SUPPLY CHAIN INFORMATION SHARING AND PERFORMANCE OF COMMERCIAL BANKS IN KENYA

GORDON OCHIENG OGOYE

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DECLARATION

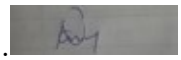
This research project is original work and has not been submitted for examination in any other university.

Signed….  …… Date……2nd September 2021

GORDON OCHIENG OGOYE

D61/79911/2012

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

Signed……  …… Date…6th September 2021.

MS. NANCY MARIKA
LECTURER,
SCHOOL OF BUSINESS,
UNIVERSITY OF NAIROBI
Moderated by Mr. Joel Lelei 16/9/2021

DEDICATION

This research is dedicated to my wife Ruth, sons Jaydenn & Aiden. My late father John Ogoye this is for you too dad.

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Fırst, I am most grateful to God the Almighty for the opportunity and grace to go this far. Secondly, my sincere gratitude goes to my ever-available supervisor Ms. Nancy Marika and moderator Mr. Joel Lelei, I can't say enough thank you for your professional guidance through entire journey. May God bless you abundantly.

To my wife Ruth, sons Jaydenn & Aiden, thank you a million for all your support. Your ever presence and love made the long hours bearable. My sincere gratitude goes out too to all the respondents across all the banks who made the data collection a success, without your support this study would not have been possible.

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ABBREVIATIONS

BSC: Balanced Score Card

CBK: Central Bank of Kenya

EDI: Electronic Data Interchange

ERP: Enterprise Resource Planning

ICT: Information and Communication Technology

IST: Information Sharing Theory

IT: Information Technologies

KBT: Knowledge Based Theory

PMM: Performance Measurement Matrix

PP: Performance Prism

SC: Supply chain

SD: Standard deviation

SCIS: Supply Chain Information Sharing

SCM: Supply Chain Management

SCP: Supply Chain Performance

SMEs: Small and Mid-Size Enterprises

SNT: Social Network Theory

SRM: Supplier Relationship Management

TCE: Transactional Cost Economics

TMS: Top Management Support

ABSTRACT

SCIS is critical in attaining optimal performance through proper planning and coordination as well as timely and accurate decision making. It informs organizations of market needs for example demand, and their role in meeting those needs. To achieve the objectives of the study, collection of primary data was through self-administered semi structured questionnaires focusing on general information, factors affecting SCIS of commercial banks and on the influence of SCIS on the Kenyan commercial banks' operational performance. The study population entailed 40 Kenyan commercial banks and the respondents were: heads of procurement and finance, as well as head of operations. Frequency tables, mean & standard deviation were used for the first two objectives with regression analysis applied for the third. To reduce the variables into a manageable number and to establish the impact of the various SCIS factors on performance, factor analysis was employed and a regression model. The results found that integrated IT, collaboration, commitment and trust were utilized to a great extent by commercial banks. However, top management support practices were utilized to a moderate extent. The factors that highly influenced SCIS included, integrated information, collaboration and SRM. The outcome of the regression revealed that the coefficient of determination (R2), 59.7 was an effective predictor. The model of regression was found to be significant, integrated IT, SRM, trust, top management support and commitment were positively linked to bank performance. But collaboration was negatively linked to bank performance. The research recommends that commercial banks should fully support their SC partners by engaging them in decisions and issuing incentives to encourage them to effectively participate in supply chain roles. The study recommends more priority by TMS through full support to their supply chain partners in terms of resources, involvement in key decisions, information sharing and incentives. This will boost their relationship with the supply chain partners and improve efficiency and effectiveness in the delivery of goods and services. The study recommends that need for commercial banks to allocate adequate finances to invest in integrated supply chain information sharing systems. This will boost efficiency in information sharing and connectivity among the supply chain partners resulting to reduced lead time, stock-out cost and timely delivery. Experimental or simulations researches are recommended to ascertain if the findings will hold. In future, scholars interested in this line of research can build on this study and establish the contribution of SCIS using different approaches for validation purposes, more specifically, validating the guidelines for information sharing will enable the researchers to develop strategies to share information.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Sharing of information is a critical aspect of coordination between supply chain members that includes, distributors, retailers and customers (Colicchia, Creazza, Noè & Strozzi, 2019). Information sharing increases efficiency in supply chain by eliminating dead stocks and stock out costs since the firm is able to hold the right quantity by forecasting the stock levels. To improve performance, many firms are paying more attention to their supply chains hence have innovatively devised ways to effectively and efficiently manage their supply chain (Okore & Kibet, 2019).

Supply chain information sharing (SCIS) has numerous benefits to organizations, for example, products can easily meet customer needs and any change in the market place may be detected in advance. The wide use of sophisticated information technology in supply chain, for example Electronic Data Interchange and Web technologies depict that firms understand the value of integrating information.

1.1.1 Information Sharing

Colicchia, Creazza, Noe' and Strozzi (2019) define supply chain information sharing as distributing valuable information to people, systems and firm units. To achieve better results from information sharing, firms should establish what to be shared to enable it to minimize cost of sharing, enhance responses and minimize redundancy. Information sharing is also regarded as knowledge sharing (Loury-Okoumba, Mafini, & Pooe, 2015). Sharing of supply chain information is increasingly becoming critical with the advances in IT leading to development of different network structures that are aligned to make coordination among partners in supply chain closer.

1.1.2 Performance

This is the ability of a company in making maximum use of its available resources like knowledge and capital in accomplishing its set objectives and goals. According to Neely et al. (2001), performance prism emphasizes on stakeholder orientation. While using this performance measurement system, decision makers are required to identify all the needs of an organization. Firms can develop business processes and strategies as well as measures to cater for the specific stakeholder groups. These stakeholders include business community and regulators. Also, PP helps the firm to easily deal with the risks and opportunities in the business environment.

Advanced by Keegan et al. (2011), the matrix is the other technique used to measure performance, and has some similarities with the prism. Here, a form of a matrix is used to categorize its activities. The tool helps the top management to determine if the strategy has the desired impact on the firm's performance. The organization is also able to set targets and communicate to its employees and key stakeholders as part of its priority, thus rewards are linked to the realization of these targets.

The indicators of performance that the study will use include efficiency and customer loyalty. Efficiency is the optimal level of performance using the least amount inputs to realize the high output. When the firm is efficient there is limited or completely no wastage of resources for example, time and energy. Customer loyalty is the ability of the firm retain a customer.

1.1.3 Commercial Banks in Kenya

Commercial banks serve a critical role in enhancing economic growth. Bank functions include deposits taking, offering loans, and financial as well as investment advice. Commercial banks offer employment opportunities and credit access to big companies including Small and Mid-Size Enterprises (SMEs) (CBK, 2019). Commercial banks

have undergone significant changes for instance, globalization and liberalization in 1995 resulting into removal of exchange regulations. According to Ongore and Kusa (2013), this has enhanced the use of bank technologies thus contributing positively towards their profitability. CBK equally foresees monetary policies implementation as well as liquidity management while ensuring effectiveness in the financial system.

The banking industry comprise of commercial banks, Forex Bureaus, non-bank financial institutions, and Microfinance banks as regulated players. There are 42 commercial banks accredited to operate within the Kenyan boundaries (CBK, 2020). However, two of these namely, Chase bank and Imperial bank are currently under receıvership. Commercial banks in Kenya are considering supply chain information sharing as a key resource that the firm can use to make quality decisions, set strategies and efficiently communicate with the stakeholders in this era of technology.

To survive today's competitive business environment, commercial banks have to be abreast of any new information that emanates from the environment and align their structures to strategically accommodate information for quick decision making and strategy setting (Foley & Olabi, 2017).

1.2 Research Problem

SCIS is critical in attaining optimal performance through proper planning and coordination as well as timely and accurate decision making. It informs organizations of market needs for example demand, and their role in meeting those needs (Cai & Yang, 2014). Performance improvement is realized through; minimized level of uncertainty, efficiency in decision making and minimized overall costs (Baihaqi & Sohal, 2013). Commercial banks in Kenya like other organizations have enhanced SCIS by investing widely in IT systems like ERPs in order to be competitive in the

current market. This has improved information sharing and communication among commercial banks (Mugwe & Oliweny, 2015).

Baihaqi and Sohal (2013) did an investigation on this in Indonesia and findings established a strong link. Loury-Okoumba, Mafini and Pooe (2015) did similar study on Small and Medium Enterprises in South Africa and the results showed that information sharing significantly influenced supplier performance. Tran, Childerhouse and Deakins (2016) explored the challenges facing supply chain information sharing in New Zealand, establishing a direct association between information exchange & SCP.

A mixed approach research design was used in a population of 159 staff and collection of primary data was through self-administered semi structured questionnaires focusing on general information, factors affecting SCIS of commercial banks and on the influence of SCIS on the Kenyan commercial banks' operational performance. Analysis was done using multiple regression and the results found a significant association between information technology and supply chain performance.

Although studies have been done in information sharing and SCP not much has been done in the local organizations particularly in commercial banks in Kenya. For instance, the aforementioned local studies (Sikuku *et al.*, 2018; Okore & Kibet 2019; Kaaria & Mwangangi, 2019) have solely focused on information sharing and SCP, and completely ignored performance as a whole. Secondly, majority have largely been on the public institutions in Kenya and internationally thus the need for a Kenyan set up study. This study therefore sought to answer the question; What was the influence of SCIS on organizational performance of commercial banks in Kenya?

1.3 Research Objectives

i. To establish the extent of SCIS among Kenyan commercial banks.

ii. To establish the factors affecting SCIS of commercial banks in Kenya.

iii. To establish the link between SCIS and organizational performance of commercial banks in Kenya.

1.4 Value of the Study

This study will be resourceful to scholars and researchers in broadening their understanding of the study theories particularly, their relevance and application. Researchers with an interest in this study area utilized the findings obtained in this research as a basis for further investigations.

Commercial banks and bank practitioners found this study useful since it broadened their understanding about information sharing especially SCIS. This contributed positively towards effective sharing of information among supply chain members leading to improved performance.

Policy makers such as CBK; used the study findings to set policies that promote security in information sharing among commercial banks and their supply chain members. To promote information sharing among stakeholders of commercial banks, CBK created an enabling environment by allowing banks to share information more efficiently resulting to overall bank performance.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter discusses theories supporting this study and also giving background on study constructs (SCIS and organization performance) and an empirical review to support this argument and address the research question as hypothesized in chapter one.

2.2 Theoretical Foundation

This section discusses theories and how they relate to SCIS and performance. The theories were namely, Information Sharing Theory, Virtual Integration Theory and Social Network Theory. The elements discussed in the theories included the proponents, theoretical development, critics, relevance and significance of the theories to this research.

2.2.1 Information Sharing Theory

Constant, Kiesler and Sproull (1994), indicate that information sharing theory anchored on the factors that drive and hinder exchange of information between individuals. The premise that underlies this theory is that the firm culture, policies and individual factors drive individual's attitude on information sharing.

Constant, Kiesler and Sproull (1994) opined that information exchange is similar to social exchange, it is determined by the sharing attitude and the need to share information as well as the content thereof (Jarvenpaa & Staples, 2000). The second factor is information sharing culture. When there is expectation to share information among employees, there is a high chance that such employees will be willing to share information among them.

Wang and Noe (2010) indicate that attitude highly influences information sharing. Employees have a will of sharing information with their colleagues when they are comfortable relating to them. A prosocial attitude develops from experience and satisfaction also plays a critical role influencing the employees' willingness in sharing information (Constant et al., 1994). Sharing information is regarded as a robust basis for knowledge and information (Cronin, 2000). Employees' attitudes in terms of social together with organisational factors influence reciprocity and also the behavior of sharing information.

2.2.2 Virtual Integration Theory

Being the pioneer of this theory, De Leeuw and Volberda (1996) posit that ownership is substituted for partnership by integrating suppliers with information technology for improved supply chain collaboration. Wang, Tai and Wei (2006) argue that technology enables the firm to collaborate and execute its plans in the supply chain process. Integrating suppliers is increasing becoming a key aspect due to responsiveness which is a critical performance metric for managers in today's evolving world (Marika, Litondo & Njihia, 2018). With rising demands from customers, firms are being forced to respond quickly and effectively to the international markets and standards. This has enhanced information sharing and value addition in decisions across the supply chain channel. Supply chain integration has promoted governance through cost leadership and transparency since all the supply chain partners participate in key supply chain decisions.

Virtual integration is considered as an alternative mechanism for governance which is aimed at achieving cost efficiency and flexibility. Bhimani and Ncube (2006) indicate that a reduction in coordination cost and transaction risk results to partnership outsourcing. Integrated information processing and communication capability as well

as effective control and feedback mechanisms offered by IT, supply chain partners can boost their collaboration among the supply chain partners without similar ownership. This is because with integration, supply chain partners can make joint decisions, manage operations, control and coordinate their supply chain system. The theory considers SCIS as a strategy to mitigate the effects of environmental uncertainty by enhancing sharing of information between firms, coordination and control which minimizes cost and improves efficiency resulting to improved firm performance.

2.2.3 Social Network Theory

The theory has been hypothesized by Jacob Moreno based on his works: Sociograms that sought to explore interpersonal relationships. Further, through the use of mathematical methods, the concept was formalized in the 1950s and in the 1980s; it began gaining acceptance in behavioral sciences. According to Borgatti and Foster (2003), over the past twenty years, this theory has attracted attention and it is no longer possible to over emphasize its relevance in production and operations management, scholars such as Hearnshaw and Wilson (2013).

The nodes (actors) in any network represents different levels of social units for example, people and firms. In contagion; this effect explains how networks develop homogeneity for instance, attitude (other firm practices) and how this may affect information flow. Insidership focuses on the performance of network members. The uniqueness of SNT is that it focuses on the main influencers of performance outcome among network members as opposed to the traits of the individual networks or members (Freeman, White & Romney, 1992). Contrary, the premise behind network theory is how actors (firms) having similar traits perform differently due to influence of network characteristics to which they belong or different positions in similar

networks. It is assumed that actors that are doing well are those that are well connected. The weakness of this theory is that it is not always the case that these networks provide important supply chain information; the networks can also be used to spread negative and untrue supply chain information about the firm. This may impact negatively on performance.

2.3 Factors affecting SCIS

SCIS is key in ensuring effective SC operations and firm performance. Maintaining a good relationship between firms is a behavioral issue, this is an area in which most firms struggle (Fawcett & Magnan, 2013). The main factors that affect supply chain information sharing of firms include trust (Tran et al., 2016), commitment (Abdullah & Musa, 2014), collaboration (Yigitbasioglu, 2010) and integrated information technology (Alzoubi & Yanamandra, 2020).

2.3.1 Trust

This is the extent to which an organization can have confidence in the integrity and dependability of an exchange partner. Trust helps the firm to build long-term relationship with its supply chain members and supports SCIS by contributing towards strategic partnership and requires supply chain members to be trustworthy. Trust is needed among supply chain members to pass information and integration. Trust is key at management levels for successful sharing of information since management decisions safeguard employee interests improve staff motivation and commitment to their work (Bowker & Villamizar, 2017).

Trust improves managing of decisions by reducing the time and resources needed by the firm to make decisions. It is simple and easy to make decisions when there is trust between supply chain members and this saves huge resources that might can be put to

other productive use for the firm. Trust enables supply chain members to build strong relations and bonds that allow members to work together towards similar goals. A high level of trust increases motivation for open communication and willingness for the firm to take risks.

Trust creates room for collaboration and synergy that impacts positively on firm performance. It is difficult for firms to work together without trust, firms that develop trust with their supply chain members can easily share information making it easy for them to share ideas and make better decisions. Mamad and Chahdi (2013) argue that trust contributes positively towards performance. However, in an uncertain environment, the firm is more suspicious and uncertain about its supply chain members especially when the firm engages in constant sharing of information with its stakeholders. When there are drastic and negative changes in the environment, this might create fear and insecurity leading to social withdraw of relationship or information sharing.

2.3.2 Commitment

Commitment is regarded as tolerating members with their respective deficiencies without taking advantage of a weaker member. The firm needs to allocate resources to support information sharing within the supply chain. Commitment brings about responsibility and accountability among supply chain members. Firms to rethink their strategies and commit themselves on how they can share up-to-date information with their supply chain members. This implies distributing important information to the people, system and the firm. The firm's commitment is critical in ensuring continuous sharing of knowledge and information. The firm should be committed to maintain and

sustain their relationships with their supply chain members. This enables the firm to make key decisions and align its resources and people in a similar direction.

When supply chain members are committed to their relationship, they tend to develop a sense of duty in sharing of information making it more convenient for the firm to make quality decisions (Wang *et al*., 2014).

A clear emphasis on commitment motivates the supply chain members to appreciate the power of sharing information and its contribution towards improving firm performance. Sharing information in the supply chain can be costly at the beginning for a small firm however, in the long-term the firm can gain from improved quality of decisions and reduced communication costs. The firm's commitment lies in its to share information and use available means to make it a success. Ebrahim-Khanjari *et al.* (2012) opine that ensuring business engagements among supply chain members needs commitment by two parties in order to realize supply chain goals. In view of this Insists that commitment by supply chain members enables the firm and all its stakeholders to realize their desired outcomes and impact positively on performance.

2.3.3 Collaboration

Information is best shared when there is collaboration between supply chain members. To effectively collaborate with supply chain members the firm needs to devise efficient ways to sharing valuable information real time. This helps to create transparent communication through a network of collaboration in efforts that are geared to ensure that the firm gets the right product for a specific target market in the right market on time (Yigitbasioglu, 2010).

Through collaboration the firm gets to understand the value of customer loyalty through shared information and the extent of competition for brand loyalty. When the

firm provides its suppliers with a platform to share information and collaborate on daily matters, market regulations and ethical standards, this is a sign that a firm has effective supply chain operations that can accommodate more business. Firms with talented supply chain operations seeks to engage in sustainable collaborations with business that can match their level of competence, and this cannot be achieved without proper sharing of information by supply chain members. Collaboration improves innovation and ideas through information sharing and this impacts positively on employee morale and firm productivity.

Bowker and Villamizar (2017) explain that the longer a firm collaborates with its supply chain members, the better the members get to know the kind of information to share, when to share it and who to share it with. Indicates that collaborative experience and adequate communication makes it easy for the firm to know the operations of its suppliers, habits and standards. Sharing of supply chain enables the company together with members of the supply to develop knowledge that is useful for innovation, ideas and strategic decision making. Collaborative SC initiatives for instance decision making by a joint team improves supply chain performance.

2.3.4 Integrated Information Technologies

Information technology such as Electronic Data Interchange (EDI) or the internet has led to online communication and real-time processing of information that connects all supply chain members, right from suppliers, distributors, retailers and the customers, despite the location (Handfield & Nichols, 2015). The underlying theme of Supply Chain Management (SCM) is teamwork between members that needs huge amount of information exchange. IT enables firms to improve on their speed on processing of information capability that is needed to share information with their members for

quality decision making. Integrated IT provides a platform for effective sharing of information.

Integrated IT also helps firms to provide accurate and reliable information in a timely way and ensure effective sharing of information for decision making (Mettler & Winter, 2016). This help firms to effectively coordinate their activities within their supply chain members. Fragmented & insufficient IT makes it hard for firms to exploit information and knowledge and share it with their partners. Integrated IT brings about interdepartmental collaboration and interactions resulting into cohesive organization. IT integration go beyond formal association between supply chain members hence is based on collaboration characterized by a similar vision, resource sharing, mutual understanding and similar goals.

Integrated IT has made easier firms to share information, this has accrued many benefits within the supply chain. This has enabled firms to cut communication costs and made it easier for firms to coordinate its activities with its partners. Other coordination costs like administration have also been reduced since the firm does not necessarily have to meet to communicate or make some decisions since this can be achieved by information sharing (Hendy et al., 2020).

2.3.5 Supplier Relationship Management

Panahifar *et al*. (2018) contend that cooperation between buyers and suppliers is essential for the two to integrate in the supply chain. This is primarily because the two parties are part of the supply chain and require information of the other parties in various instances. For buyers, they require suppliers' information for the purposes of managing production, scheduling inventory, and also for synchronizing their

individual production of the supplier. Although this information is scarce, it is of significant importance to buyers.

There is need for information resources for efficient and effective supplier integration. Suppliers' contribution of resources is imperative for integration behavior. For instance, time and human resources of the suppliers should equally be incorporated in the procurement process or design process by the supplier. Suppliers possess power in their relationship with buyers because they are the controller of resources. Mettler and Winter (2016) describe the repercussions of power in information sharing. They opine that using coercive power leads to adverse cooperation relationship. It is possible for buyers to be influenced by suppliers through coercive power, whereas for buyers to influence suppliers it can happen by calculations or even opportunistic actions and reactions to avoid punishments. This reaction serves in hindering a buyer from sharing or investing in information in the buyer-supplier relationship, which consequently delays and adversely impacts the supply chain integration.

2.3.6 Top Management Support

This is the management's knowledge of the actual benefits of and consequently supporting quality information sharing with partners in a supply chain (Handfield & Nichols, 2015). Mentzer et al. (2000) assert that for effective implementation of information sharing to be realized, management must not only understand, but also embrace the significant market and operational effects of partnering and developing an effective understanding of the potential of having partners in the management. Management is thus required to share an understanding of the actual advantages of information sharing in order to overcome the unavoidable divergence of interests between the involved organizations.

Therefore, management should be knowledgeable of the benefits of information sharing and at the same time offer vision and guidance as well as support towards its implementation. Also, they must come up with an organizational culture that encourages information sharing while making sure that information is shared without distortion or delay (Achterberg, 2012).

2.4 Organisational Performance

This is the output of a firm while measured against its intended outcomes. It is a wide construct that captures what firm does, what it produces, how it interacts with other actors in the environment and its strategies to realize goals and objectives.

Scholars and practitioners have raised concerns of organisational performance comprising of strategic planners, legal finance, operations, and organizational development. Therefore, it can be defined as an assessment of various aspects that seek to determine the firm's capability in achieving its goals efficiently and effectively. Effectiveness is referred to as the maximum level production that functions can achieve by meeting customer demands and requirements. On the other hand, efficiency involving determining the way resources in a firm are utilized in different functions to realize set goals and objectives. From a quantitative perspective, there is an interrelationship between dimension of scale and performance. This is characterized by an example, where it is possible to express organisational performance level as a percentage or an absolute value in a manner that makes it easier for directors to understand. For organisational performance targets to be rendered meaningful, they can be expressed quantitatively. Additionally, performance relates to the quality and nature of an action performed by a firm to realize the

accomplishment of its basic functions together with tasks to generate profits (Keegan *et al*., 2011).

2.5 Summary

The study concluded that SCIS played an instrumental role in enabling the firm and its members to access quality and timely information that was required for quality decision making. Firms have realized the significance of SCIS as a strategy to effectively coordinate their strategies and activities in a timely and efficient way. This contributed significantly towards improving operational and firm performance.

The main factors that affected SCIS included trust, commitment, collaboration, integrated information technology and organisational culture. Therefore, the study employed a descriptive research design to determine this relationship.

2.7 Conceptual Framework

Figure 2.1 depicts the hypothesized association between SCIS and organisational performance in terms of efficiency and customer loyalty. The independent variables included trust, commitment, collaboration, integrated information technology, supplier relationship management and the organization's top management support. The dependent variable was performance.

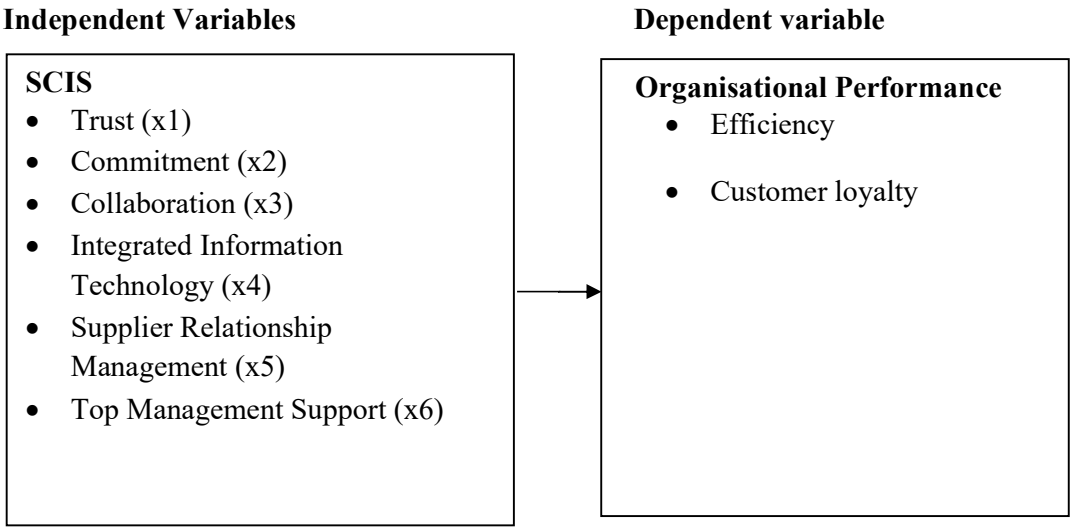

Figure 2.1: Conceptual Framework

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section explains in details the methodology to be employed in this study.

3.2 Research Design

This is the schedule of how the study questions are to be answered (Saunders, Lewis, & Thornhill, 2016). It acts as a roadmap that describes the data collection and analysis methods that will help the scholar find solutions. The research adopted a descriptive research approach to determine the nature of existing and current conditions (Saunders, Lewis & Thornhill, 2016).

With this design, the researcher was be able to make judgement on the current and existing conditions of the study through adequate information with minimum bias to analyze the research problem or manipulating any of the variables. According to Remenyi et al. (2001), descriptive research design will also enable the researcher to collect adequate data without spending having to use a lot of time, effort and money. Finally, the researcher was able to develop a careful description of different patterns and reveal the connection between SCIS and performance Kenyan commercial banks.

3.3 Study Population

This is the full set of elements from which a sample is selected (Saunders, Lewis, & Thornhill, 2016). According to CBK (2020), there were 42 commercial banks licensed to operate within the Kenyan boundaries as presented in Appendix II. However, two of these banks; Chase Bank Kenya and Imperial Bank Kenya are currently on receivership hence the study focused on the remaining 40 banks as the population of the study.

The main reason for choosing commercial banks was informed by their likelihood to employ an elaborate management philosophy that influenced them to use SCIS for quality decisions, efficiency, cost reduction and overall firm performance. Additionally, the data was collected from the respective bank headquarters. This was informed by the fact that all the major supply chain decisions were made at the headquarters and only passed down to the branches for implementation.

3.4 Data Collection Method

Collection of primary data was through self-administered semi structured questionnaires focusing on general information, factors affecting SCIS of commercial banks and on the influence of SCIS on the Kenyan commercial banks' operational performance.

The study respondents included heads of operations, finance and procurement since they are the major consumers of SCI. The questionnaires were administered via email due to Covid-19 pandemic and the Kenya Ministry of Health's (MoH) containment protocols and the fact that the method guaranteed same results as to what would have been achieved by other methods like interviews as well as being able to reach out to more respondents concurrently.

3.5 Data Analysis

Data analysis entails inspection, cleaning, and transforming as well as modelling data with the objective of establishing valuable information, drawing conclusion and enhancing decision making (Cooper and Schindler, 2006). Saunders et al. (2016) indicate that data analysis comprises of multiple components and methods, comprising of different approaches in a wide range of codes, and is utilized in academic, business and social science domains.

Frequency tables, mean & standard deviation were used for the first two objectives with regression analysis applied for the third. To reduce the variables into a manageable number and to establish the impact of the various SCIS factors on performance, factor analysis was employed and a regression model developed as presented below:

$Y=b_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6+b_7X_7+\varepsilon$

Where;

Y= Performance

b_0= constant

b_1……b_7 =coefficients

X_1= trust

X_2 = commitment

X_3= collaboration

X_4= integrated information sharing

X_5 =supplier relationship management

X_6 =top management support

ε = error term

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION OF RESULTS

4.1 Introduction

The chapter contains data analysis, demographic information, extent of SCIS, factors that affect SCIS and the link between SCIS and commercial banks' performance as well as the findings discussions.

4.2 Rate of Response

120 questionnaires were sent to the field and a total of 102 returned fully filled representing a rate of 85% which was deemed sufficient to generalize the whole population. In support of this, is Sekaran (2008), who asserted that a response rate exceeding 50% from a sample is satisfactory to generalize an entire population.

4.3 General Information

These included social traits such as gender, experience and current position in the organization.

4.3.1 Gender

The results were as shown below:

Table 4.1: Gender

Gender	**Frequency**	**%**
Male	62	60.78%
Female	40	39.22%
	102	**100**

Male employees occupy 60.78% of the management positions considered with female employees occupying 39.21%.

4.3.2 Length of Service in the Organisation

This covered the respondent's duration of service with the bank as per the table below:

Table 4.2: Length of Service

Length of Service	Frequency	%
Under 5 years	7	6.86
5-10 years	78	76.47
10-15 years	14	13.73
15+ years	3	2.94
	102	**100**

The results established 76.47% for those who had served between 5-10 years demonstrating good knowledge with only 6.86% for those with under 5 years of service.

4.3.3 Position of the Respondent

This covered the position of the respondents as shown here below:

Table 4.3 Respondent's Position

Length of Service	Frequency	%
Head of procurement	34	33.33%
Head of operations	35	34.31%
Head of finance	33	32.35%
	102	**100**

Results demonstrated that 34.31% of the respondents were heads of operations, 33.33% of the respondents were heads of supply chain and 32.35% were heads of finance hence near equal representation implying that the research findings are rich, accurate and reliable.

4.4 Factors Influencing SCIS among Commercial Banks

Factors influencing SCIS was considered as an independent variable; these factors were evaluated with the help of a 5-points scale, where 5 means ‘’agree to great extent, and 0 – ‘’ not at all’’ while organization Performance was deemed to be dependent variable. A mean score of ≥ 4.5 indicated an agreement to huge extent, 3.5≤ 4.5 to a wide extent; 2.5≤ 3.5 to a moderate level;1.5 to ≤ 2.5 to a small extent, and ≤ 1.5 disagreement. A SD of ≤ 1 indicated the respondent’s concurrence and more than 1 demonstrated divergence.

4.4.1 Trust

This tested the extent of agreement with various elements of trust as shown below:

Table 4.4: Trust

Trust	**Mean**	**SD**
The bank has developed confidence in the integrity of its supply chain members	3.85	0.84
The bank has built long-term relationships with its members of supply chain	3.72	0.72
The bank has developed strategic partnerships with its members	3.87	0.79
The bank is responsive to the dynamic customer needs.	3.55	0.83
The bank secures employee interests through its management decisions	3.45	1.02
The bank cooperates with its supply chain members	3.65	0.93
N=102: Mean Score	**3.682**	**0.855**

Source: Research data, 2021

It is demonstrated that the bank grew its strategic partnerships with its SC members (3.87), was confident of its member’s integrity (3.85), developed long-term relations with its members (3.72), cooperated (3.65), responded to its customer needs (3.55) and secured the interest of its staff in its procurement decisions (3.45). The high mean and SD show great influenced to SCIS among Kenyan commercial banks.

4.4.2 Commitment

This sort to establish the respondent's level of concurrence to various points as shown in the table below:

Table 4.5: Commitment

Commitment	Mean	SD
The bank accommodates its stakeholders and engages them in all decisions through regular meetings	3.45	0.75
The bank allocates resources to support sharing of information	3.81	0.65
The bank ensures responsibility and accountability of its supply chain members	3.65	0.77
The bank shares up-to-date information with its members of supply chain	3.68	0.75
The bank ensures continuous information and knowledge sharing	3.95	1.02
The bank seeks to maintain and sustain relationships with its supply chain members	3.55	0.83
Decisions, resources and people are well aligned towards common goals and targets.	3.10	0.75
Supply chain members have a sense of duty in sharing information	3.41	0.81
N=102: Mean Score	**3.575**	**0.791**

Source: Research data, 2021

The results established adequate knowledge and information sharing (3.95), apportioning of resources to facilitate sharing of information (3.81), exchanges updated information with its members (3.68), observes accountability and responsibility of its SC members (3.65), develops and sustains relationships with its SC members (3.55), engages its stakeholders in key decisions (3.45), ensures that SC members are obligated to share information (3.41), people, strategies and resources are in line with goals and targets (3.10). The mean and SD imply a large extent commitment influenced SCIS among commercial banks.

4.4.3 Collaboration

These asked participants level of concurrence to collaboration as shown below:

Table 4.6: Collaboration

Collaboration	Mean	SD
Adequate sharing of information among stakeholders enhances prompt and strategic decisions	4.05	0.65
Supply chain members and the firm share information on real-time basis	3.86	0.65
The bank uses a transparent communication channel through a network of collaboration	3.63	0.89
The bank provides its suppliers with a platform for information sharing.	3.69	0.65
The bank's level of competence matches that of its suppliers	3.56	0.87
The bank is able to learn the operations of its suppliers and standards	3.45	0.67
The bank and its supply chain members can develop useful knowledge for innovation	3.95	0.75
With its supply chain members, the bank participates in product planning and development	3.89	0.54
N=102: Mean Score	**3.760**	**0.709**

Source: Research data, 2021

The results shows adequate information sharing with partners in the SC (4.05), together with its supply chain partners developed knowledge for innovation through SCIS (3.95), took part in the planning of its products and development (3.89), maintained real-time information sharing with its SC partners (3.86), has a platform that allows its suppliers to share information with other SC members (3.69), has a transparent communication approach that accommodates collaboration network (3.63), has similar level of competence with its suppliers (3.56), internalizes its supplier standards and operations (3.45). The mean & SD established a large extent of influence on SCIS among local commercial banks.

4.4.4 Integrated Information Technologies

This was to establish participant's concurrence on integrated information technologies.

Table 4.7: Integrated Information Technologies

Integrated Information Technologies	Mean	SD
The bank uses ERP systems	4.15	0.65
There is seamless flow of information between supply chain members	3.90	0.55
The bank does real-time processing of information among supply chain members	3.75	0.77
The bank uses online communication that connects all supply chain members	3.66	0.81
The bank records huge amount of information exchange	3.95	0.62
The bank processes information efficient among its supply chain partners	3.75	0.74
Through integrated IT systems the firm is able to provide accurate and reliable information	3.95	0.60
Through integrated systems the firm has formally been able to reduce huge communication cost	4.10	0.54
N=102: Mean Score	**3.901**	**0.66**

Source: Research data, 2021

It was established that the bank adopted ERP systems (4.15), significantly lowered its communication costs (4.10), shared large amounts of information (3.95), gave accurate and reliable information (3.95), maintained seamless information flow between SC members (3.90), maintained real-time information processing through its SC members (3.75), bank swiftly processes information with its SC partners (3.75), adopts online communication to connect with its supply chain partners (3.66). Results shows significant influence on SCIS among commercial banks.

4.4.5 Supplier Relationship Management

The respondents reported the below levels of agreement to SRM.

Table 4.8: Supplier Relationship Management

SRM	Mean	SD
Banks SC has integrated buyers and suppliers	4.15	0.65
The bank has access to supplier information on inventory scheduling	3.89	0.65
Bank suppliers control supply chain resources	3.60	0.74
The bank enjoys mutual gains from relationships with its partners	3.70	0.75
The bank and its supply chain partners work together in solving problems	3.95	0.62
The banks communicate with its immediate partners in supply chain	3.75	0.74
The bank does not deal with any indirect partners in its supply chain	3.55	0.60
N=102: Mean Score	**3.799**	**0.679**

Source: Research data, 2021

From the table, banks: integrated its SC with its suppliers (4.15), addresses its supply chain problems with its supply partners (3.95), shares information on inventory scheduling with its suppliers (3.89), earns mutual benefits like discounts and stock information through its relations with the suppliers (3.70), maintains communication with its immediate supply chain partners (3.75), the supplier has control over the bank's supply chain resources (3.60), only deals with direct partners in its supply chain (3.55) and that SRM enhanced SCIS between commercial banks and SC partners from the mean and SD.

4.4.6 Top Management Support

The respondents' levels of agreement to this are as shown below:

Table 4.9: Top Management Support

Top Management:	**Mean**	**SD**
supports the bank's decision on supply chain change	3.59	.85
cultivates an information sharing culture in the bank	3.63	.75
shares information with its trading partners as an effective way of enhancing SCP	3.60	.74
maintain relationships with its supply chain partners	3.78	.75
has established managerial ties with other top executives of the bank's supply chain partners	3.02	.77
offer incentives to its SC partners to get useful SCI	3.35	1.05
allocate adequate resources to its SC partners to facilitate SCIS	2.95	.90
sponsors its staff for training and development to enhance their efficiency in sharing of information	3.01	.74
N=102: Mean Score	**3.366**	**.806**

Source: Research data, 2021

Findings revealed that to a great extent (mean of $3.5 \leq 4.5$), top management: kept its relationships with its SC members (3.78), instilled a culture of exchanging information (3.63), exchanged information with the trading partners (3.60), embraced supply chain change decisions in the bank (3.59) and gave incentives to SC partners to promote SC sharing (3.35). Findings further revealed that to a moderate extent ($2.5\leq 3.5$), top management: developed strong ties with top supply chain partners (3.02), sponsored their staff on training programs (3.01) and assigned adequate resources to facilitate SC information sharing (2.95). Overall mean is 3.366 with a standard deviation of 0.806, which meant that to a great extent the bank's top management supported information sharing among supply chain members.

4.5 Factor Analysis

A factor analysis model having varimax rotation was adopted. Following the analysis, the key study constructs were uncorrelated as shown.

Table 4.10 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.791
Bartlett's Test of Sphericity	Approx. Chi-Square	114.211
	Df	102
	Sig.	.001

KMO value was found to be 0.791. The range for this value is between 0 to 1, it evaluated the sampling adequacy of the study. The minimum recommended KMO value is 0.7 however; any value that exceeds 0.5 is accepted. If correlation between the variables is equal to zero, it is impossible to carryout factor analysis since this would result to an identity matrix. Test statistics was found to be a chi square=114.211 on 102 degrees of freedom. The value of probability was found to be lower than 5%, 0.001. Therefore, null hypothesis was declined since the correlation matrix had identity values.

Table 4.11 Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.643768670.6213		61.654	1.176	13.812	13.812	1.145	29.193	29.193
2	0.86080775	0.1197	71.573	1.261	13.185	26.997	1.145	27.184	56.377
3	0.73826256	0.0825	78.279	1.098	12.701	39.698	1.089	19.184	75.561
4	1.056	12.084	88.783						
5	.862	11.023	90.907						
6	.845	10.811	92.617						
7	.722	9.371	98.988						
8	.701	9.102	100.000						

Extraction Method: Principal Component Analysis.

Original eigen values indicate the first three selected factors explains 75.561% variation of the data. The 1st factor explains 29.193%, the second explains 27.184% and the third one explains 19.184%. The factors were selected on account of eigen value which was more than 1.

Table 4.12 Rotated Component Matrix

Rotated Component Matrix[a]				
	Component			
	1	**2**	**3**	**4**
The bank has developed confidence in the integrity of its supply chain members			.780	
The bank has built long-term relationships with its members of supply chain	.917			
The bank has developed strategic partnerships with its members		.761		
The bank is able is responsive to the customers changing needs.		.643		
Bank secures employee interests through its management decisions		.802		
The bank cooperates with its supply chain members			.634	
The bank accommodates its stakeholders and engages them in all decisions through regular meetings	.601			
The bank allocates resources to support sharing of information			.665	
The bank ensures responsibility and accountability of its supply chain members				.811
The bank shares up-to-date information with its members of supply chain	.758			
The bank ensures continuous information and knowledge sharing	.726			
The bank seeks to maintain and sustain relationships with its supply chain members				.713
Decisions, resources and people are well aligned towards common goals and targets.		.669		
Supply chain members have a sense of duty in sharing information		.803		
Adequate sharing of information among stakeholders enhances prompt and strategic decisions		.654		
Supply chain members and the firm share information on real-time basis				
The bank uses a transparent communication channel through a network of collaboration			.654	
The bank provides its suppliers with a platform for sharing information with other members of the SC			.705	
Bank's level of competence matches that of its suppliers			.981	
The bank is able to learn the operations of its suppliers and standards	.701			

The bank and its supply chain members can develop useful knowledge for innovation	.825			
With its supply chain members, the bank participates in product planning and development	.671			
The bank uses ERP systems	.787			
There is seamless flow of information between supply chain members		.725		
The bank does real-time processing of information among supply chain members			.818	
The bank uses online communication that connects all supply chain members			.830	
The bank records huge amount of information exchange				.821
The bank fast is processing of information to be shared between its members				.766
Integrated IT enables reliable SCIS by the bank		.758		
The bank's SC has integrated buyers and suppliers		.831		
The bank has access to supplier information on inventory scheduling		.779		
The bank and its supply chain partners work together in solving problems	.867			
The bank enjoys mutual gains from relationships with its partners	.753			
Top management maintain relations with its SC partners	.766			
Top management maintain relations with its SC chain partners	.825			
Top management has established managerial ties with other top executives of the bank's supply chain partners	.865			

Upon rotation, the first factor explained 29.193% of the variation and the second factor explained 27.184% of the data variation and the third one was 19.184%. The basic items had loadings that exceeded 0.6 and no parameter had a cross loading. It can be deduced that the three factors that emerged from trust as a SCIS practice were: the bank-maintained integrity with its supply chain partners (factor 1); the bank established sustainable relationships with its supply partners (factor 2); and also built strategic partnerships with its supply partners (Factor 3).

The two factors that were identified for commitment as a practice for SCIS were that: there were resources allocated by banks to facilitate information sharing (factor 1); and the bank ensured constant flow of information and knowledge (factor 2).

The three main factors found in collaboration as a SCIS practice were: adequate information exchange for strategic decisions (factor 1); real-time information exchange among supply partners (factor 2); involvement of supply chain partners in product development and planning (factor 3).

With regards to integrated IT, three key factors were established that the banks: utilized ERP systems (factor 1); maintained continuous information flow among supply partners (factor 2); and minimized communication costs through use of integrated systems (factor 3). In relation to SRM, three factors were identified, the bank: shared an integrated system with its buyers and suppliers (factor 1); gained access to inventory schedule of the suppliers (factor 2); and collaborated with supply partners to solve problems (factor 3).

Concerning top management support, two factors were ascertained, top management: sustained relations with supply partners (factor 1) and developed ties with the bank's supply chain management (factor 2).

4.6 Regression Analysis

The model of regression was used to establish the link between SCIS and performance. The outcome is provided as follows:

Table 4.13: Model Summary

Model Summary

Model	R	R2	Adjusted R2	Std. Error of the Estimate
1	.751[a]	.597	.407	.049

The coefficient explained 75.1% of variation in performance among Kenya's commercial banks and a 59.7% influence on the operation performance.

Table 4.14: Analysis of Variance

ANOVA[a]

Model	ΣR^2	Df	$\bar{x}$ R2	F	Sig.
Regression	6.013	6	1.002	3.810	.000[b]
Residual	24.989	95	0.2630		
Total	31.265	101			

Dependent Variable: performance

The model has shown below 5%, 0.000 level of significance.

Table 4.15: Coefficients

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.521	1.021		1.065	0.081
Trust	0.013	0.112	0.131	1.423	0.065
Commitment	0.018	0.099	0.99	0.981	0.207
Collaboration	-0.002	0.152	-0.209	-2.155	0.001
Integrated IT	0.038	0.171	0.298	2.328	0.000
SRM	0.004	0.114	0.152	1.677	0.024
TMS	0.052	0.025	0.131	0.401	0.434

From the table

Performance= $1.521+.013X_1+.018X_2-.002X_3+.038X_4+.004X_5+0.\ 52X_6+\varepsilon$

Trust, Commitment, Integrated IT, SRM and TMS were positively associated with organization performance (0.013, 0.018, 0.038, 0.004 & 0.052, respectively), implying a direct relation. Conversely, collaboration was negatively linked to performance (-0.002, -0.209 & -2.155). Less than 5% p-values (0.000, 0.001 & 0.024, respectively) showed significantly link for Integrated IT, collaboration and SRM. However, trust, commitment and top management support were insignificantly relation as shown by high p-values.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive discussion on the study findings, conclusion, recommendation, limitations and suggestions for further research.

5.2 Summary of Findings

The study established that commercial banks employ integrated IT, SRM, collaboration, trust and commitment are employed to a great extent in SCIS. This conforms to Tran *et al*. (2016) who found that SCIS factors were used by service firms to a large extend. The findings further revealed that top management supported was utilized to a moderate extent. In view of this is Sikuku (2018), who established that top executive support as a practice of SCIS was utilized to a moderate extent.

The study found integrated IT, collaboration and SRM as the main factors that influenced SCIS. Utilization of ERP systems, constant exchange of information and a huge reduction in costs defined the use of integrated IT systems in commercial banks. Strategic decisions, real-time exchange of information and product planning and development enhanced collaboration with supply chain partners. Findings also revealed that use of SRM enabled commercial banks to gain access to inventory and enhanced collaboration among supply partners. Supporting this argument is Cai and Yang (2014), who identified integration, collaboration and SRM as the crucial factors that influenced SCIS.

Regarding the link between SCIS and commercial banks' performance, the results established that the coefficient of determination was 59.7%, hence a good fit as supported by Okore and Kibet (2019). Integrated IT, SRM and collaboration were

statistically significant. This finding is also supported by Childerhouse and Deakins (2016), who established that SRM and IT practices of information sharing were significantly linked to SC performance. Trust, commitment and top management support were insignificantly linked to organisational performance. In view of this is the suggestions by Okore and Kibet (2017).

5.3 Conclusion

The study found that SRM, collaboration, trust, commitment and integrated information technology was utilized to a great extent. The management of commercial banks worked together with supply chain partners in enhancing SCIS. However, it was found that top management support was inadequate.

Integrated information sharing, SRM and collaboration are the major factors that had highest influence on SCIS. The findings demonstrated that these factors played an integral role in ensuring efficient and effective information flow within the supply chain system. Trust, commitment and top management support cannot be achieved without the success of the aforementioned factors since they form basis for SCIS.

Overall regression equation used by the researcher was significant, establishing positive correlation between Integrated information sharing, and SRM to organisational performance and collaboration negatively linked. Trust, commitment and top management support were insignificantly linked to operational performance.

5.4 Recommendation

The study recommends more priority by TMS through full support to their supply chain partners in terms of resources, involvement in key decisions, information sharing and incentives. This will boost their relationship with the supply chain

partners and improve efficiency and effectiveness in the delivery of goods and services.

The study recommends that need for commercial banks to allocate adequate finances to invest in integrated supply chain information sharing systems. This will boost efficiency in information sharing and connectivity among the supply chain partners resulting to reduced lead time, stock-out cost and timely delivery.

5.5 Limitations of the Study

The research was restricted to commercial banks while multi-sectoral research could produce comprehensive findings based on the key factors of SCIS and the extent of adoption of SCIS and its impact on SC performance.

Another setback faced by the researcher was that some respondents were committed with busy work schedules thus they delegated the questionnaires for filling exercise to their juniors. This might have tampered with the quality of the findings as the information may not be accurate and dependable since the assistants have limited experience and knowledge in SCIS.

The researcher did not have any control in data collection; some respondents filled the questionnaires half-way while others failed to make any deliberate attempt in filling the questionnaires. These set of questionnaires were excluded in data analysis.

5.6 Recommended Further Research Areas

Experimental or simulations researches are recommended to ascertain if the findings will hold. In future, scholars interested in this line of research can build on this study and establish the contribution of SCIS using different approaches for validation purposes, more specifically, validating the guidelines for information sharing will enable the researchers to develop strategies to share information.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER

UNIVERSITY OF NAIROB
COLLEGE OF HUMANITIES & SOCIAL SC
FACULTY OF BUSINESS AND MANAGEMENT S

Telephone: 4184160-5 Ext 215
Telegrams: "Varsity" Nairobi
Telex: 22095 Varsity

21 October 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER FOR RESEARCH
GORDON OCHIENG OGOYE – REGISTRATION NO. D61/79911/201

This is to confirm that the above named is a bona fide student in the Ma Administration (MBA) degree program in this University. He is conduc ***"Supply Chain Information Sharing and Performance of Comm Kenya"***

The purpose of this letter is to kindly request you to assist and facilitate necessary data which forms an integral part of the research project. The data required is needed for academic purposes only and will be t **Confidence**.

Your assistance will be highly appreciated.

Thank you.

APPENDIX II: RESEARCH QUESTIONNAIRE

The purpose of this questionnaire is collecting data for studying the impact of SCIS on the Kenyan commercial bank's organization performance. The questionnaire will take approximately 25 minutes to fill. Your feedback to the questions will be considered confidential. The data will only be used in the aggregate format to further distant it from any particular person or organization. There is an optional space at the end to enable you give any suggestions or comments at the end of the questionnaire. Thank you!

General Instructions:

Please Tick (✓) appropriately.

Section A: Demographic Information

Q1. Gender

a) Male [ ]

b) Female [ ]

Q2. How long have you been working here?

a) Under 5 years [ ]

b) 5 -10 years [ ]

c) 10 - 15 years [ ]

d) 15+ years [ ]

Q3. What position do you hold in the organization?

I am the dead of:

i. procurement [ ]
ii. operations [ ]
iii. finance [ ]

SECTION B: SUPPLY CHAIN INFORMATION SHARING

Q4. Please reveal your opinion to these statements pertaining the factors affecting SCIS where 1ıs ‘’Not at all ‘’ and 5 ‘’Very large extent’’.

By sharing information with its supply chain members:

	TRUST	1	2	3	4	5
1.	The bank has developed confidence in the integrity of its supply chain members					
2.	The bank has built long-term relationships with its members of supply chain					
3.	The bank has developed strategic partnerships with its members					
4.	The bank is responsive to the dynamic customer needs.					
5.	Employee interests are secured through the top management decisions					
6.	The bank cooperates with its supply chain members					

	COMMITMENT	1	2	3	4	5
1.	The bank accommodates its stakeholders and engages them in all decisions through regular meetings					
2.	The bank allocates resources to support sharing of information					
3.	The bank ensures responsibility and accountability of its supply chain members					
4.	The bank shares up-to-date information with its members of supply chain					
5.	The bank ensures continuous information and knowledge sharing					
6.	The bank seeks to maintain and sustain relationships with its supply chain members					
7.	Decisions, resources and people are well aligned towards common goals and targets.					
8.	Supply chain members have a sense of duty in sharing information					

	COLLABORATION	1	2	3	4	5
1.	Adequate sharing of information among stakeholders enhances prompt and strategic decisions					
2.	Supply chain members and the firm share information on real-time basis					
3.	The bank uses a transparent communication channel through a network of collaboration					
4.	The bank provides its suppliers with a platform for sharing information.					

5.	Level of competence matches that of the bank's suppliers					
6.	The bank is able to learn the operations of its suppliers and standards					
7.	The bank and its supply chain members can develop useful knowledge for innovation					
8.	With its supply chain members, the bank participates in product planning and development					

	INTEGRATED INFORMATION TECHNOLOGIES	1	2	3	4	5
1.	The bank uses ERP systems					
2.	There is seamless flow of information between supply chain members					
3.	The bank does real-time processing of information among supply chain members					
4.	The bank uses online communication that connects all supply chain members					
5.	The bank records huge amount of information exchange					
6.	The bank fast is processing of information to be shared between its members					
7.	Through integrated IT systems the firm is able to provide accurate and reliable information					
8.	Through integrated systems the firm has formally been able to reduce huge communication cost					

	SUPPLIER RELATIONSHIP MANAGEMENT	1	2	3	4	5
1.	The bank's supply chain has integrated buyers and suppliers					
2.	The bank has access to supplier information on inventory scheduling					
3.	Bank suppliers control supply chain resources					
4.	The bank enjoys mutual gains from relationships with its partners					
5.	The bank and its supply chain partners work together in solving problems					
6.	The banks communicate with its immediate partners in supply chain					
7.	The bank does not deal with any indirect partners in its supply chain					
8.	The bank's supply chain has integrated buyers and suppliers					

	TOP MANAGEMENT SUPPORT	1	2	3	4	5
1.	The top management supports the bank's decision on supply chain change					
2.	Top management cultivates an information sharing culture in the bank					
3.	Bank's top management shares information with its trading partners as an effective way of enhancing SCP					
4.	Top management maintain relationships with its supply chain partners					
5.	Top management has established managerial ties with other top executives of the bank's supply chain partners					
6.	Top executive offer incentives to get useful supply chain information					
7.	Top executives allocate adequate resources to its SC partners to facilitate SCIS.					
8.	Top management sponsors its staff for training and development to enhance their efficiency in sharing of information					

SECTION C: ORGANISATIONAL PERFORMANCE

8. Please reveal your opinion to these statements pertaining the factors affecting SCIS where 1ıs ‘’Not at all ‘’ and 5 ‘’Very large extent’’.

	Financial Perspective	1	2	3	4	5
1.	Huge budget in innovation has increased the bank's competitiveness hence sustained its market share in the last three years					
2.	As a result of constant research, the bank has increased its sales by introducing new products targeting underserved markets, this have attracted new customers					
3.	Bank profits have increased as a result of developing products and services that are distinct (over the last three years)					
4.	The bank investment in technological innovations has significantly reduced its cost resulting to an increase in profitability (over the last three years)					
	Internal Business Processes					
1.	The bank has integrated essential processes and programs into the banking model to compete with its rivals					
2.	The bank operations are integrated right from opening an account to closing it					
3.	The functions carried out by suppliers are also integrated for example, collaboration to improve efficiency					
4.	Most of the banking innovations are paperless as opposed to use of paper-based transactions					

	Customer Perspective					
1.	The bank puts emphasis on customer focus					
2.	The bank provides services that meet customer expectations					
3.	Customer queries are addressed within a reasonable duration					
4.	Customer complaints are dealt with effectively to meet their satisfaction					
5.	Existing customers refer our services to their friends because they are happy with our services					
	Learning and Growth					
1.	Staff are sponsored in regular training and development programs					
2.	Growth opportunities are provided to all staff					
3.	Product innovation and development are influenced by external environment for instance, competition, regulation and technology					
4.	The staff are provided with technological tools to facilitate them to work efficiently towards set goals and targets.					

THANK YOU FOR THE SUPPORT!

APPENDIX III: LIST OF LICENSED COMMERCIAL BANKS IN KENYA

1. ABC Bank (Kenya)
2. Absa Bank Kenya
3. Access Bank Kenya
4. Bank of Africa
5. Bank of Baroda
6. Bank of India
7. Citibank
8. Consolidated Bank of Kenya
9. Cooperative Bank of Kenya
10. Credit Bank
11. Chase Bank Kenya (In receivership)
12. Central Bank of Kenya
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Islamic Bank
16. Ecobank Kenya
17. Equity Bank Kenya
18. Family Bank
19. First Community Bank
20. Guaranty Trust Bank Kenya
21. Guardian Bank
22. Gulf African Bank
23. Habib Bank AG Zurich
24. Housing Finance Company of Kenya
25. I&M Bank
26. Imperial Bank Kenya (In receivership)
27. Kingdom Bank Limited
28. Kenya Commercial Bank
29. Mayfair Bank
30. Middle East Bank Kenya
31. M Oriental Bank
32. National Bank of Kenya
33. NCBA Bank Kenya

34. Paramount Universal Bank
35. Prime Bank (Kenya)
36. SBM Bank Kenya
37. Sidian Bank
38. Spire Bank
39. Stanbic Holdings Plc
40. Standard Chartered Kenya
41. United Bank for Africa
42. Victoria Commercial Bank

Source: (CBK, 2021)