

**SUPPLY CHAIN FINANCIAL ORCHESTRATION AND PERFORMANCE OF
LEADING SUPERMARKETS IN NAIROBI CITY COUNTY**

BY

WANJIRU DENNIS J KARANJA

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE (Msc)
IN SUPPLY CHAIN MANAGEMENT, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

2019

DECLARATION

STUDENT'S DECLARATION

I declare that this is my original study and it has not been presented in other learning institute apart from The University of Nairobi for the sole purpose of examination.

Signature: **Date**.....

WANJIRU DENNIS J KARANJA

D67/7295/2017

SUPERVISOR'S DECLARATION

This research project has been presented for examination with my approval as the University Supervisor.

Signature..... **Date**.....

DR. PETERSON MAGUTU

LECTURER,

DEPARTMENT OF MANAGEMENT SCIENCE,

UNIVERSITY OF NAIROBI.

DEDICATION

I wish to dedicate this research project to my Family, my wife Nancy Muthoni and daughter Arianne Wanjiru Karanja for their continued support, understanding and sacrifice during the entire time that I was undertaking this programme. My sincere gratitude goes to them.

ACKNOWLEDGEMENTS

I want to take this great chance to sincerely give thanks to all those people who have in one way or another played the utmost crucial role in conceptualizing and writing of this research project.

Special thanks goes to my supervisor and moderator for guiding me and their perseverance, counsel, and working tirelessly to make this work a reality.

To my unending colleagues at the University of Nairobi, Msc Supply Chain Management, I sincerely say thank you again for your support and prayers.

To my friends Kevin Mwangi Munyiri (KERRA), my Mentor John Sergon (former ICTA director), Anti Nyokabi (business lady) and Ithe wa Shiro, my sincere gratitude for making sure that I realize my dream.

Above all, I thank God.

ABBREVIATIONS AND ACRONYMS

| | |
|-------------|--------------------------------------|
| CRM | Customer Relationship Management |
| GSCF | Global Supply Chain Forum |
| IT | Information Technology |
| KNBS | Kenya National Bureau of Statistics |
| RDT | Resource Dependency Theory |
| SCF | Supply Chain Financing |
| SCFO | Supply Chain Financial Orchestration |
| SCI | Supply Chain Integration |
| SCM | Supply Chain Management |
| SCO | Supply Chain Orchestration |
| SCP | Supply Chain Performance |
| SMEs | Small and Medium Enterprises |
| SRM | Supplier Relationship Management |
| VMI | Vendor Managed Inventory |

TABLE OF CONTENTS

| | |
|---|-------------|
| DECLARATION | ii |
| DEDICATION | iii |
| ACKNOWLEDGEMENTS | iv |
| ABBREVIATIONS AND ACRONYMS | v |
| LIST OF TABLES | viii |
| LIST OF FIGURES | ix |
| ABSTRACT | x |
| CHAPTER ONE: INTRODUCTION | 1 |
| 1.1 Background of the Study | 1 |
| 1.1.1 Supply Chain Financial Orchestration | 2 |
| 1.1.2 Operational Performance | 4 |
| 1.1.3 Leading in Nairobi County | 4 |
| 1.2 Research Problem | 6 |
| 1.3 Objectives of the Study | 8 |
| 1.4 Value of the Study | 8 |
| CHAPTER TWO: LITERATURE REVIEW | 9 |
| 2.1 Introduction..... | 9 |
| 2.2 Theoretical Framework..... | 9 |
| 2.2.1 Technology Acceptance Model | 9 |
| 2.2.2 Knowledge Based Theory | 10 |
| 2.2.3 System Theory | 10 |
| 2.2.4 Resource Dependence Theory | 11 |
| 2.3 Supply Chain Financial Orchestration | 11 |
| 2.4 Operational Performance | 13 |
| 2.5 Empirical Literature Review..... | 14 |
| 2.6 Summary of Empirical Literature Review | 15 |
| 2.7 Conceptual Framework..... | 17 |
| CHAPTER THREE | 18 |
| RESEARCH METHODOLOGY | 18 |
| 3.1 Introduction..... | 18 |
| 3.2 Research Design..... | 18 |
| 3.3 Targeted Population | 18 |
| 3.4 Data Collection | 18 |
| 3.5 Data Analysis | 19 |
| CHAPTER FOUR | 21 |
| DATA ANALYSIS, FINDINGS AND DISCUSSION | 21 |

| | |
|--|-----------|
| 4.1 Introduction..... | 21 |
| 4.2 Response Rate..... | 21 |
| 4.3 General Information..... | 21 |
| 4.4 Period of Existence | 22 |
| 4.5 Extent of Supply Chain Financial Orchestration Adoption | 23 |
| 4.5.1 Supplier Financial Orchestration | 23 |
| 4.5.2 Internal Financial Orchestration..... | 24 |
| 4.5.3 Customer Financial Orchestration | 25 |
| 4.6 Relationship between Supply Chain Financial Orchestration and performance..... | 26 |
| 4.6.1 Supply Chain Financial Orchestration and Cost | 26 |
| 4.6.2 Supply Chain Financial Orchestration and Flexibility..... | 28 |
| 4.6.3 Supply Chain Financial Orchestration and Dependability..... | 29 |
| 4.6.4: Supply Chain Financial Orchestration and Quality | 31 |
| 4.6.5 Supply Chain Financial Orchestration and Speed..... | 32 |
| CHAPTER FIVE: | 36 |
| SUMMARY, CONCLUSION AND RECOMMENDATIONS | 36 |
| 5.1 Introduction..... | 36 |
| 5.2 Summary of Findings..... | 36 |
| 5.3 Conclusion | 37 |
| 5.4 Recommendations form the study | 37 |
| 5.5 Limitation of the Study | 38 |
| 5.6 Suggestions for Further Research | 38 |
| REFERENCES..... | 39 |
| APPENDICES 1; QUESTIONNAIRE..... | 1 |
| APPENDICES II; LIST OF SUPERMARKETS..... | 1 |

LIST OF TABLES

| | |
|---|----|
| Table 2.1 Summary of Studies on supply chain financial orchestration..... | 16 |
| Table 3.1: Summary of data collection and analysis | 20 |
| Table 4.1 General Information..... | 21 |
| Table 4.2 Period of Existence and length of Orchestration | 22 |
| Table 4.3 Supplier Financial Orchestration | 23 |
| Table 4.4 Internal Financial Orchestration | 24 |
| Table 4.5 Customer Financial Orchestration | 25 |
| Table 4.6: Regression Coefficient..... | 27 |
| Table 4.7 Model Summary | 27 |
| Table 4.8 ANOVA Analysis | 28 |
| Table 4.9: Regression Coefficient..... | 28 |
| Table 4.10 Model Summary | 29 |
| Table 4.11 ANOVA Analysis | 29 |
| Table 4.12: Regression Coefficient..... | 30 |
| Table 4.13 Model Summary | 30 |
| Table 4.14 ANOVA Analysis | 31 |
| Table 4.15: Regression Coefficients | 31 |
| Table 4.16: Regression Model Summary..... | 32 |
| Table 4.17: ANOVA Analysis | 32 |
| Table 4.18: Regression Coefficient..... | 33 |
| Table 4.19 Model Summary | 33 |
| Table 4.20 ANOVA Analysis | 34 |

LIST OF FIGURES

| | |
|------------------------------------|----|
| Figure 2.1: Conceptual Model | 17 |
|------------------------------------|----|

ABSTRACT

The sole purpose of this paper was to determine how Supply chain financial orchestration affects the performance of leading supermarkets in Nairobi County. The objectives were to determine the level of adoption of supply chain financial orchestration by leading Supermarkets in Nairobi County and to establish the relationship between Supply Chain Financial Orchestration and Operational Performance of leading Supermarkets in Nairobi County. Descriptive research design was used and census on all the leading supermarkets (43) in Nairobi County done. Open and closed ended questionnaires was the tool used in gathering information and SPSS was used in data analysis with objective one being analyzed with descriptive statistics and objective two with regression analysis. All supply chain financial orchestration (supplier financial orchestration, internal financial orchestration and customer financial orchestration) were adopted to a medium extent by the leading supermarkets in Nairobi County. Supply chain financial orchestration was found to have a significant effect on operational performance and supplier financial orchestration, internal financial orchestration and customer financial orchestration influenced the overall performance to a large extent. The findings also conceal that supply chain financial orchestration influences cost, flexibility, speed, quality and dependability of supermarkets. It is recommended that all the supermarkets who want to achieve or boost their operational performance should adopt supply chain supply chain financial orchestration as it has been established that it's a sure way of influencing operational performance. The study was limited to the scope since it only focused on leading supermarkets but left out other supermarkets which might be practicing supply chain financial orchestration but do not fall under the category of leading supermarkets. Future studies could focus on other supermarkets which have not been included in this study. The focus could also be in other sectors or supply chain financial orchestration can be studied to determine its effect on the general organizational performance, competitiveness or supply chain efficiency.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the contemporary business globally, the aimed edge of an enterprise over its adversaries depends aggressively on its ability to adapt to different challenges to get control over upgrade item quality, cost and provide biggest customer benefits. The reason behind this is attributed to the method that opposition is currently being practiced between supply ties and does not hold only between enterprises any more. The supply chain orchestration practice concerning the combination of information or data stream, products and orchestration streams, coordination as well as installment streams and changing the methods that supermarket deliver merchandise, provides management, show case them and eventually make scaling an incentive for customers (Domberger, 2008). Therefore, effective Supply Chain Financial Orchestration may not only be a means of growth and survivor but can also give an entity a competitive edge and help it in achieving its operational performance. This calls for supermarket to put more effort on evolving and managing the supply chain in an efficient and effective means as much as possible. The supply chain encompasses the activities that cover all activities from sourcing, developing the product, logistics, production and information system that the entities need to coordinate these activities (Walker, 2015).

The adaption of computers in the supermarket has contributed to use of computer-based technologies as a mechanism to enhance the operations of supermarket. At first use of computer-based technologies has been used to run daily activities in the supermarket in Nairobi. For instance, stock record maintenance and customer billing. In the modern world of business supermarket are trying to enhance performance over their competitor using computer-based software's. The use of computer-based technologies enables clients to have reliable request where product and services are delivered faster, on time as well as with minimal damages. This is accomplished through good orchestration of endeavors through connecting frameworks and protocols to create collaboration (Tan, 2009). Each of these needs' excellent orchestration with wholesalers and providers. This constitutes the connections between item network management center skills, methods as well as inventory network planning center capabilities which are complicated to orchestrate.

Theories that support the implementation of Supply Chain Financial Orchestration (SCFO) in organizations include the systems theory, Resource Based View Theory (RBV), Contingency Theory, Institutional Theory, Technology Diffusion Theory, Technology Acceptance Model (TAM) Theory and Technology-Organization-Environment Theory (Touboulic & Walker, 2015). Resource based view take the perspective that SCFO in itself is a resource that may give organizations a competitive advantage (Sarkis, Zhu & Lai, 2011). The RBV believes that the capabilities of an entity can be capitalized and used as a source of better performance and competitive advantage when the said resources form distinctive value for clients so as to be ahead of the competition (Ludwig & Pemberton, 2011). The institutional theory explains directly the impact of institutional forces on entities to adopt practices which are beneficial to the them (Dimaggio & Powell, 1983)

1.1.1 Supply Chain Financial Orchestration

Supply Chain Orchestration (SCO) is viewed as the design and management of supply chain networks in a business to enhance effective planning and efficiency of its supply chains. The supply chain orchestration involves supplier alliances, compressing lead and cycle time, outsourcing of less core activities, continuous process flow and proper sharing of information. The sharing of information is about distributing relevant information that addresses customer's orders, logistics, forecasts market and schedules (Beamon, 2009). The purpose of SCF is to improve the flow of finances within and outside the entity as observed by Hofmann (2005) through solutions that financial institutions use to address their issues (Camerinelli, 2009). Lamoureux and Evans (2011) add that the main intention of supply chain finance is to organise movement of finances with the movement of the information and product along the entire supply chain which will eventually lead to improved cash flow. The upside of SCF approach mainly depends on the teamwork of the players who are involved in the supply chain that results to decreased cost of debt, better opportunities for accessing loans or minimize working capital within the supply chain as observed by Wuttke *et al.* (2013). Randall and Farris (2009) posits that the SCF approach most of the time help to improve the trust, have committed supply chain members and improve the bottom-line.

Wang and Miller (2005) define Supply Chain Financial Orchestration (SCFO) as the process of bringing together elements from different related antecedent activities to come up with a solitary process that can be used to substitute the combined processes. Wang & Miller (2005) explain that the aim of SCFO is to invest in relationships across a business compilation to form classifications and combine processes into a homogenous system. SCFO empowers an entity to better run the movements of finances and outline business regulations for financial orchestration (Yang, 2003). Meredith et al. (2003) notes that Using of Supply Chain Financial Orchestration can help a firm to Manage intercompany transactions and intracompany flows. They further explain that Intracompany flows only exists when a financial orchestration occurs between two diverse profit center business parts that are owned by one legal entity. Hengst et al. (2011) opine that an effective Supply Chain Financial Orchestration can convey products and services to one's clients within the shortest time possible and at the same time reduce their total cost involved in the supply chain. Kreger (2003) argues that an efficiently run Supply Chain Financial Orchestration model enables an entity to improve operational efficiency by coming up with one system of managing orders and sourcing coupled with reducing the implementation costs and cycle time.

Supply chain financial orchestration involves integrating the entire supply chain in different aspects. There can be integrating internally whereby the internal functions of an entity are integrated, integrating the entity with its suppliers and finally integrating the organization with its customers (Wang & Miller, 2005). Orchestrated supply chain management consists of three processes as put forward by Gheysens (2011). These processes entail functional orchestration which takes into consideration coming up with decisions involved in sourcing, procuring, dispensing and production activities within the firm and between the entity and its suppliers, investors and customers. Secondly is geographical orchestration across physical facilities which are located in different continents or countries. The last scope is inter-temporal orchestration that takes into consideration coming up with resolution at the strategic, operational and tactical stages. Tactical decisions take into account resource allocation and making plans. Operational decisions deal with executing the plans that have been made at the tactical level and strategic decisions mainly focus on acquiring resources as explained by Shapiro (2011). For a supply chain to be considered successful, there has to be complete harmonization and orchestration of every supply chain player.

1.1.2 Operational Performance

Zhu and Sarkis (2004) define Operational performance as an entity's performance weighed against suggested set of standards of being responsible environmentally, effectiveness and efficiency. Operational Performance Management (OPM) entails associating all organizational constituents inside an entity to ensure that they function in unison to achieve the firm's ultimate goals (Lee, 2000). The entity has to arrange the environment that its operating on so as to meet the operational performance standard that have been set which includes dependability, flexibility, speed, quality and costs. Shapiro (2011) elaborates that Speed takes into account the pace that an entity generates sales, the rate of delivery of the firm's products, cycle and lead time and innovativeness of products.

The firm should be flexible in its operations for it to meet the performance goals. For a firm to be flexible, it needs to manufacture products and provide services of different varieties and of high quality levels and with several designs (Gunasekaran & Kobu, 2007). A firm also needs to quick to adopt to the ever changing demands, deliveries and orders so as they can meet them with ease for it to be considered flexible. Costs takes into account refer to the difference in unit cost which is brought about by fluctuating volume of service and products that a firm expects. Zhu and Sarkis (2004) further explain that the more the company produces diverse products, the lower the volume that can be produced and thus increasing the unit cost of production and vice versa. The quality of products or service offered puts into considerations conforming to specification of the product and at the same time a product performing its intended duty efficiently and in a reliable way (Shapiro, 2011)

1.1.3 Leading in Nairobi County

Appel (1992) defines a Supermarket as a store that occupies at least 2000 square feet sales area with more than four cashiers and the store is mainly run on a self-service basis. The stores main components are food stuffs, materials for cleaning and things that can be used in households. A supermarket is a large-scale retailing firm with different subsections that operates on a self-service (Kibera & Waruinge, 1998). Stanton and Futrell (1987) opines that it's a large departmental retail store that offers different merchandise and operates on self-service with minimal customer service. Most of the supermarkets source their products mainly from

manufacturers and do not depend on middlemen. A distribution channel that a manufacturer will adopt mainly determines where the product will be picked (Ng'ang'a, 2000).

A medium supermarket is a retailing store with different subdivisions below one roof that operates on a self-service basis and with a minimum of 10 to 15 employees and a minimum of three selling points or cashiers while a large supermarket is that which has more than 20 employees with a minimum of six selling points (Mithamo, Marwa & Letting, 2015). They further posit that most of the medium and large supermarkets deals with food stuffs, electronics, cosmetics, clothes and shoes. Medium and large supermarkets are categorized by the number of active customers, Value for money and availability of goods based on a research carried out by Research and Markets (2018). Most of the medium and large supermarkets in Kenya meets the criteria for a leading supermarket in Nairobi.

Supermarkets in Kenya mainly started in big cities like Nairobi and Mombasa and then started spreading gradually to other smaller towns in the country. Supermarkets then spread from Kenya to other countries with little urbanization like South Sudan, Burundi, Rwanda and Uganda (Mukuria, 2011). Mainstream supermarkets mainly cover square meter foot of between 10,000-60,000 with more than 50 employees (Njenga, 2006). Supermarkets are gradually and steadily growing from urban areas and spreading beyond their initial targeted market area to lower earning groups (Kiumbura, 2000). Kenya is the second advanced country in Africa after South Africa with more than two hundred and six supermarkets and eighteen Hypermarkets (Economic Survey, 2009).

Kenyan retail sector was ranked as the continent's second best economy that is developing by Oxford Business Group (2017). They go further and state that Kenya has the most rapid growth of retail industry in Africa and they are only second to south Africa. The consultancy firm also acknowledges that there is an increase in interest from outside investors who want to invest in the retail industry due to its rapid growth. The retail sector has expanded by 13 percent in the past three years which translates to a total retail spending of Sh1.8 trillion in 2016 (Procter & Gamble, 2016). The increase in spending is attributed to 30 percent of Kenya's GDP in 2016. The growth is due to the entrance of international retailers like Carrefour, Massmart Holding's

Game and Botswana's Choppies. Kenya's retail market had an average yearly GDP growth frequency of 5.6percent from 2009 to 2014.

The supermarkets contribute to the economy, provide employment opportunity for many people and act as a convenience to many shoppers since they provide almost all household things under one roof (Karuga, 2017). In as much as there has been continuous growth in the industry, the retail sector cannot sustain itself going by a study conducted KNBS Survey (2015). Local supermarkets that are established like Nakumatt, Ukwala, and Uchumi are struggling to maintain their Supply Chains and are sinking in debts. The sector is being faced by some challenges like Pilferage which can be directly attributed to annual loss of up to Sh2.5 billion in retail industry (Karuga, 2017). He further states that adopting devolution policies has made taxes to increase and the move to increase excise taxes on foodstuff coupled with depreciation in currency just adds onto the challenges.

1.2 Research Problem

Carter (2011) observes that Supply Chain Financial Orchestration can be used as a strategy of performance improvement in every competitive market. Frohlich and Westbrook (2011) explain that SCFO does not only influence performance but can give an entity strategic edge. Beaulieu (2009) posit that many managers fail to orchestrate their businesses as they are not knowledgeable on supply chain relations and business processes needed to Orchestrate. There are eight key SCM processes that the Global Supply Chain Forum (2013) (GSCF) members have identified. They include managing of demand, having a working relationship with the suppliers, fulfilling orders in time, product development, managing the flow of production and inventory, managing relationships with the customers, management of returns and managing customer service as listed by Lambert (2014).

The growth of economy has brought about increased competition. supermarkets quickly are spreading into small town and cities to target low incoming and poor communities across the country. The pattern of expansion in Kenya is similar to that of South Africa (Njenga, 2012). This is due to the change in environment and growth factors (Neven & Readson, 2005) their presence in the market is vivid with some of the supermarkets operating on the same street while

others facing each other yet they are rivals. This makes it interesting to establish how they manage and control their business. Most of the large chains of supermarkets have more than five branches in Nairobi while international entrants like Shoprite and Carrefour have their branches across the continent and around the world (Karuga, 2017). This begs a question as to how they manage to control their chains and networks. This is what the study aims at finding out and determining how the use of supply chain financial orchestration helps this supermarket in integrating their branches and operating the entity as one to be able to capitalize on cost and achieve a competitive edge (Karuga, 2017).

A close examination into studies on supply chain financial orchestration confirm that there is very minimal research that has been done on this field. Globally, Msanjila et al. (2015) did a study on E – Supply Chain Orchestration using Web Service Technologies and found that interest in steering supply chain activities on an electronic platform around the world is thriving and that entities are embracing new technologies to be able to adapt to the market changes.

Hofmann (2009) carried out another study on Inventory financing in supply chains and established that for logistics service providers, the bottom-line is mainly dependent on the quantity of product and its value to be financed. Carter et al. (2015) focused on reviewing the Literature behind SCF. Their findings indicate that SCF can be viewed in different angles; the finance front and the supply chain front. The first approach focusses on temporary financial solutions while the second perspective is long term and aims at optimizing the working capital. Song et al. (2016) focused on information sharing, Supply chain network and quality of credit of SME and they established that sharing of information along the chain can make the networks to be strong and can greatly impact the credit quality of SMEs’.

Locally, Odongo (2017) focused on supply chain integration (SCI) and performance of Kenyan public universities. He established that there was a great extent of sharing of resources and information along the supply chains and that SCI had an impact on performance. Gichuhi (2013) ventured on business integration and SCP of Kenyan commercial banks and established that most banks had integrated their business functions and there existed a link between business integration and SCP. Nagery (2012) on her study on IT and SCI established that adoption of IT gives an entity competitive edge. From the above mentioned studies, it was evident that there

was a gap in the field of SCFO since most of the studies were about supply chain and information technology integration. For this reason, the researcher sought to find answers to the subsequent questions; to what extent have supermarkets in Nairobi adopted Supply Chain Financial Orchestration? and what is the relationship between Supply Chain Financial Orchestration and operational performance of leading supermarkets in Nairobi county?

1.3 Objectives of the study

This study was directed by the following objectives

- i. To determine the level of adoption of supply chain financial orchestration by leading Supermarkets in Nairobi County
- ii. To establish the relationship between Supply Chain Financial Orchestration and Operational Performance of leading Supermarkets in Nairobi County

1.4 Value of the study

The supermarket`s management are set to benefit as the study will give them insight on the benefits which Supply Chain Financial Orchestration have on their performance and in making informed decisions on issues affecting their supply chains. This will form a basis through which supermarkets will improve customer and supplier relation which will in turn create progressive relationship with both the suppliers and the customers.

This study will also be beneficial to other firms and industries away from the supermarkets since they can see the benefits of adopting supply chain financial orchestration in their activities. They will also know how to orchestrate their supply chains based on this study.

This study will also be very helpful to academicians and those interested in studying supply chain financial orchestration and related studies. They can use the study to obtain knowledge on the field as well as gain practical lessons and insight on the benefits of adopting SCFO. They can also use the study to carry out future studies since the paper will give recommendations on studies which they can venture in future.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section revised several studies which have been carried by different researchers. The subsections of this chapter include Theoretical Framework, a broader view of supply chain financial orchestration, SCFO and Operational Performance, review of Empirical Studies and Conceptual Model.

2.2 Theoretical Framework

Supply chain financial orchestration is important to any organization with several networks to be linked as well as in enabling the entity to be fully integrated within itself, with its customers and with its supplier (Wisner, 2001). This study was guided by Technology Acceptance Model (TAM), Knowledge based View, Systems Theory and Resource Dependence Theory.

2.2.1 Technology Acceptance Model

This is an information systems theory whose focus is on the intended recipients of technology should embrace it. The theory recommends that when operators are given a technology that is relatively new and they are not used to, there are some things that determine when and how they can adopt the technology. Luaren and Lin (2005) used this model in an effort to understand customer objective to use technology. Lauren and Lin (2005) employed the technology acceptance model in his study because they view technology as an innovation for an organization. TAM is an extensively adopted model in the field of IT and contributes theoretically towards embracing technology by entities (Yan et al., 2009). TAM focuses on delivering a clear clarification of factors that determines technology acceptance and its theoretical justifications (Davis et al.,1989). The TAM theory puts emphasis on explaining the main intentions of employing a certain technology as observed by Nysveen et al. (2005).

This theory has relevance to the topic being studied since we cannot have an effective supply chain financial orchestration without embracing technology. Technology makes it easier to integrate internally, with both the supplier and the customers and to have information orchestration. For this reason, the study adopts TAM as the main theory.

2.2.2 Knowledge Based Theory

This theory looks at different angles that helps an entity in meeting the goals that it has set. The goals can be developing improved product, acquiring new and better resources and carrying out innovations (Grant, 1996). Alavi and Leinder (2001) notes that IT plays a vital role in this theory as it can be employed in the management and creation of Knowledge that enhances a firm's performance. The theory takes into consideration the capitalization of intangible resources of an entity. Von Krogh and Grand (2002) further adds that the theory stimulates knowledge sharing since it creates value both externally and internally facilitated by supply chain working together. Knowledge sharing enhances an entity in creating value and thus granting it a competitive advantage (Grant, 1996).

This theory relates to this study as different players along the supply chain have different knowledge and when all of them come together and share ideas, the knowledge can be used as a powerful tool in achieving operational performance. The customers, the focal firm and its suppliers when orchestrated can form a unique set of information which when capitalized can push the firm in the next level and enhance it in coming up with innovative end products. Strategic alliances of supply chain players enhance the chances of developing new ways or running business which can make the firm be a step ahead of the competitors

2.2.3 System Theory

Martinelli (2001) is of the view that system theory views an event as a whole and not the components of its individual systems. A system is comprised of sub systems that has a relationship with each other and the subsystems depends, affects and are affected by one another (Steele, 2003). An entity relies on the environment that it operates in thus putting into consideration the suppliers, competitors and customers according to Mason (2007). The theory incorporates different supply chain variables which in turn form a single Supply Chain Network (Fowler, 2000).

The theory is tailored in systematic approach explicating the dynamics that defines the supply chain financial orchestration (Senge, 2009). For example, enterprise structure, culture, people within the enterprise, information technology infrastructure which are in place and across supply

chain all requires to be considered for an effective Supply Chain Orchestration (Mason, 2007). The system thinking theory therefore provides deep insight into the efficacy of various SCM enablers on enterprise results, for instance client satisfaction.

2.2.4 Resource Dependence Theory

RDT was developed by Jeffrey Pfeffer and Gerald R. Salancik in 1978 at Stanford University (Pfeffer & Salancik, 1978). It concentrates on how external resources of a firm influences how an entity behaves. An entity's Tactical, operational and strategic management greatly depends on how an entity external resources. RDT has meaning on the strategies on production, organizational strategy, Recruitment of employees, external links optimal divisional structure of the firm, and board members, contract structure among others.

Wisner et al. (2006) states that Resource dependence demonstrates the relevance of an entity in acquiring its byproducts from other organizations for them to meet their set objectives This therefore means that most firms cannot sustain themselves and hence depend on others for unique and specific resources. Domenica (2002) further elaborates that an organization needs to invent with an effective and efficient supply chain for them to have an edge over their competitors. The entity therefore need to minimise and optimize the resources that they obtain from outside to meet the set goals and achieve performance. Supermarkets therefore need to have strategic sources where they can obtain their resources and optimize it to meet their objectives.

2.3 Supply Chain Financial Orchestration

Supply Chain Financial Orchestration entails the internal connections within different functions or departments within the company associating with outside players like suppliers and clients with the aim of coming up with superior products that can give them an edge in the ever competitive market environment (Hofmann, 2005). It integrates different firms or branches of a single entity whose main aim is to create activities that adds to ensure there is smooth movement of product, information and finances along the supply chain (Beamon, 2009). This basically entails networks and linkages of different supply chain units. This indicates that the effectiveness of any supply chains financial orchestration must be analyzed according to the significant impact that it has on the supply chains.

The upstream relationship of a firm and its suppliers is called supplier orchestration. The suppliers with the focal company form an alliance and share financial, technical and operational information and even share in coming up with decisions that may affect the company in a positive way (Monks, 2014). Making of this alliance is vital in that the suppliers of materials and products get to know the exact things that the company needs and thus they only supply what is needed. Some of the relevant information that are shared between the two parties are information regarding forecasted demand, enhances cost structure, coming up with improved product, innovations of new and better goods and proper facility utilization. Sharing information with suppliers results in improved product and manufacturing requirements, proper management of inventory and reduced cost of doing business. Companies are engaging in softwares and engage in Supplier Relationship Management (SRM) tools for managing their suppliers. One way in which they are doing this is through Vendor Managed Inventory (VMI) whereby a representative of the supplier resides at the organization monitoring the stocks and recommending to the firm how to re order and at which levels (Whang, 2008). Supplier financial orchestration involves how funds are shared between the companies and its suppliers (Lysons & Farrington, 2006). The researchers go ahead and explain that in an orchestrated supply chains, the mechanisms of sharing funds or paying the suppliers are automated and are done electronically thus enhancing accountability and transparency.

Mwau (2012) explains that Internal Orchestration is carried out in all the sections from receiving of raw material, its transportation and disbursement to the customers. It entails orchestrating internal activities across departments under the control of the producer to realize the customers' needs. For this to be realized, there needs to be collaborations within the diverse departments of the entity for them to satisfy their customers and need their demands as required. Some of the departments that needs to be orchestrated within the entity includes marketing, logistics, procurement, production and sales (Carter, 2011). The above departments need to work together as a single unit so as to be able to achieve customer satisfaction as well as be efficient and effective. The functions need to carry out joint planning, team building, share information in a timely way and collaborations (Whang, 2008). Internal financial orchestration entails how the funds are moved within the company in itself (Lysons & Farrington, 2006). The movement of

funds can either be between the departments for instance from account to procurement for the payment of suppliers or to how the funds move from accounts to the employee's accounts. Lysons and Farrington (2006) notes that a fully financial orchestrated system can be able to manage this without a hitch due to the automation of their systems.

Customer Orchestration is downstream SCO and entails having the exact information pertaining marketing, technological, inventory and, production from customers so as to better the product and service given to them as explained by Halley and Beaulieu (2009). To have satisfied customers, managers need to put good use of the information that they obtain from clients and ensure everything is done as per the specifications of the customers. Customer orchestration can be achieved by making sure that customers opinions are taken seriously while manufacturing the products. Enterprise orchestration can boost the number of satisfied customers by easily availing the required information and being agile in responding to the complaints and request raised by the customers. Customer financial orchestration results to increased response rate to the demands of customers. Increases the visibility of transaction, minimizes cycle and lead time, and increases the level of service being offered to the clients (Bargchi & Larsen, 2002). Vickery et al. (2003) notes that customer orchestration enhances greater customer value by being responsive to customers' needs through an orderly and regular measurement of customer satisfaction and monitoring the level of commitment to customer's needs. Customer financial orchestration therefore lays down the foundation on which the customer can be able to pay for their products or services or receive refunds from the organization (Lysons & Farrington, 2006).

2.4 Operational Performance

Narasimham, Misra and Das (2001) define operational performance as the strategic dimension by which a company chooses to compete. According to Qureshi, Kumar and Pradeep (2007), it's the technique of determining the advancement in attaining set objectives, including information on efficient utilization of resources that are converted into products both goods and services. Delivery of products and level of satisfied customer satisfaction portrays that the operation is of high quality. Zhu, Sarkis & Lai (2008) outlines operational performance indicators as, timely delivery of services and goods, reduced scrap rate, product quality, and faster response in delivery, reduced costs and capacity utilization. Operational performance therefore takes into

consideration the company's performance in achieving its basic objectives (Russell & Taylor, 2008).

Improved operational performance is anticipated to promote an organization's competitive edge, through price/cost, quality, flexibility, dependability and speed (Zhu et al., 2013). The researchers further explain that Cost is measured in terms of reduced cost of coming up with a product, reduced labour cost, increased market shares and profitability; Quality is measured in terms of how a product conforms to specifications, effective quality control process, reduced number of defects and customer complaints and customer service improvement; Flexibility is viewed in relation to reduced cycle and lead times, increased flexibility towards customer demands, reduced turnaround time of internal processes and increased timely deliveries; Dependability is measured in terms of commitment to suppliers and customers, smooth flow of input and output and convenience of service delivery.

2.5 Empirical Literature Review

The issues of finance crisis have brought new challenges and opportunities in the development of the SC. SCFO is inevitable strategic solution while enhancing enterprise performance as noted by Carter (2011). The researcher further explains that SCFO concept in SCM is able to assist enterprise to remain competitive as well as enhance economic added value. For SCM to be successful, there need to be complete integration both internally and externally in the enterprise through coordination of activities of the fundamental enterprise processes (Nyaega, 2006).

Msanjila et al. (2015) did a study on E – SCO using Web Service Technologies and found that there is an increased interest on doing business on an electronic platform and orchestrating the supply chain to be able to keep up with the ever changing business environment. The study adopted descriptive survey but the gap was left since the study focused on E-SCO and not SCFO. Hofmann (2009) carried out another study on Inventory financing in supply chains and established that for logistics service providers, the bottom-line is mainly dependent on the value that the products to be financed has. The study however focused only on inventory financing and not the entire supply chain financing. Carter et al. (2015) researched on SCF; a literature review. The methodology adopted was a literature review since the study was reviewing past studies. Their

findings indicate that SCF has its benefits including reducing the financing duration and its volume and consequently strengthening the supply chain links and capitalizing on the value created through relevant information. Their study however depended on past literature which has a disadvantage of being time barred. Song et al. (2016) focused on SC network, information sharing and quality of credit of SME. It was established that information sharing in SCM can make the networks to be strong and can greatly impact the credit quality of SMEs'. The study focused on SMEs and not retail outlets.

Locally, Odongo (2017) ventured on SCI and performance of Kenyan public universities. He established that there was a great extent of sharing of resources and information along the supply chains and that SCI had an affirmative impact on performance. He further established that SCI facilitated customer satisfaction, reduces cost and increased responsiveness. The study focus was on public universities and not supermarkets. Gichuhi (2013) ventured on business integration and SCP of Kenyan commercial banks and established that most banks had integrated their business functions and there was a significant relationship between business integration and SCP. Descriptive survey design was employed and focus was on business integration and not supply chain financial orchestration Nagery (2012) on her study on Information technology and supply chain integration established that increased processing of information of the involved parties along the supply chain was brought about by adopting ICT at BAT Kenya Ltd. The author only focused on British American Tobacco Kenya Ltd thus adopting a case study.

2.6 Empirical Literature Review Summary

Table 2.1 illustrates the summarized studies on SCFO.

Table 2.1 Summarized Studies on supply chain financial orchestration

| Author(s) | The study Focus | Methodology | Research Findings | Research Gap |
|------------------------|---|---------------------------|--|--|
| Msanjila et al. (2015) | E – SCO Using Web Service Technologies | Descriptive Survey | There is increased interest in automating the supply chain and embracing electronic platforms | Focused on E-SCO and not SCFO |
| Hofmann (2009) | supply chains Inventory finance | Descriptive Survey | Income is dependent on the amount and value of product that needs to be financed | Focused only on inventory financing and not the entire supply chain financing |
| Carter et al. (2015) | literature review on SCF | Literature review | SCF benefits includes the reduction of volume, rate, information value and the strength of links of the SC | Depended on past literature which has a disadvantage of being time barred |
| Song et al. (2016) | SC network, information sharing and credit quality of SME | Descriptive Survey | Info sharing is vital in strengthening the supply chain | Did not compare supply chain networks to either performance or competitive advantage |
| Odongo, (2017) | SCI and performance of public universities | Descriptive Survey Design | SCI impacts public university's performance | Focus was on supply chain performance and not operational performance |
| Gichuhi (2013) | Business Integration and supply chain performance | Descriptive Survey Design | most banks had integrated their business functions | Focused on business integration and not supply chain financial orchestration |
| Nagery (2012) | IT and SCI on performance | Case study | Adoption of IT enhances competitive edge. | Focused on impact of IT on SCI |

Source: Researcher (2019)

2.7 Conceptual Framework

The conceptual model demonstrates the link between the independent variable and the dependent variable under study. The independent variable of the study is supply chain financial orchestration whose dimensions are Supplier Financial Orchestration, Internal Financial Orchestration, Customer Financial Orchestration and Information Financial Orchestration. Dependent variable is operational performance whose dimensions are Cost, Quality, Flexibility and Dependability. It is hypothesized that the adopting SCFO will lead to improved Operational Performance. This is shown in Figure 2.1.

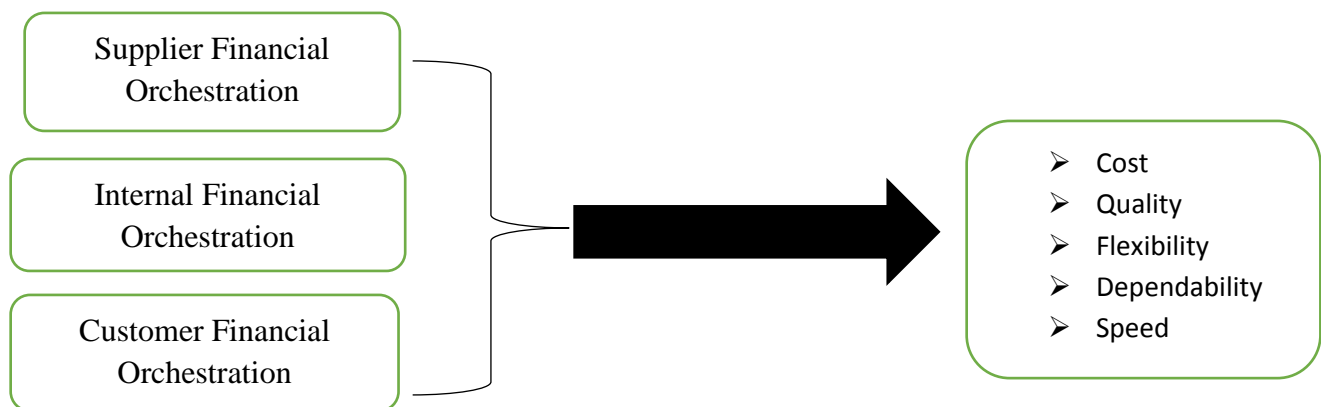
Figure 2.1: Conceptual Model

Independent Variable

Dependent Variable

Supply Chain Financial Orchestration Performance

Operational



Source: Own Compilation (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section mainly covered the Design employed, the Targeted Population or the recipients and how the data was Collected and Analyzed.

3.2 Research Design

Descriptive research design was employed in determine the influence of Supply Chain Financial Orchestration on the Performance of supermarkets. The design aids in confirming and assist in describing the characteristics of the variables which are being studied (Sekaran, 2006). Cauvery et al. (2003) adds that the design gives insight to the characteristics of a certain situation and constitutes the benefit of being flexible and accurate.

3.3 Targeted Population

Nairobi City Council licensing department (2017) places the number of medium and large supermarkets at forty-three (43) as at 2017. Kibubi (2017) adds that the forty-three supermarkets have the largest market share of supermarkets in Nairobi. The leading supermarkets are categorized by the number of active customers, value for money and availability of goods based on a research carried out by Research and Markets (2018). The targeted population was therefore all the thee forty-three supermarkets which falls under the category of medium and large supermarkets. Since the population was studied as a whole, census was adopted. Nairobi was chosen because it acts as the headquarter of most supermarkets and the supermarkets are densely populated in the area with high income (Kibubi, 2017).

3.4 Data Collection

Primary data was used and collection was by structured questionnaires which contained statements and questions drafted from the objectives of the study. The Questionnaire was divided into three parts as per the research objectives. Part A consisted of General Information, Part B had statements on the level of adoption of Supply Chain Financial Orchestration and Part C

focused on the relationship between Supply Chain Financial Orchestration and Operational Performance. This was done for the ease of analysis and guided the researcher in obtaining in-depth response from the respondents (Kothari, 2008). The questionnaires were executed through a drop and pick later mode. Targeted respondents were the Top Management and Supply Chain Officers or any other person who holds a similar position.

3.5 Data Analysis

Analysis was done using both quantitative and qualitative data analysis tools. Ogula (1998) states that data analysis involves the act of reducing the data into summaries. The researcher used SPSS to enter quantitative data and then analyze it with descriptive statistics to get percentage and frequencies. Descriptive statistics was used to analyze the first objective by use of Mean and Standard deviation Objective two was analyzed using regression analysis with SCFO as the Independent Variables and Operational Performance as the Dependent Variable. Regression analysis was used to capture and explain the relationship between Supply Chain Financial Orchestration and Operational Performance. The researcher ran five regressions.

Regression model that was used for data analysis was;

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where: Y = Operational Performance

Y1= Cost Y2= Flexibility, Y3= Dependability, Y4=Quality, Y5=Speed

a = constant

b1, b2, b3 =is the regression weights attached to the variables constants

X₁ = Supplier Financial Orchestration

X₂ =Internal Financial Orchestration

X₃= Customer Financial Orchestration

e is the error term

Table 3.1: Presents the Data Collection and Analysis Summary

| Objectives | Data to be collected | Method of data collection | Analysis needed |
|---|-----------------------------|----------------------------------|---|
| Background information | SECTION A | Structured Questionnaire | Descriptive Statistics (frequencies) |
| Level of SCFO adoption by supermarkets in Nairobi, Kenya. | SECTION B | Structured Questionnaire | Descriptive Statistics (Central tendencies) |
| The relationship between SCFO and Operational Performance | SECTION C | Structured questionnaire | Regression analysis |

Source: Own Compilation (2019)

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This section covers the data analysis results, interpretations and discussion of findings. The subsequent part contains the analysis and interpretations of the Background information, Supply Chain Financial Orchestration adoption and the regression analysis showing the relationship between Supply Chain Financial Orchestration and Operational Performance.

4.2 Response Rate

This study focused on the 43 Leading Supermarkets in Nairobi and the complete data was obtained from 35 supermarkets which represented 81.14% of the respondents. This response rate is deemed sufficient. Tabachnick and Fidell (2007) notes that a response rate of over 70 % is sufficient to analyse, present and integrate the findings of any given study.

4.3 General Information

This was divided based on the respondent's positions in the organization, length of service in their current position and the period which the supermarkets have been operational in Nairobi County.

Table 4.1 General Information

Table 4.1 presents the general information of leading supermarkets in Nairobi County.

| Position in the organization | Frequency | Percentage (%) |
|-------------------------------------|------------------|-----------------------|
| Supply chain managers | 19 | 54.29 |
| Operations Managers | 10 | 28.57 |
| Procurement Officers | 6 | 17.14 |
| Length of service(years) | | |
| 1 -2 | 3 | 8.57 |
| 3 -5 | 7 | 20.0 |
| 5 -10 | 10 | 28.57 |
| Over 10 | 15 | 42.86 |
| Total | 35 | 100 |

Source: Research Data (2019)

The results in Table 4.1 shows that 54% of the respondents were supply chain managers, 29% were operations managers while the other 17% of the respondents were Procurement Officers. The findings are conclusive that greater percentage of the respondents were better suited to provide the relevant information that can be relied upon and had knowledge on SCFO.

On the length of service, most respondents (42.86%) had worked in the supermarkets for 10 years and above. 28.57% had worked for periods between 5-10 years and 20% had worked for 3- 5 years while the remaining 8.57% had worked in the supermarkets for less than 2 years (1-2). Thus 91.42% of the respondents had worked for more than three years which shows that they had experience and knowledge of answering the questions.

4.4 Period of Existence

This section covers the number of years that the supermarkets in Nairobi have been operational and the length of period that the supermarkets have been practicing supply chain financial orchestration. The respondents had to answer on the period their supermarkets had been operational and the length to which they had adopted supply chain financial orchestration and table 4.2 shows their response.

Table 4.2 Period of Existence and length of Orchestration

| Period of existence (years) | Frequency | Percentage (%) |
|------------------------------------|------------------|-----------------------|
| 1 -5 | 10 | 28.57 |
| 5 – 10 | 12 | 34.29 |
| Over 10 | 13 | 37.14 |
| Length of orchestration | | |
| 1-5 years | 10 | 28.57 |
| 5-10 years | 15 | 42.86 |
| Above 10 years | 10 | 28.57 |
| Total | 35 | 100 |

Source: Research Data (2019)

The findings in Table 4.2 portray that 28.57% of the supermarkets have been operating for period of one to five years while 34.29 % have been operating for a period between five to ten years and the remaining 37.14% have been operational for over ten years. This indicates that

most of the supermarkets (71.43%) have been operational for more than five years which is a significant duration showing that they were qualified to give relevant feedback to this study.

On the period between which the supermarkets had started orchestration, the findings indicate that 28.57% had orchestrated their supply chains for periods of less than 5 years, 42.86% had orchestrated for periods between 5-10 years while the remaining 28.57 had been orchestrated for above 10years. The reasons in variations between the period of existence and the period of years in which the supermarkets had been orchestrated could be due to growth from one supermarkets to chains of supermarkets which prompted the supply chain financial orchestration.

4.5 Extent of Supply Chain Financial Orchestration Adoption

The study had to determine the extent of SCFO adoption of the leading supermarkets in Nairobi County. The rating was done on a Likert scale of 1 to 5(1= to a very small extent, 2= to a small extent, 3= to a medium extent, 4= to a large extent and 5= to a very large extent). Supply chain financial orchestration was divided into three categories of Supplier Financial Orchestration, Internal Financial Orchestration and Customer Financial Orchestration. The tables below summarize the mean scores and SD of the results.

4.5.1 Supplier Financial Orchestration

The respondents were asked to rate the adoption of Supplier Financial Orchestration on a Likert scale of one to five and table 4.3 gives their response.

Table 4.3 Supplier Financial Orchestration

| Factor | Mean | Std. Dev |
|---|-------------|-----------------|
| We maintain long term relationships with our suppliers | 3.95 | 0.729 |
| We pay our suppliers electronically | 3.55 | 0.974 |
| We Finance our strategic suppliers | 3.22 | 0.981 |
| We maintain a database of strategic suppliers | 4.07 | 0.997 |
| Gains resulting from cooperation with main suppliers are equally shared | 3.92 | 0.729 |
| Aggregate Score | 3.74 | 0.881 |

Source: Research Data (2019)

From the table 4.3, maintaining of a database of strategic suppliers was adopted to a large extent with a mean of 4.07 and SD of 0.997. Maintaining long term relationship with suppliers (M=

3.95, SD= 0.729), paying suppliers electronically (M= 3.55, SD= 0.974), financing of strategic suppliers (M= 3.22, SD= 0.981) and sharing of gains with suppliers (M= 3.92, SD= 0.729) were adopted to a medium extent.

The Aggregate score shows that supplier financial orchestration was adopted to a medium extent with the mean of 3.74 and SD of 0.811. The findings are parallel with that of Monks (2014) who opines that supplier financial orchestration enables the entity with their suppliers to cooperate in sharing information on financial, operational and technical levels as well as in integrating the suppliers in making important decisions. They further argue that the alliance and information sharing is effective and relevant since suppliers have more information and know how on the what they supply to the entity's. In another study, Lysons and Farrington (2006) explain that in an orchestrated supply chains, the mechanisms of sharing funds or paying the suppliers are automated and are done electronically thus enhancing accountability and transparency. This thus makes it important for an entity to adopt supplier financial orchestration.

4.5.2 Internal Financial Orchestration

The mean and the standard deviation for Internal Financial Orchestration were calculated and are shown in table 4.4.

Table 4.4 Internal Financial Orchestration

| Factor | Mean | Std. Dev |
|---|-------------|-----------------|
| We manage internal flow of cash electronically from accounts department to user departments | 4.05 | 1.15 |
| We pay our employees through an orchestrated system | 4.05 | 1.07 |
| Co-ordination between the different departments is constant and successful | 4.00 | 1.08 |
| Cross-functional management is very significant for all supply chain initiatives | 3.78 | 1.06 |
| Periodic interdepartmental meetings among internal functions are commonly conducted | 3.70 | 1.15 |
| Aggregate Score | 3.91 | 1.10 |

Source: Research Data (2019)

From the table 4.4, managing internal flow of cash electronically from accounts department to other departments (Mean= 4.05, SD= 1.15), paying of employees through an orchestrated system (Mean= 4.05, SD= 1.07) and constant coordination between different departments (Mean= 4.00, SD= 1.08) were all adopted to a large extent as shown by their respective means and standard deviation. Cross functional management (Mean= 3.78, SD= 1.06) and periodic interdepartmental meetings among internal functions (Mean= 3.70, SD= 1.15) have been adopted to a medium extent.

Internal financial orchestration was adopted to a medium extent as indicated by the mean of 3.91 and Standard deviation of 1.10. This is in contrast with the literature whereby internal financial orchestration is said to help the entity in orchestrating all the internal functions of an organization (Mwau, 2012) and at the same time involves integrating internal functions across departments under the control of the manufacturer to meet the customers' demands and requirements. Lysons and Farrington (2006) adds that internal financial orchestration ensures that there is efficient movement of funds, materials and information within the organization.

4.5.3 Customer Financial Orchestration

The mean and the standard deviation for Customer Financial Orchestration are shown in table 4.5.

Table 4.5 Customer Financial Orchestration

| Factor | Mean | Std. Dev |
|--|-------------|-----------------|
| The firm uses systematic processes for handling customers complaints | 3.91 | 1.09 |
| The feedback provided by customers is used to improve customer relations, processes, products and services | 3.70 | 1.15 |
| Customers pay for the product and the funds are transferred through the orchestrated system | 3.62 | 1.16 |
| Customers activities and purchases are tracked and monitored through the system | 3.54 | 1.09 |
| Our customers are equipped with loyalty cards and are rewarded | 3.54 | 1.19 |
| Aggregate score | 3.66 | 1.57 |

Source: Research Data (2019)

From the table 4.5, the firm using systematic process for handling customer's complaints (3.91, SD= 1.09) and the feedback that customers give to better the products and services, relationship and processes (3.70, SD= 1.15) have been adopted to a medium extent. Customers paying for the products and funds being transferred through the orchestrated system (3.62, SD= 1.16), tracking and monitoring of customer's activities through the system (3.54, SD= 1.09) and equipping customers with loyalty cards and rewards (3.54, SD= 1.19) were also adopted to a medium extent as seen by their respective means and standard deviations.

Customer financial orchestration was adopted to a medium extent as observed from the aggregate score (Mean=3.66, SD=1.57). From the literature, Halley and Beaulieu (2009) opine that customer financial orchestration makes it possible to obtain relevant information pertaining inventory levels, technological, manufacturing, marketing and financial movement for better and quality product production. Baulcomb (2013) adds that customer financial orchestration also makes it possible to achieve Customer satisfaction by the management making better use of the information obtained from customers to meet their requirements. Bargchi and Larsen (2002) notes that Customer financial orchestration results in enhanced response to the demands of the customers, minimize operational cost, decreased lead and cycle time, improved visibility of transaction and better service levels to the customers. Vickery et al. (2003) adds onto the discussion that customer orchestration enhances greater customer value by being responsive to customers' needs through an orderly and regular measuring of customer satisfaction and monitoring the level of commitment to customer's needs.

4.6 Relationship between Supply Chain Financial Orchestration and performance

The second objective was to examine the relationship between independent variable and dependent variable. The quest of the study was to establish the relationship between Supply Chain Financial Orchestration and operational performance. A linear regression was fitted to the data and the results are as displayed below.

4.6.1 Supply Chain Financial Orchestration and Cost

Regression analysis was executed to establish the correlation between Supply Chain Financial Orchestration and cost and the results are displayed in table 4.6. X_1 = Supplier Financial Orchestration, X_2 = Internal Financial Orchestration and X_3 = Customer Financial Orchestration.

Table 4.6: Regression Coefficient

| Model | | Coefficients ^a | | | t | Sig. |
|-------|----------------|---------------------------|------------|----------------------|-------|------|
| | | Unstandardized | | Standardized | | |
| | | B | Std. Error | Coefficients Beta | | |
| 1 | (Constant) | 3.220 | 1.857 | | 1.734 | .013 |
| | X ₁ | .317 | .425 | .382 | .745 | .014 |
| | X ₂ | .126 | .268 | .055 | .098 | .020 |
| | X ₃ | .207 | .274 | .372 | .756 | .021 |

a. Dependent Variable: cost

Source: Research Data (2019)

$$Y_1 = 3.22 + .317X_1 + .126X_2 + .207X_3 \dots\dots\dots(i)$$

From the table 4.6, the findings indicate that the P value (X₁ (t=0.745, P<0.05), X₂ (t=0.98, P<0.05) and X₃ (t=0.756, P<0.05)) of all the Supply Chain Financial Orchestration is less than 5% (0.001< 0.05) implying that Supply Chain Financial Orchestration has a statistically significant relationship with cost in large supermarkets in Nairobi County. This implies that the adoption of Supply Chain Financial Orchestration influences cost.

Table 4.7 Model Summary

| Model | R | R square | Adjusted square | R Std. Error of the Estimate |
|-------|-------------------|----------|-----------------|------------------------------|
| I | .805 ^a | .764 | .753 | .59787 |

a. Predictors: (Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research data (2019)

As depicted in table 4.7, the R Square is 0.764 which translates to 76%. This implies that the regression model is statistically relevant and 76% of cost is attributed to supply chain financial orchestration.

Table 4.8 ANOVA Analysis

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 8.703 | 5 | 4.141 | 15.393 | .003 ^b |
| | Residual | 3.574 | 10 | .357 | | |
| | Total | 12.277 | 15 | | | |

a. Dependent Variable: cost

b. Predictors: (Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research Data (2019)

At 5% level of significance, Table 4.7 shows that the calculated value of F is 15.393 while F critical is 4.141 hence the study model is statistically relevant. This is supported by the value of P .003 which is less than 5%. Hence Supply chain financial orchestration is a suitable predictor of cost.

4.6.2 Supply Chain Financial Orchestration and Flexibility

Regression analysis was executed to establish the relationship between Supply chain financial orchestration and Flexibility and the results are illustrated in table 4.9.

Table 4.9: Regression Coefficient

| Model | | Unstandardized | | Standardized | T | Sig. |
|-------|----------------|----------------|------------|--------------|-------|------|
| | | B | Std. Error | | | |
| 1 | (Constant) | 4.588 | .957 | | 4.792 | .002 |
| | X ₁ | .101 | .219 | .210 | .459 | .004 |
| | X ₂ | .091 | .138 | .331 | .656 | .003 |
| | X ₃ | .161 | .141 | .500 | 1.139 | .001 |

a. Dependent Variable: Flexibility

Source: Research Data (2019)

$$Y_2 = 4.588 + .101X_1 + .091X_2 + .161X_3 \dots\dots\dots(ii)$$

From the table 4.9, the findings indicate that the P value (X₁ (t=0.459, P<0.05), X₂ (t=0.656, P<0.05), and X₃ (t=1.139, P<0.05) for supplier financial orchestration, internal financial orchestration and customer financial orchestration are less than 5% (0.001 < 0.05) implying that

Supply chain financial orchestration has a statistically sound relationship with flexibility in large supermarkets in Nairobi. This suggests that the adoption of Supply chain financial orchestration influences Flexibility.

Table 4.10 Model Summary

| Model | R | R square | Adjusted square | R Std. Error of the Estimate |
|-------|-------------------|----------|-----------------|------------------------------|
| I | .779 ^a | .695 | .663 | .50831 |

a. Predictors: (Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research data (2019)

As indicated in Table 4.10, the value of R square is 69.5%. This means that regression model is statistically significant and the changes in flexibility is explained by the adoption of SCFO. The findings of the ANOVA are shown in Table 4.14.

Table 4.11 ANOVA Analysis

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 7.479 | 2 | 4.096 | 9.009 | .021 ^b |
| Residual | 3.951 | 32 | .095 | | |
| Total | 11.430 | 34 | | | |

a. Dependent Variable: Flexibility

b. Predictors: (Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research Data (2019)

At 5% level of significance, Table 4.11 shows that the calculated value of F is 9.009 while F critical is 4.096 hence the study model is statistically fit. This is supported by the P value of 0.021 which is less than 5%. Hence SCFO is a fit predictor of Flexibility.

4.6.3 Supply Chain Financial Orchestration and Dependability

Regression analysis was run to figure out the relationship between Supply Chain Financial Orchestration and Dependability and the results are shown in table 4.12.

Table 4.12: Regression Coefficient

| Model | | Coefficients ^a | | | t | Sig. |
|-------|----------------|---------------------------|------------|----------------------|-------|------|
| | | Unstandardized | | Standardized | | |
| | | B | Std. Error | Coefficients Beta | | |
| 1 | (Constant) | 5.065 | 1.502 | | 3.372 | .007 |
| | X ₁ | .306 | .344 | .396 | .890 | .040 |
| | X ₂ | .261 | .217 | .593 | 1.206 | .002 |
| | X ₃ | .318 | .222 | .612 | 1.434 | .047 |

a. Dependent Variable: Dependability

Source: Research Data (2019)

$$Y_3 = 5.065 + .306X_1 + .261X_2 + .318X_3 \dots\dots\dots(iii)$$

From the above table, the findings indicate that the P value (X₁ (t=0.890, P<0.05), X₂ (t=1.206, P<0.05) and X₃ (t=1.434 for Supplier Financial Orchestration, Internal Financial Orchestration and Customer Financial Orchestration are less than 5% (0.001< 0.05) which indicates that Supply Chain Financial Orchestration has a statistical relevant relationship with Dependability of supermarkets in Nairobi County.

Table 4.13 Model Summary

| Model | R | R square | Adjusted square | R Std. Error of the Estimate |
|-------|-------------------|----------|-----------------|------------------------------|
| I | .609 ^a | .771 | .707 | .48368 |

a. Predictors: (Constant), Supplier Financial Orchestration, Internal Financial Orchestration and Customer Financial Orchestration

Source: Research data (2019)

As indicated in Table 4.13, the value of R square is 77%. According to the rule of thumb this means that the regression model is statistically sound to the changes in Dependability and is explained by the adoption of SCFO.

Table 4.14 ANOVA Analysis

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 1.381 | 2 | 4.276 | 8.180 | .014 ^b |
| Residual | 2.339 | 32 | .234 | | |
| Total | 3.720 | 34 | | | |

a. Dependent Variable: Dependability

b. Predictors: (Constant), Supplier Financial Orchestration, Internal Financial Orchestration Customer Financial Orchestration

Source: Research Data (2019)

At 5% level of significance, Table 4.16 indicates that the calculated value of F is 8.180 while F critical is 4.276 hence the study model is statistically viable. This is supported by the value of p which is 0.014 and is less than 5%. This therefore means that SCFO influence Dependability.

4.6.4: Supply Chain Financial Orchestration and Quality

Regression analysis was run to determine the correlation between Supply Chain Financial Orchestration and Quality and the results are shown in table 4.15.

Table 4.15: Regression Coefficients

| Model | | Coefficients ^a | | | | t | Sig. |
|-------|----------------|---------------------------|------------|--------------|-------|------|------|
| | | Unstandardized | | Standardized | | | |
| | | B | Std. Error | | | | |
| 1 | (Constant) | 4.595 | 1.745 | | 2.633 | .010 | |
| | X ₁ | .509 | .143 | .344 | 3.559 | .023 | |
| | X ₂ | .201 | .068 | .563 | 2.596 | .021 | |
| | X ₃ | .397 | .212 | .439 | 4.963 | .041 | |

a. Dependent Variable: Quality

Source: Research Data (2019)

$$Y_4 = 4.595 + .509X_1 + .201X_2 + .397X_3 \dots\dots\dots(iv)$$

From the table 4.15, the findings indicate that the P value (X₁ (t=3.559, P<0.05), X₂ (t=2.596, P<0.05) and X₃ (t=4.963) for Supplier Financial Orchestration, Internal Financial Orchestration

and Customer Financial Orchestration are less than 5% ($0.001 < 0.05$) which indicates that Supply Chain Financial Orchestration has a statistically viable relationship with Quality of supermarkets in Nairobi County.

Table 4.16: Regression Model Summary

| Model | R | R square | Adjusted square | R Std. Error of the Estimate |
|-------|------|----------|-----------------|------------------------------|
| I | .891 | .799 | .745 | .194 |

a. Predictors: (Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

As indicated in Table 4.16, the value of R square is 79%. According to the rule of thumb this means that the regression model is statistically fit to the changes in Quality and is explained by the adoption of SCFO.

Table 4.17: ANOVA Analysis

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|------|------------------|
| 1 | Regression | 7.392 | 2 | 1.233 | 3.33 | .03 ^b |
| | Residual | 0.837 | 32 | 0.064 | | |
| | Total | 8.229 | 34 | | | |

Source: Research data (2019)

At 5% level of significance, Table 4.17 indicates that the calculated value of F is 3.33 while F critical is 1.23 hence the study model is statistically viable. This is supported by the value of p which is 0.03 and is less than 5%. This therefore means that SCFO influence Quality.

4.6.5 Supply Chain Financial Orchestration and Speed

Regression analysis was run to find out the relationship between SCFO and Speed and the results are illustrated by the subsequent tables.

Table 4.18: Regression Coefficient

| Model | | Coefficients ^a | | | t | Sig. |
|-------|----------------|-----------------------------|------------|---------------------------|-------|------|
| | | Unstandardized Coefficients | | Standardized Coefficients | | |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.545 | 1.502 | | 3.452 | .000 |
| | X ₁ | .296 | .344 | .356 | .680 | .001 |
| | X ₂ | .281 | .217 | .573 | 1.351 | .021 |
| | X ₃ | .358 | .222 | .517 | 2.352 | .031 |

a. Dependent Variable: Speed

Source: Research Data (2019)

$$Y_5 = 4.545 + .296X_1 + .281X_2 + .358X_3 \dots\dots\dots(v)$$

From table 4.18, Supplier Financial Orchestration (t=0.680, P<0.05), Internal Financial Orchestration (t=1.351, P<0.05) and Customer Financial Orchestration (t=2.352, P<0.05) all have a positive and viable relationship with speed as depicted by the P value which is less than 5%. This therefore means that Supplier Financial Orchestration, Internal Financial Orchestration and Customer Financial Orchestration all influence speed of activities of supermarkets in Nairobi.

Table 4.19 Model Summary

| Model | R | R square | Adjusted square | R Std. Error of the Estimate |
|-------|-------------------|----------|-----------------|------------------------------|
| I | .609 ^a | .721 | .707 | .48368 |

a. Predictors:(Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research data (2019)

Table 4.19 indicates the coefficient of determination R Square is 0.72. This translates to 72% which implies that 72% of variation in speed is attributed to the SCFO. This affirms that the regression model is statistically sound.

Table 4.20 ANOVA Analysis

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|--------------|------------|-----------------------|-----------|--------------------|----------|-------------------|
| 1 | Regression | 4.381 | 2 | 1.276 | 12.180 | .014 ^b |
| | Residual | 2.339 | 32 | .234 | | |
| | Total | 6.720 | 34 | | | |

a. Dependent Variable: Speed

b. Predictors:(Constant), Supplier financial orchestration, internal financial orchestration, Customer financial orchestration

Source: Research Data (2019)

The F statistics value (at degree of freedom of 2, 32) of 12.180 was significant as shown by the fact that p value (0.14) was less than 0.05 an indication that the regression model is fit and viable. The P value is less than 5% ($0.14 < 0.05$) implying that SCFO has a statistically significant relationship and influences speed in supermarkets in Nairobi

On the second objective, it was established that SCFO has a positive and relevant relationship with operational performance. The findings indicate that SCFO influences Cost, Flexibility, Dependability, Quality and Speed. The findings coincide with that of Domberger (2008) who established that effective Supply Chain Financial Orchestration may not only be a means of growth and survival but can also give an entity a competitive edge and help it in achieving its operational performance. Carter (2011) adds that supply chain financial orchestration is inevitable strategic solution while enhancing an enterprise performance. Kreger (2003) posits that an efficiently run Supply Chain Financial Orchestration model enables an entity to improve operational efficiency by consolidating sourcing and order management functions and at the same time reduce implementation costs and cycle time. Hengst et al. (2011) opine that an effective Supply Chain Financial Orchestration enhances faster delivery of products at the same time lowering the cost involved. Odongo (2017) found out that SCI had a positive influence on performance in public universities. He further established that SCI enhances customer satisfaction, reduces cost and increased responsiveness. Gichuhi (2013) concludes that there was an affirmative relationship between business integration and SCP of Kenyan commercial banks.

The findings affirm that there is a relationship between SCFO and Operational performance of supermarkets in Nairobi. This is sustained by Network theory which stresses on all the functions of the organization coming together and working as one complete network instead of separate entities. The financial orchestration of suppliers, internally and Customers forms a single network which when they work together in unison, they are able to influence the aggregate performance of an entity. The findings of the study are therefore supported by Network theory since it has been established that SCFO has a positive and significant impact on performance.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section covered the summary of major findings, conclusion taken from the findings and recommendations made from findings. The conclusion and recommendations are based on the main objectives of the study.

5.2 Summary of Findings

This section contained summarized findings based on the objectives. The study aimed at establishing the influence of supply chain financial orchestration on operational performance of large supermarkets in Nairobi county. The first objective was to find out the level of adoption of supply chain financial orchestration by the leading supermarkets with the objective two being to establish the relationship between supply chain financial orchestration and operational performance of leading supermarkets in Nairobi County.

The findings indicate that supplier financial orchestration has been adopted to a moderate extent by the leading supermarkets in Nairobi. The supermarkets have maintained a database for strategic suppliers and they pay their suppliers through an electronic platform. The findings also reveal that the supermarkets maintain long lasting alliances with their suppliers and they share gains which results from the collaboration with the suppliers to a medium extent. The findings also reveal that internal financial orchestration has been adopted to a medium extent and that the supermarkets pay the employees through an orchestrated system as well as having interdepartmental meetings within the entity. They also manage internal flow of cash on an electronic platform to a large extent. On customer financial orchestration, it was observed that leading supermarkets have also adopted it to a medium extent. Leading supermarkets reward customers and have equipped them with loyalty cards, customer's activities are tracked and customer's funds are transferred through the orchestrated system to a moderate extent.

On the second objective, it was established that supply chain financial orchestration has a positive and significant influence on operational performance of the leading supermarkets in Nairobi County. SCFO helps the supermarkets in reducing the labour and product costs as well as the cost incurred in communication to a large extent. SCFO also influences quality. This is

achieved through conformance to specifications, reduced number of defects, customer service improvement and customer satisfaction. It was observed that SCFO influences flexibility by ensuring that there is efficient information sharing among stakeholders, increased flexibility in delivery and meeting customers' orders as well as effectively handling complaints with no extra cost. Dependability and speed were also found to have an affirmative relationship with SCFO. This was achieved by having committed suppliers and customers as well as reduced lead and cycle time and time taken in transferring of finances. The second objective was therefore achieved

5.3 Conclusion

The study aimed at evaluating the relationship between supply chain financial orchestration and operational performance of leading supermarkets in Nairobi County. As per the findings, it was conclusive that there is a positive and significant relationship between SCFO and operational performance and that SCFO influences cost, flexibility and speed to a large extent while quality and dependability are influenced on a medium extent.

The study also concludes that supplier financial integration, internal financial integration and customer financial orchestration have been adopted to a moderate extent by the leading supermarkets in Nairobi County. Suppliers (Supplier financial orchestration), focal company (internal financial orchestration) and customers) customer financial orchestration needs to work hand in hand and in synchrony to achieve full operational performance.

5.4 Recommendations form the study

From the study, it is recommended that firms need to adopt Supply chain financial orchestration for them to be able to integrate and have a platform whereby suppliers, customers and the organization itself can communicate and do business effectively and efficiently. This will enable them achieve the goal of operational performance as it has been established by this study.

Since supply chain financial orchestration positively influences performance, the study suggests that supplier financial orchestration, internal financial orchestration and customer financial orchestration should be fully adopted to a large extent by the leading supermarkets in Nairobi County. This is because the findings indicate that SCFO has been adopted to a medium extent.

The researcher also recommends that all the supermarkets, not just leading, should embrace supply chain financial orchestration as one way of competing and staying in business to achieve operational performance.

5.5 Limitation of the Study

The study was limited contextually as its focus was only on the leading supermarkets in Nairobi County and thus the results could not be conclusive of all the supermarkets. The response rate was also not fully achieved as some of the respondents were not available and others could not divulge the information citing privacy issues.

The study was limited conceptually to only SCFO and performance thus the drivers or barriers of SCFO adoption could not be established. It was also difficult to establish if the targeted respondents were the ones who filled the questionnaires or the questionnaires were filled with other staff members. Other factors which lead to operational performance apart from SCFO could also not be established in the current study.

5.6 Suggestions for Further Research

Future studies should explore why the leading supermarkets have adopted SCFO to a medium extent and why not fully. The concepts can also be borrowed by other researchers to establish if the finding of this study can be the same if its carried out in other sectors like manufacturing or service industry. Future studies can also try to compare the influence of SCFO and competitiveness, financial performance, supply chain responsiveness or even supply chain efficiency. The drivers and challenges that are faced in adopting SCFO can also be another area for future research.

REFERENCES

- Amin, H. (2009). An analysis of online banking usage intentions: an extension of the technology acceptance model. *International Journal of Business and Society*, 10(1), 27.
- Atanasova, C. (2012), “How Do Firms Choose Between Intermediary and Supplier Finance?”, *Financial Management*, Vol. 41 No. 1, pp. 207–228.
- Bates, D., Maechler, M., & Bolker, B. S. Walker (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software*, 67(1), 1-48.
- Berger, A. N., & Udell, G. F. (2006), “A more complete conceptual framework for SME finance”, *Journal of Banking & Finance*, Vol. 30 No. 11, pp. 2945–2966.
- Blackman, I. D., Holland, C. P., & Westcott, T. (2013), “Motorola’s global financial supply chain strategy”, *Supply Chain Management: An International Journal*, Vol. 18 No. 2, pp. 132–147.
- Borade, A. B., & Bansod, S. V. (2010), “Study of vendor-managed inventory practices in Indian industries”, *Journal of Manufacturing Technology Management*, Vol. 21 No. 8, pp. 1013–1038.
- Camerinelli, E. (2009), “Supply chain finance”, *Journal of Payments Strategy & Systems*, Vol. 3 No. 2, pp. 114–128.
- Camerinelli, E. (2009). Supply chain finance. *Journal of Payments Strategy & Systems*, 3(2), 114-128.
- Caridi, M., Crippa, L., Perego, A., Sianesi, A., & Tumino, A. (2010), “Measuring visibility to improve supply chain performance: a quantitative approach”, *Benchmarking: An International Journal*, Vol. 17 No. 4, pp. 593–615.
- Carter, C. R., & Liane Easton, P. (2011). Sustainable supply chain management: evolution and future directions. *International journal of physical distribution & logistics management*, 41(1), 46-62.
- Carter, C. R., Rogers, D. S., & Choi, T. Y. (2015), “Toward the Theory of the Supply Chain”, *Journal of Supply Chain Management*, Vol. 51 No. 2, pp. 89–97.
- Chang, C.-T., Teng, J.-T., & Goyal, S. K. (2008), “Inventory lot-size models under trade credits: A review”, *Asia-Pacific Journal of Operational Research*, Vol. 25 No. 1, pp. 89–112.
- Chen, M., Chen, A. N., & Shao, B. B. (2003). The implications and impacts of web services to electronic commerce research and practices. *J. Electron. Commerce Res.*, 4(4), 128-139.
- Chen, X., & Hu, C. (2011), “The Value of Supply Chain Finance”, In Habib, M. (Ed.), *Supply Chain Management - Applications and Simulations*, InTech, pp. 111–132.
- Christopher, M., & Ryals, L. (1999). Supply chain strategy: its impact on shareholder value. *The international journal of logistics management*, 10(1), 1-10.

- Claassen, M. J., Van Weele, A. J., & Van Raaij, E. M. (2008), "Performance outcomes and success factors of vendor managed inventory (VMI)", *Supply Chain Management: An International Journal*, Vol. 13 No. 6, pp. 406–414.
- Clark, A. J., & Scarf, H. (1960), "Optimal Policies for a Multi-Echelon Inventory Problem", *Management Science*, Vol. 6 No. 4, pp. 475–490.
- Cooper, H. M. (2009), *Research Synthesis and Meta-Analysis: A Step-by-Step Approach*, SAGE Publications, Inc., Los Angeles.
- Cooper, M. C., Lambert, D. M., & Pagh, J. D. (1997), "Supply chain management: more than a new name for logistics", *International Journal of Logistics Management*, The, Vol 8 No. 1, pp. 1–14.
- Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011), "Liquidity risk management and credit supply in the financial crisis", *Journal of Financial Economics*, Vol. 101 No. 2, pp. 297– 312.
- Coulibaly, B., Sapriza, H., & Zlate, A. (2013), "Financial frictions, trade credit, and the 2008–09 global financial crisis", *International Review of Economics & Finance*, Vol. 26, No. C, pp. 25–38.
- Croxton, K. L., García-Dastugue, S. J., Lambert, D. M., & Rogers, D. S. (2001), "The Supply Chain Management Processes", *The International Journal of Logistics Management*, Vol. 12, No. 2, pp. 13–36.
- Darwish, M. A., & Odah, O. M. (2010), "Vendor managed inventory model for single-vendor multiretailer supply chains", *European Journal of Operational Research*, Vol. 204 No. 3, pp. 473–484.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- Deakins, D., & Hussain, G. (1994), "Risk Assessment with Asymmetric Information", *International Journal of Bank Marketing*, Vol. 12 No. 1, pp. 24–31.
- Dong, Y., & Xu, K. (2002), "A supply chain model of vendor managed inventory", *Transportation Research Part E: Logistics and Transportation Review*, Vol. 38 No. 2, pp. 75–95.
- Dong, Y., Xu, K., & Dresner, M. (2007), "Environmental determinants of VMI adoption: an exploratory analysis", *Transportation Research Part E: Logistics and Transportation Review*, Vol. 43 No. 4, pp. 355–369.
- Farris II, M. T., & Hutchison, P. D. (2002), "Cash-to-cash: the new supply chain management metric", *International Journal of Physical Distribution & Logistics Management*, Vol. 32 No. 4, pp. 288– 298.
- Fisman, R., & Love, I. (2003), "Trade credit, financial intermediary development, and industry growth", *The Journal of Finance*, Vol. 58 No. 1, pp. 353–374.

- Garcia-Appendini, E., & Montoriol-Garriga, J. (2013), “Firms as liquidity providers: Evidence from the 2007–2008 financial crisis”, *Journal of Financial Economics*, Vol. 109 No. 1, pp. 272–291.
- Gomm, M. L. (2010), “Supply chain finance: applying finance theory to supply chain management to enhance finance in supply chains”, *International Journal of Logistics Research and Applications*, Vol. 13, No. 2, pp. 133–142.
- Grosse-Ruyken, P. T., Wagner, S. M., & Jonke, R. (2011), “What is the right cash conversion cycle for your supply chain?”, *International Journal of Services and Operations Management*, Vol. 10 No. 1, pp. 13–29.
- Hofmann, E. (2005), “Supply Chain Finance: some conceptual insights”, In Lasch, R. & Janker, C. G. (Ed.), *Logistik Management. Innovative Logistikkonzepte*, German Universitätsverlag, Wiesbaden, pp. 203–214.
- Hofmann, E., & Belin, O. (2011), *Supply Chain Finance Solutions*, Springer-Verlag Berlin Heidelberg, Berlin.
- Hofmann, E., & Kotzab, H. (2010), “A Supply Chain-Oriented Approach of Working Capital Management”, *Journal of Business Logistics*, Vol. 31 No. 2, pp. 305–330.
- Howden, M. (2009, May). How humanitarian logistics information systems can improve humanitarian supply chains: a view from the field. In *Proceedings of the 6th international ISCRAM conference, Gothenburg, Sweden*.
- John Mathis, F., & Cavinato, J. (2010), “Financing the global supply chain: Growing need for management action”, *Thunderbird International Business Review*, Vol. 52 No. 6, pp. 467–474.
- Kamori, P. T. (2013). Green Marketing practices of medium and large supermarkets in Nairobi, Kenya. *Unpublished MBA Project, University of Nairobi*.
- Klapper, L. F. (2006), “The role of factoring for financing small and medium enterprises”, *Journal of Banking & Finance*, Vol. 30 No. 11, pp. 3111–3130.
- LaLonde, B. J., & Pohlen, T. L. (1996). Issues in supply chain costing. *The International Journal of Logistics Management*, 7(1), 1-12.
- Lamoureux, J.-F., & Evans, T. A. (2011), “*Supply Chain Finance: A New Means to Support the Competitiveness and Resilience of Global Value Chains*”, working paper 2179944, Social Science Research Network, Rochester, NY.
- Luo, J., & Zhang, Q. (2012), “Trade credit: A new mechanism to coordinate supply chain”, *Operations Research Letters*, Vol. 40 No. 5, pp. 378–384.
- Mangiaracina, R., Melacini, M., & Perego, A. (2012), “A critical analysis of vendor managed inventory in the grocery supply chain”, *International Journal of Integrated Supply Management*, Vol. 7 No. 1-2, pp. 138–166.
- Tabachnick, B., & Fidell, L. (2007). *Using Multivariate statistics*. Boston: Pearson Education

APPENDIX 1; QUESTIONNAIRE

Introduction

This questionnaire has been designed for the sole purpose of collecting data on the effect of supply chain financial orchestration on operational performance among leading supermarkets Nairobi, Kenya. The data collected will be treated with a very high degree of confidentiality and it is meant for academic purpose only.

SECTION A: Biographic information

1. Please state the name of your supermarket.

.....
.....

2. Please state your job title.

a) Supply chain manager ()

b) Operations manager ()

c) Procurement officer ()

3. How long have you worked for your organization?

a) 1 – 2 years ()

b) 3 – 5 years ()

c) 5 -10 years ()

c) Over 10 years ()

4. For how long has this supermarket operated in Kenya?

a) Less than 5 years ()

b) 5 – 10 years ()

c) over 10 years ()

5. When did you first orchestrate your business processes

Five years ago () Ten years ago () Fifteen years ago ()

SECTION B: Level of Supply Chain Financial Orchestration Adoption among supermarkets in Nairobi

6. Please indicate the extent to which you agree with the following statements on the extent of Supply Chain Financial Orchestration in your supermarket. The scale below will be applicable:

1= To a very large extent 2= Large extent 3= moderate extent 4= small extent 5=very small extent.

Supply Chain Financial Orchestration

Rating

| SUPPLIER FINANCIAL ORCHESTRATION | 1 | 2 | 3 | 4 | 5 |
|--|----------|----------|----------|----------|----------|
| We maintain long term relationships with our suppliers | | | | | |
| We pay our suppliers electronically | | | | | |
| We finance our strategic suppliers | | | | | |
| We maintain a database of strategic suppliers | | | | | |
| Gains resulting from cooperation with main suppliers are equally shared | | | | | |
| INTERNAL FINANCIAL ORCHESTRATION | 1 | 2 | 3 | 4 | 5 |
| We manage internal flow of cash electronically from accounts department to user departments | | | | | |
| We pay our employees through an orchestrated system | | | | | |
| Co-ordination between the different departments is constant and successful | | | | | |
| Cross-functional management is very significant for all supply chain initiatives | | | | | |
| Periodic interdepartmental meetings among internal functions are commonly conducted | | | | | |
| CUSTOMER FINANCIAL ORCHESTRATION | 1 | 2 | 3 | 4 | 5 |
| The firm uses systematic processes for handling customers complaints | | | | | |
| The feedback provided by customers is used to improve customer relations, processes, products and services | | | | | |
| Customers pay for the product and the funds are transferred through the orchestrated system | | | | | |
| Customers activities and purchases are tracked and monitored through the system | | | | | |
| Our customers are equipped with loyalty cards and are rewarded | | | | | |

Others(please specify)

.....

.....

SECTION C: Performance outcomes of implementing Supply Chain Financial Orchestration

7. The following are some of the performance outcomes which are experienced by organizations which have implemented Supply Chain Financial Orchestration. Please indicate the extent to which the following outcomes are experienced in your organization. Please rank in a scale of 1 – 5, (where: 1- strongly disagree, 2- disagree, 3- not sure, 4- agree, 5- strongly agree). Tick as appropriate.

Performance outcome **Rating**

| COST | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Reduction in cost of product | | | | | |
| Decrease in cost of labour | | | | | |
| Communication cost decrease | | | | | |
| Increased inventory control | | | | | |
| QUALITY | | | | | |
| Conformance to specifications | | | | | |
| Reduction in number of defects and returns | | | | | |
| Customer service improvement | | | | | |
| Customer satisfaction and customer service improvement | | | | | |
| FLEXIBILITY | | | | | |
| Efficient information sharing with stakeholders | | | | | |
| Increased flexibility towards the customer demands | | | | | |
| Increased handling of complaints at no extra cost | | | | | |
| Increased flexibility towards deliveries | | | | | |
| DEPENDABILITY | | | | | |
| Committed suppliers | | | | | |
| Committed and loyal customers | | | | | |
| Efficient flow of communication (external & internal) | | | | | |
| Smooth flow of input and output | | | | | |
| SPEED | | | | | |
| Reduced lead times (serving customers) | | | | | |
| Reduced cycle time | | | | | |
| Reduced time in transferring finances | | | | | |
| Reduction in communication time | | | | | |

Others(please specify)

.....
.....

8. Would you recommend adoption of Supply Chain Financial Orchestration to other organizations?

a) Yes ()

b) No ()

If yes please give a reason

.....

THANK YOU FOR YOUR RESPONSE!

APPENDIX II; LIST OF SUPERMARKETS

| | |
|--------------------------------------|-------------------------------|
| 1. Acacia Supermarket | 26. Nakumatt Supermarket |
| 2. Chandarana Supermarket | 27. Ng`Ororgaa Supermarket |
| 3. Carre Four Supermarket | 28. Pakmatt Supermarket |
| 4. Cleanshelf Supermarket | 29. Quickmart Supermarket |
| 5. Choppies supermarket | 30. Rikana Supermarket |
| 6. Eastmatt Supermarket | 31. Saltes Supermarket |
| 7. Easy Mart Supermarket | 32. Selfridge Supermarkets |
| 8. Galmart Supermarket | 33. Seraben Supermarket |
| 9. G-Mart Supermarket | 34. Skymart Supermarket |
| 10. Home Depo Supermarket | 35. Society Store Supermarket |
| 11. Ibrahims Supermarket | 36. Stage Mart Supermarket |
| 12. Ibrahims Electronics Supermarket | 37. Stop and Shop Supermarket |
| 13. Jaharis Supermarket | 38. Suntec Supermarket |
| 14. Jds Supermarket | 39. Tumaini Supermarket |
| 15. Jeska Supermarket Ltd | 40. Tuskys Supermarket |
| 16. Karrymart Supermarket | 41. Uchumi Supermarket |
| 17. Kassmart Supermarket | 42. Ukwala Supermarket |
| 18. Kibao Supermarket | 43. Wagon Shopping Limited |
| 19. Kimsa Supermarket | |
| 20. Leestar Supermarket | |
| 21. Maathai Supermarket | |
| 22. Maguma Andu Supermarket | |
| 23. Mesora Supermarket | |
| 24. Midas Supermarket | |
| 25. Naivas Supermarket | |

Source; Yellow Pages (2017)