respectively

**Table 4. 5-Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.144	51.437	51.437	5.144	51.437	51.437	5.080	50.802	50.802
2	2.002	20.018	71.454	2.002	20.018	71.454	2.065	20.653	71.454
3	.977	9.769	81.223						
4	.803	8.030	89.253						
5	.444	4.439	93.693						
6	.216	2.161	95.854						
7	.170	1.698	97.552						
8	.101	1.006	98.558						
9	.080	.798	99.356						
10	.064	.644	100.000						

Source: Research data 2016-Extraction Method: Principal Component Analysis.

**Figure 4. 2-Factor Analysis – (Managerial factors of Innovation)**



**Source: Research data 2016**

The result of the Factor analysis by principal component shows that the Bartlett test of Sphericity was 113.544 at Significance level 0.000 and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.742 (Table 4.6). in research findings Kaiser (1974) recommends one to accept values of 0.5 as acceptable, values between 0.7-0.8 are good, values 0.8-0.9 are great, values above 0.9 are superb. As per the result KMO is 0.742 is seen acceptable

**Table 4.6-KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.742
Bartlett's Test of Sphericity	Approx. Chi-Square	113.544
	df	45
	Sig.	.000

**Source: Research data 2016**

#### **4.5 Determinants of factors relating to organizational level of innovation**

Factors analysis was conducted on 11 variables which are factor that relate to organization level of innovation. The respondents were requested to rate which factors considered more important than the others using 5 point likert scale of 1-totally disagree,2-disagree, 3neither agree nor disagree,4-agree,5-totally agree. The results of the output were analysis by descriptive statistics and factors analysis as below.

**Table 4.7-Descriptive Statistics**

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	Analysis N
Ability to have employees with work experience recruited from big corporate encourage innovation	3.88	1.147	16
Having high Level of Educated employees influence innovation in terms of degrees	3.75	.931	16

Employees specialization on their jobs having professional at the company encourage innovation	4.13	.719	16
Investment in research development in terms of marketing research influence innovation	4.31	.793	16
Employees skills and training influence innovation	4.63	.500	16
Financial Resource enhance the ability for the organization to innovate	4.31	.602	16
Decision-making process and procedures in the organization: top-down or bottom-up/participatory encourage innovation	4.44	.629	16
Hierarchical structure: extent to which decision-making process is formalized through hierarchical procedures enhance innovation	4.06	.772	16
Do you feel that the generation of new innovations is a major focus of your firm as part of your strategy	3.88	1.088	16
Technology has provided innovation capability for the organization	4.25	1.000	16
Acquisition of machinery and equipment that facilitate innovation such as integrated software latest computer hardware	4.50	.516	16

**Source: Research data 2016**

The descriptive data above shows that majority of the respondent choose employees skills and training influence innovation in the organization. This is represented by a mean of 4.63. acquisition of machinery and equipment such as integrated software has ranked second with mean of 4.50, decision making from top down has been ranked third with mean of 4.44 investment in financial resource and research and development is fourth with mean of 4.31, similarly technology, employees specialization, hierarchical structure all have mean of 4.25, 4.13 & 4.06 respectively. Ability to recruit employees from big firms & innovation as major strategy were ranked the same with mean of 3.88, lastly employees level education was ranked the least with mean of 3.75.

**Table 4. 8-Total Variance Explained**

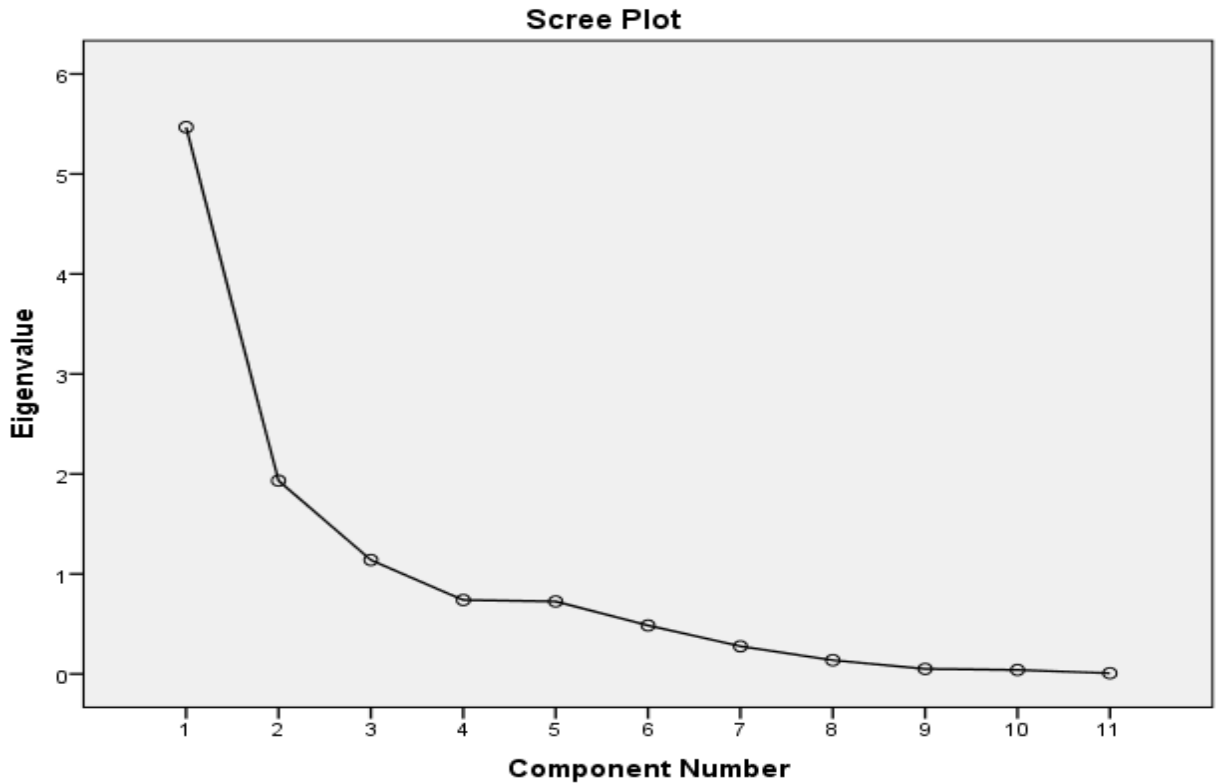
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.468	49.706	49.706	5.468	49.706	49.706	4.396	39.963	39.963
2	1.933	17.572	67.278	1.933	17.572	67.278	2.297	20.879	60.842
3	1.140	10.359	77.638	1.140	10.359	77.638	1.848	16.796	77.638
4	.739	6.716	84.354						
5	.725	6.590	90.944						
6	.485	4.410	95.354						
7	.276	2.511	97.865						
8	.138	1.252	99.117						
9	.050	.458	99.575						
10	.040	.363	99.938						
11	.007	.062	100.000						

Extraction Method: Principal Component Analysis.

**Source: Research data 2016**



**Figure 4. 3-Factor Analysis – (Organizational factors of Innovation)**



**Source: Research Data 2016**

Based on the total variance analysis result from the Table and the scree plot above, the data extracted three factors, this is based on the factors with eigenvalues of greater than one. Where eigenvalue for component 1, 2 & 3 are 5.46, 1.933 & 1.140 respectively, the three factors consist of 77.638% of the total Variance, where component one, two and three represents 39.963, 20.879, & 16.796% of the variance respectively.

The result of the Factor analysis by principal component shows that the Bartlett test of Sphericity was 139.956 at Significance level 0.000 and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.440 this is close to 0.5 which can be acceptable (Table 4.9). The Kaiser (1974) recommended values of 0.5 as acceptable, value between 0.7-0.8 are good, values 0.8-0.9 are great, values above 0.9 are superb. As per the result KMO is 0.440 is seen acceptable.

**Table 4. 9-: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.440
Bartlett's Test of Sphericity	Approx. Chi-Square	139.956
	df	55
	Sig.	.000

**Source: Research Data 2016**

#### **4.6 Determinants of factors relating to Environmental level of innovation**

A factorial analysis of 7 variables relating to the determinants of innovation at environmental level of innovation of organization was used in the study. The factors were subject to Descriptive statics and the results were as below

**Table 4. 10-Descriptive Statistics**

	Mean	Std. Deviation	Analysis N
Change in Customer Requirement lead to innovation	4.22	.732	18
Customer ideas contribution to innovation	4.17	.857	18
Government Support policy for innovation	3.67	1.237	18
Competition influence Innovation in the industry	4.50	.618	18
Stakeholders such as regulatory bodies, banks, supplier and members influence innovation	4.50	.514	18
Industry operating environment influence innovation	4.50	.618	18
Advance in technological environment in the industry influence innovation	4.72	.461	18

**Source: Research data 2016**

Table 4.11 Total Variance Explained results on Determinants factors relating to environmental level of innovation. The results shows that among the factors that relate to environmental determinants of innovation, advance in technology environment in the industry scored the highest mean of 4.72, followed by stakeholders such regulatory bodies; banks, suppliers and members, industry operating environment, and competition in the industry had the same mean of 4.5, change in customer requirement and customer ideas all scored 4.22 and 4.17 respectively. Government support for policy scored the lowest with mean of 3.67. Further principal component factor analysis was conducted and results are shown as below

Based on the total variance analysis result from the Table and the scree plot below, the data extracted two factors, this is based on the factors with eigenvalues of greater than one. Where eigenvalue for component 1 &2 are 3.913 & 1.271 respectively, the two factors consist of 74.056% of the total Variance, where component one and two represents 47.541% & 26.514% of the variance respectively.

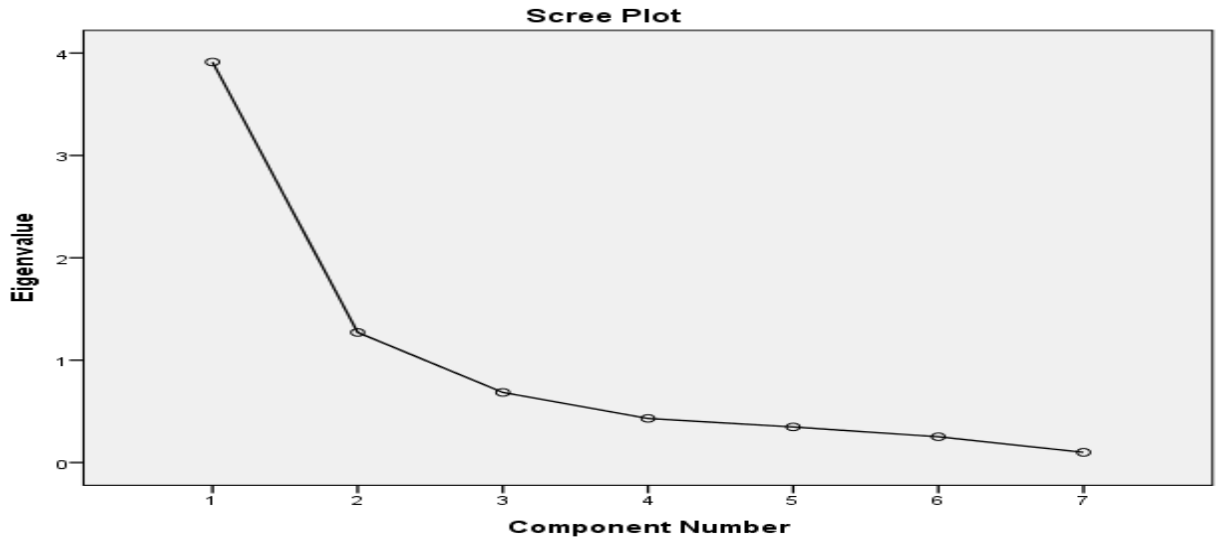
**Table 4. 11-Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.913	55.896	55.896	3.913	55.896	55.896	3.328	47.541	47.541
2	1.271	18.160	74.056	1.271	18.160	74.056	1.856	26.514	74.056
3	.685	9.788	83.843						
4	.431	6.157	90.000						
5	.348	4.968	94.968						
6	.252	3.603	98.571						
7	.100	1.429	100.000						

Extraction Method: Principal Component Analysis.

Source: Research data 2016

**Figure 4. 4-Factor Analysis-(Environmental Factors of innovation)**



**Source: Research data 2016**

The result of the Factor analysis by principal component shows that the Bartlett test of Sphericity was 60.199 at Significance level 0.000 and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.722 as below (Table 4.12). The Kaiser (1974) recommends values of 0.5 as acceptable, value between 0.7-0.8 are good, values 0.8-0.9 are great, values above 0.9 are superb. As per the result KMO is 0.722 which is rated as good, so it justifies carrying the analysis.

**Table 4.12-KMO and Bartlett’s Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.722
Bartlett's Test of Sphericity	Approx. Chi-Square	60.199
	df	21
	Sig.	.000

**Source: Research data 2016**

## 4.7 Discussions

Out of a target population of 24 respondents from the organization, 18 questionnaires were received and analyzed, indicating a response rate of 75%. This study analyzed 3 determinants of

innovation which are managerial, organization and environmental level of innovation. The determinants had 28 variable factors 10 for managerial, 11 for organization and 7 for environmental level of innovation.

The result reveal that at managerial level of determinants two factor were picked factor one is mainly concern with the Top leader at the organization that is the Chief Executive and Board of the Sacco industry as the main factor in contribution of innovation success in the organization where the Board provide policies and incentive for innovation ideas is rated higher, and the Chief Executive officer being receptive for ideas and innovation, offer support for innovation, drive innovation, encourage development of new ideas, and bring risk taker. Second factor relate to management project where there is support in terms of financial aspect which encourage innovation, willingness to risk in starting new project by management for innovation purpose, and willingness of management to bend rules to ensure success of new project.

Organizational level of determinants factor analysis output results grouped the variable into three factors: factor one is related to organization structure and its resource where the organization structure in terms of investment in marketing research and innovation as part of organization strategy has enable organizational level of innovation. In terms of resource where the organization acquires new machinery, use of new technology and equipment such integrated software has enhanced innovation, be able to have financial resource to develop innovation, having good human resource as such as skillful, trained and job specialized such professional employees has enhanced the organization to be innovative. Factor two is based on the organization process where decision making process top down and hierarchal procedure has encouraged innovation. Factor three is organization recruitment where the organization hires new employees from big firms experience has enhanced innovation in the organization.

The factor analysis grouped the seven variable of environmental determinant into two major factors these are: factor one as industry and stakeholders where competition within the industry influence innovation, stakeholders such as regulatory, banks, supplies and members influence innovation, the ability of the government to have policy that encourage innovation. Factor two is

based on customers, where change in customer requirement/preference is regarded as major factor in environmental determinants of innovation.

#### **4.8 Summary**

The study results were analyzed by use of descriptive and factor analysis. The results were tabulated in descriptive output and factor analysis output through the use of Total Variance Table, Scree plots and KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) and Bartlett's test. Results from background information show that out of 24 targeted respondents, only 18 questionnaires were collected, which represented 75% response rate. The 18 respondents constituted of 12 males and 6 females. Majority of the respondents had worked at the SACCO for period of less than four which formed 77% rate. Education level results show that majority of the respondents have attained bachelor degree which formed 50% rate. Innovation activities in the SACCOs are mainly steered by the top managers, this shown from the results where it represented 50% of the responds. Similarly the study used factor analysis and descriptive statistics to analyze the 28 factors of innovation strategy that were categorize into factors 10 for managerial, 11 for organization and 7 for environmental level of innovation.

Top leaders and management project were identified as main determinant at managerial level. Top leader influence for innovation was considered the major determinant, where board of directors provided policies and incentive for innovation ideas and the Chief Executive officer was receptive for ideas and innovation, offered support for innovation, driver of innovation, encouraged development of new ideas, and was risk taker. Organization structure and resource, organization process and organization recruitment were identified as the key determinants factors at organizational level of innovation. At the organizational level determinants, organization structure and resource was identified the most important factors to influence innovation. Similarly at the environmental level determinants of innovation two determinants were identified; Industry and stakeholder, and customer factor. Where industry competition influence innovation, where big SACCOs innovation activity creates an environment for the smaller SACCOS to copy an apply the same innovative ideas in order to remain relevant in the market, in addition customer preference to demand better service and efficiency influence innovation

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter presents the summary of the data findings, conclusions drawn and the recommendations made thereto. The conclusions arrived at and recommendations made thereto were drawn after addressing the research objective which was determinant of innovation strategies among saving and credit co-operative societies in Mombasa County.

### **5.2 Summary**

The results show that determinant of innovation strategy in organization are mainly encourage by top manager this is shown by 50% of the respondent who were asked to state who are mainly responsible for innovation activity in the organization. The descriptive statics results on determinants of innovation show that for managerial determinants level of innovation factors managers are the drivers of innovation with a mean of 4.24 which the highest, organizational level of determinants factors show that acquisition of machinery and equipment such integrated software scored the highest mean of 4.5, and advance in technology in the industry environment scored mean of 4.72 as the highest in the factors of environmental level of innovation determinant.

Factor analysis results reveal that the ten variable factors relating to managerial level of innovation determinants were reduced into two factors, where factor one was top leader factor where the Chief executive and the board of directors are major factor, factor two was management in investment in projects where the managers involvement in projects have contributed innovation in the organization. The organizational level of innovation determinant had eleven variable that were grouped into three factors : factor one organization structure and resources , factor two organization process and factor three organization recruitment of new employees. The environmental level innovation determinants had seven variables that were

reduce into two major factors industry level factors and customer as first and second factor respectively.

### **5.3 Conclusion**

This study focused on determinants of innovation strategy among Sacco industry in Mombasa County. Where there are Seven SACCOs registered that operate FOSA activities under Ministry of co-operative Mombasa County. Factor analysis was used to analyze the results, where the results on Managerial level determinants of innovation showed that determine of innovation at managerial level that top leader factor commitment to innovation highly contributes to innovation at the organization, where the Board support for innovation activities by enhancing policies and incentive and The Chief executive Office -Manager Drive innovation as the primary determinant factors at managerial level.

Secondly the organization level of determinants results show that the structure and availability of resource as major factor in organization innovation, where the ability of the organization to have invest in market research and adopting innovation as part of organization strategy will enhance innovation in the organization, in addition the organization resources such skilled, trained, and professional human resource, acquisition of new machinery and technology such as integrated software and to have financial resource enhanced innovation the organization. The environmental determinants of innovation results showed the industry operating environment enhances innovation where completion within the SACCO industry has contributed a lot for innovation to be adopted by other SACCOs through copy the large firms innovation activities in order to remain relevant in the industry, also customer requirement has seen most SACCOs adopt innovation in order to satisfy their customer preference.

### **5.4 Recommendations and Areas for Further Research**

The study found out that for innovation strategy to succeed in the organization, there is need for top manager involvement. The study recommends the need to look into individual level of innovation like Managerial determinants of innovation in organization like top leader character, age and size, intellectual factor, and human capital factor. Also the research recommends the target population size to be increased to get more accurate results, and the Study to focus on both



FOSA and BOSA operating SACCOs in the industry. Further research should be conducted to analyze determinants of innovation strategy in the SACCO industry at National level, Coastal region and other counties. Which have were not properly covered. In addition further study of determinants of innovation strategy to be conducted in other industry such manufacturing, Banking and telecommunication.

## **5.5 Limitations of the Study**

The study was limited in terms of the scope which was small hence the results are not general representation of the industry because it focused on FOSA operating SACCOs on only in Mombasa County. There need for comprehensive study of larger scale including National SACCO in Mombasa County, Kenya as whole and other counties so that the results can be strongly portray better results of the industry. Time limit Factor where the choice of the scope of the study was chosen, hence need for better Time to cover survey of large geographical position to get better results. The data was collected by questionnaire which might have biases of the respondent reflected in the results. There is therefore a possibility that if respondents were different, the results might be different.

## REFERENCE

- About us CAK n.d- Retrieved from <http://www.cak.coop/about-us.html-example>
- Ahmed, H., & Mahmud, M. (2011) What Determines Innovation in the Manufacturing Sector? Evidence from Pakistan. *The Pakistan Development Review*, 50(4-II), pp-365.
- Barney, J. (1991). —Firm Resources and Sustained Competitive Advantage, *Journal of Management* 17(1): 99 – 120.
- Berglund, H. (2004). Interesting Theories of Innovation: the Practical use of the Particular. Department of Innovation, Engineering and Management.
- Bob Van Dijk, René Den Hertog, Bert Menkveld, Roy Thurik *Small Business Economics* 9: 335–343, 1997 Kluwer Academic Publishers. Printed in the Netherlands.
- Crossan, M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, 47(6), 1154–1191. doi: 10.1111/j.1467-6486.2009.00880.x
- Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British Journal of Management*, 17, 215–236. doi: 10.1111/j.1467- 8551.2006.00498.x
- Dewar, R. D. and J. E. Dutton (1986), ‘The Adoption of Radical and Incremental Innovations: An Empirical Analysis’, *Management Science*, 32(11), pp.1422-33.
- Dotun, F. O. (2015). The key determinants of innovation in small and medium scale enterprises in southwestern nigeria. *European Scientific Journal*, 11(13).
- Fujo, K. G., & Ali, A. I. (2016). Factors Affecting Financial Performance of Savings and Credit Societies in Kilifi County-A Case Study of Imarika Sacco. *The International Journal of Business & Management*, 4(2), 448.
- Gamba., & Komoi. (2005). Evolution Growth and Decline of Cooperatives Sector, (Paper Prepared for the Centre for Governance & Development)

- Gatuguta, E.M, Kimotho P., and Kiptoo S. (2014) History and Organization of Cooperative Development and Marketing Sub Sector in Kenya .Retrieved from <http://www.industrialization.go.ke/index.php/downloads/123-history-and-organization-of-cooperative-development-and-marketing-sub-sector-in-kenya>
- Goldberg, I, Goddard, J,G, Kuriakose, S, Racine, J-L. (2011). Igniting Innovation : Rethinking the Role of Government in Emerging Europe and Central Asia. World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/2358> License: CC BY 3.0 IGO.” Gomes, G., Machado, D. D. P. N., & Alegre, J. (2015). Determinants of Innovation Culture: a Study of Textile Industry in Santa Catarina. *Brazilian Business Review*, 12(4), 99
- Government of Kenya, (2008). Annual Report 2009. Nairobi: Ministry of Co-operative Development and Marketing.
- Gronning, T. (2008). Institutions and innovation systems: The meanings and roles of the institution concept within systems of innovation approaches. In DRUID conference on Entrepreneurship and Innovation—Organizations, Institutions, Systems and Regions, Copenhagen, June (pp. 17-20)
- Güngör.D.O, & Gozlu.S, (2012),"Influencing factors of innovation for Turkish companies", *International Journal of Quality and Service Sciences*, Vol. 4 Iss 4 pp 374 - 386
- Herstatt, C., & Lettl, C. (2004). Management of" technology push" development projects. *International Journal of Technology Management*, 27(2-3), 155-175
- Hoeber, L., & Hoeber, O. (2012). Determinants of an innovation process: A case study of technological innovation in a community sport organization. *Journal of Sport Management*, 26(3), 213-223.
- Ismail, W. K. W., & Abdmajid, R. (2007). Framework of the culture of innovation: A revisit. *Jurnal Kemanusiaan*, 9.
- Jennifer Rowley, (2011),"Should your library have an innovation strategy?" *Library Management*, Vol. 32 Iss 4/5 pp. 251 – 265
- Karanja, G. (2013). Factors influencing the growth of agribusiness enterprises in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1(3), 340-350.
- Kodama, M. (2011). *Knowledge Integration Dynamics: Developing Strategic Innovation Capability*. World Scientific.
- Kostopoulos, K. C.,Spanos Y. E.& Prastacos, G. P.(2006). The Resource – Based View of the Firm and Innovation: Identification of Critical Linkages.

- Lavandoski, J., Vargas-Sánchez, A., Pinto, P., & Silva, J. A. (2016). Causes and effects of wine tourism development in organizational context: The case of Alentejo, Portugal. *Tourism and Hospitality Research*, 1467358416634159.
- Lilly, L. & Juma, D. (2014). Influence of Strategic Innovation on Performance of Commercial Banks in Kenya: The Case of Kenya Commercial Bank in Nairobi County. *European Journal of Business Management*, 2 (1), 336-341.
- Lin, C. Y. (2006). Determinants of organizational innovation for logistics service providers in Taiwan. *Journal of Statistics and Management Systems*, 9(3), 613-631.
- Lynch, L. M. (2007). The adoption and diffusion of organizational innovation: evidence for the US economy. IZA DP No. 2819.
- Magdalena, P. (2015). Innovation generation process and its determinants. *Contemporary Management Quarterly/współczesne zarządzanie*, 14(1).
- Mellat-P, M. (2015). An institutional theory of quality outcomes in strategic supply chain partnership. *International Journal of Quality & Reliability Management*, 32(4), 346-360.
- Mumanyi, E. A. L. (2014). Challenges and opportunities facing SACCOs in the current devolved system of government of Kenya: A case study of Mombasa County. *International Journal of Social Sciences and Entrepreneurship*, 1 (9), 288-314.
- Muteke, Simon M. (2015). The relationship between financial innovation and financial performance among savings and credit co-operative societies in Mombasa county Kenya. Unpublished MBA project, University of Nairobi.
- Naidu, S., Chand, A., & Southgate, P. (2014). Determinants of innovation in the handicraft industry of Fiji and Tonga: an empirical analysis from a tourism perspective. *Journal of Enterprising Communities: People and Places in the Global Economy*, 8(4), 318-330.
- Norman, D. A., & Verganti, R. (2014). Incremental and radical innovation: Design research vs. technology and meaning change. *Design Issues*, 30(1), 78-96.
- Odera E.A, (2015) *Factors influencing loyalty towards paint brands by contractors in Nairobi City County*. Unpublished MBA Project, University of Nairobi
- OECD (2005) *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, Third Edition. OECD, Paris.
- Oliveira, T., & Martins, M. F. (2010) Information technology adoption models at firm level: review of literature. In *European Conference on Information Management and Evaluation* (p. 312). Academic Conferences International Limited.
- Oso, W.Y & Onen, D. (2009). *Writing Research Proposal and Report*.

- O'Sullivan, D. (2008) *Applying Innovation*. : Sage Publishing, Thousand Oaks, California.
- Rake, B. (2012). Determinants of pharmaceutical innovation: the role of technological opportunities revisited. *Jena Economic Research Papers*. Jena, Germany: Friedrich-Schiller-University.
- Read, A. (2000). Determinants of successful organisational innovation: a review of current research. *Journal of management practice*, 3(1), 95-119.
- Republic of Kenya-ROK (2008), *The SACCO Societies Act 2008*, Nairobi ,Government printers.
- Rui, S. (2011). *Analysis About Determinants Of Organizational Innovation*.
- Selznick, P. (1949). *TVA and the grass roots; a study in the sociology of formal organization* Berkeley, CA : Univ. of California Press.
- Schumpeter, J., *The Theory of Economic Development*, Harvard Univ. Press, Boston (1934).
- Silva, M. J., & Leitão, J. (2007). What determines the entrepreneurial innovative capability of Portuguese industrial firms?
- Terziovski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. *Strategic Management Journal*, 31(8), 892-902.
- Ulusoy, G., Kilic, K, GÁznday, G., & Alpkan, L. (2015). A determinants of innovativeness model for manufacturing firms. *International Journal of Innovation and Regional Development*, 6(2), 125-158.
- Vinding, A.L (2006). Absorptive capacity and innovative performance: A human capital approach. *Economics of Innovation and New Technology*, 15(4-5), 507-517.
- Walobwa, N. D., Ngugi, J. K. & Chepkulei, B. (2013).Effect of the type of innovation on the growth of small and medium enterprises in Kenya: a case of garment enterprises in Jericho, Nairobi. *European Journal of Management Sciences and Economics*, 1(2), 49-57.
- Wandera, H.T (2011), —The Effects Of Short Term Employment Contract On An Organization: A Case Of Kenya Forest Servicell, *International Journal of Humanities and Social Science*, Vol. 1, No. 21, Special Issue –Dec 2011
- Wernefelt, B., (1984), ‘A resource-based view of the firm’, *Strategic Management Journal*, 5, 171-180

West, M. A., & Anderson, N. R. (1996). Innovation in top management teams. *Journal of Applied psychology*, 81(6), 680

Winand, M., Vos, S., Zintz, T., & Scheerder, J. (2013). Determinants of service innovation: A typology of sports federations. *International Journal of Sport Management and Marketing*, 13(1-2), 55-73.

Xu, K., Sirmon, D.G., & Gao, S. (2010). R&D Resources, R&D Management, and Innovation: Evidence of Mediation. American Academy of Management Conference, Montreal.

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79-94.

## APPENDICES

### Appendix 1: Questionnaire

#### Data on the respondent and the institution where he/she works

Part I: Demographic Information- (Tick your answer, according to the fill instructions).

- 1) Kindly indicate your gender? [ ] Male [ ] Female
- 2) Indicate the name of your Sacco where you work.....
- 3) What position do you hold in the SACCO?.....
- 4) For how long (years) have you served the institution? .....
- 5) What is your educational qualification?

Diploma/Professional Course (CPA.K) Education

Bachelor

MBA

Ph.D.

Other.....

- 6) Who is mainly involved in the innovation activities in the organization
  - a) CEO
  - b) Top Managers
  - c) All Employees
  - d) Development partners
  - e) Others (specify)
 Others (specify).....

**SECTION B: DETERMINANT OF ORGANIZATION INNOVATION**

Please indicate to what extent you agree with the statements given ticking as per the following scale:

- (1) Totally disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, (5) totally agree**

Determinants factors relating to Managerial level on innovation

	1	2	3	4	5
Is there Support from/of higher management in the organization with respect to the implementation of the innovation					
Is The development of new and innovative ideas are encouraged by Management					
Is Upper management aware and very receptive to ideas and suggestions of innovation					
Do Senior managers encourage innovators to bend rules and rigid Procedures in order to keep promising ideas on track					
Are Top leaders risk takers and often recognized for their willingness to Champion new projects, whether eventually successful or not					
There are several options within the organization for individuals to get financial support to actualize their innovative projects					
Do Leaders of the organization as individual risk takers are often recognized for their willingness to champion new projects, whether eventually successful or not					
Is the term risk taker considered a positive attribute for people in work area to be innovative					
Board support innovation activity by enhancing policies and incentive for innovation ideas generated					
Managers drive innovation in the organization					

Determinants factors relating to Organizational level on innovation

	1	2	3	4	5
Ability to have employees with work experience recruited from big corporate encourage innovation					
Having high Level of Educated employees influence innovation in terms of degrees					
Employees specialization on their jobs having professional at the company encourage innovation					
Investment in research development in terms of marketing research influence innovation					
Employees skills and training influence innovation					
Financial Resource enhance the ability for the organization to innovate					
Decision-making process and procedures in the organization: top-down or bottom-up/participatory encourage innovation					
Hierarchical structure: extent to which decision-making process is formalized through hierarchical procedures enhance innovation					
Do you feel that the generation of new innovations is a major focus of your firm as part of your strategy					
Technology has provided innovation capability for the organization					
Acquisition of machinery and equipment that facilitate innovation such as integrated software latest computer hardware					

#### Determinants factors relating to Environmental level on innovation

	1	2	3	4	5
Change in Customer Requirement lead to innovation					
Customer ideas contribution to innovation					
Government Support policy for innovation					
Competition influence Innovation in the industry					
Stakeholders such as regulatory bodies, banks, supplier and members influence innovation					
Industry operating environment influence innovation					
Advance in technological environment in the industry influence innovation					

#### **Appendix 2: List of SACCOs in Mombasa County**

1. Akamba Handicraft Co-operative Society
2. Washa Sacco



3. Mombasa Port Sacco
4. Jitegemee Housing Sacco
5. Bandari Sacco
6. Mafanikio Sacco
7. KMFRI Sacco

**Source:** *Ministry of Industrialisation & Co-operative Development (2016)*