FACTORS INFLUENCING BUYER SUPPLIER RELATIONSHIPS ON SUPPLY CHAIN PERFORMANCE OF FOREIGN BASED DEVELOPMENT AGENCIES IN KENYA

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Factors Influencing Buyer Supplier Relationships on Supply Chain Performance of Foreign Based Development Agencies in Kenya

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DECLARATION

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

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DEDICATION

The study is dedicated to my family; Mary Immaculate (wife) and daughters, Charlene Birungi Karungani, Samantha Nalule Karungani and Candalezza Ashiembi Karungani for their love, patience, cooperation and support. God bless you all.

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LIST OF ABBREVIATIONS AND ACRONYMS

ADB African Development Bank

ADF African Development Fund

ANOVA Analysis of Variance

BADEA Arab Bank for Economic Development in Africa

BS Buyer Supplier

CA California

CRM Customer Relationship Management

EDF European Development Fund

EDI Electronic Data Interchange

EEC European Economic Community

EIB European Investment Bank

ERP Enterprise Resource Planning

FAO Food and Agricultural Organization

F BDA Foreign Based Development Agencies

GETF Global Environmental Trust Fund

GF Global Fund

ICT Information Communication Technology

IFAD International Fund for Agricultural Development

JICA Japan International Cooperation Agency

JKUAT Jomo Kenyatta University of Agriculture and Technology

MGD Millennium Development Goals

MRP II Manufacturing Resources Planning

MRP Material Requirement Planning

ODA Overseas Development Assistance

OECD Organisation for Economic Co-Operation and Development

OPEC Organization of Petroleum Exporting Countries

PCA Principal Component Analysis

PhD Doctor of Philosophy

R & D Research and Development

SCM Supply Chain Management

SCP Supply Chain Partnership

SET Social Exchange Theory

SRM Supplier Relationship Management

UNDP United Nations Development Programme

UNEP United Nations Environmental Programme

UNFPA United Nations Fund for Population Activities

UNICEF United Nations International Children Education Fund

UNIDO United Nations Industrial Development Organization

US United States

VMI Vendor Management Inventory

WFP World Food Programme

DEFINITION OF TERMS

Buyer Supplier Commitment: This refers to a commitment between business partners when contracting and during contract management period. It is therefore important to guarantee high level commitment in buyer supplier relationship in order to enhance supply chain performance (Christopher, 2016). Buyer and supplier ought to dedicate interests and vice versa such that that there is a win-win situation when transacting business (Wellenbrock, 2013).

Buyer Supplier Communication: Communication refers to the formal as well as informal information sharing on the status of business engagement from start to the end. It is a process through which information is conveyed or exchanged to enhance buyer supplier relationships. The critical aspect of communication is relaying of the most needed information as regards delivery of goods and services for a particular supply chain (Yan, 2012).

Buyer Supplier Cooperation: This refers to the creation of a working environment that permit engaged parties to work together by undertaking specific predefined activities amongst business partners in a supply chain. The purpose of buyer supplier cooperation is to take advantage of volume purchases, speedy delivery of goods and services, best applicable practices within organizations, reduction of lead time and expenses thus improving overall buyer supplier relationships

(Benton, 2010). From the word cooperation, buyer supplier cooperation often

Buyer Supplier Dependence: Buyer-supplier dependence refer to the contractual relationship that exist between buyers and suppliers in a supply chain where one partner depends on the other for specialized supplies or services (Heide, Kumar & Wathne, 2014). Power and dependence are touted to be the major causes of most challenges for supply chain integration (Gualandris & Kalchschmidt, 2016). The difference in bargaining power makes some organizations to be disadvantaged at the expense of the others and tends to compromise the quality of goods and services impacting negatively buyer supplier relationships (Li & Wan, 2016). In addition, firms do not fully develop their capabilities and tend to be unreliable partners yet they ought to benefit from others through their distinct capabilities to supply quality goods and services.

Buyer supplier Integration: This refers to the integration of key business processes that accelerate business transactions between buyers and suppliers. BS integration provide a link from end users through the original suppliers that provide products, services, and necessary information that add value for customers and other stakeholders" (Lambert et al., 1998). Successful Buyer Supplier integration plays a critical role in enhancing supply chain performance.

Supply Chain Performance: The buyer supplier relationship refers to contractual business transactions between members in a supply

chain for the purchase and delivery of goods or and services. It is the financial and technical capacity of individual members to sustain their supply chain performance while enhancing buyer supplier relationship to meet customer satisfaction, at the minimum cost any business transaction considered as key ingredient to earn business competitive advantage and survival (O'Brien, 2014).

ABSTRACT

This study established the primary objective; factors that influence buyer supplier relationships on supply chain performance of foreign based development agencies in Kenya. It was guided by the specific objectives: buyer-supplier trust, buyer-supplier dependence, buyer-supplier commitment, buyer-supplier cooperation, buyer-supplier communication, foreign based development agencies performance and supply chain integration. It was anchored on trust theory, dependency theory, social exchange theory, transaction cost theory, communication theory and network theory. The study followed descriptive research design and used primary data obtained from 37 foreign-based development agencies in Kenya. With the help of 10 research assistants who had knowledge about the topic, the study targeted 111 respondents from management level who included senior managers, procurement officers and accountants in the general affairs division of foreign-based development agencies in Kenya. The data was obtained using structured and semi-structured questionnaires administered through drop and pick later after two weeks and where necessary an extension was given to give humble time to respondents. Four out of thirty seven agencies were targeted for the pilot study where 11 fully completed questionnaires from respondents were obtained and analyzed, obtaining a Cronbach alpha of 0.712. The actual data used in the study considered 33 organizations with 96 fully completed questionnaires obtained from respondents. The data was coded and summarized in excel spreadsheets and analyzed using SPSS version 24.0. The study employed two regressions, the first one with actual data and the second one with each of the predictor variable data as product of corresponding regression data. The hypotheses were tested at five percent significant level. Overall, the study results determined that there was a positive, moderately weak relationship between buyer supplier relationship and the performance of the foreign-based development agencies in Kenya with R and R-Square equal to 0.599 and 0.359 respectively. According to the coefficients for the individual factors, buyer-supplier commitment and communication were statistically significant at 5% level of significant. Notably, buyer-supplier trust coefficient was positive but not statistically significant at 95% confident level. This implied positive causation but was statistically insignificant at 95% confident level. Buyer supplier dependence and Buyer supplier cooperation had negative influence on Foreign based development agencies performance because the coefficients were negative but not statistically significant at 5% level indicating a weak relationship. The test for buyer supplier integration and foreign based development agencies performance indicated that moderation had positive influence and it enhanced performance as shown by the rise in value of R and R-Square to 0.653 and 0.426 respectively. Also, there was increase and reduction in p-values for some of the predictors to the extent that some like commitment variable became statistically insignificant. The study concluded that buyer-supplier relationship had a positive, moderate causation on foreign based development agencies performance. In addition, the study concluded that supply chain integration had a positive influence on the buyer supplier relationship and hence performance of an organization. Further, the study concluded that buyer supplier trust, buyer supplier cooperation and buyer supplier communication were important and did influence the performance of agencies positively. On the other hand buyer supplier dependence had negative

influence on organization performance. To agencies, the paper recommends strong buyer supplier relationships with emphasis on buyer supplier trust, buyer supplier cooperation, buyer supplier communication and supply chain integration. Further studies could focus on impact of buyer-supplier asymmetries in relation to buyer supplier trust, buyer supplier dependence, buyer supplier commitment, buyer supplier communication and buyer supplier cooperation on foreign based development agencies performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

O'Brien (2014) buyer-supplier relationships enhance commercial transactions among members of supply chain for the purchase and supply of goods or services. In their article on building long-term buyer-supplier relations, Cannon, Doney, Mullen and Peterson (2011) posits that supplies management is an essential function of any organization, and building multiple, long-term, sourcing networks through appropriate alliances with key suppliers is critical. Further Mohanty and Gahan (2015), hold that inter-organizational transactions in a supply chain have always been important in purchasing and marketing practice. It is recently that interest in buyer-supplier relationships has manifested and spread across a range of management disciplines reflecting trending global changes in production methods and supply chain organization structures (Yaqub, 2013). This has made the management of external relationships central to understanding contemporary organizational practices and overall supply chain performance. Regarding long-term approach to buyer-supplier relationships, López, Callarisa and Moliner (2013) argue that maintaining good relations with a supplier should be as important to a contract as getting the best price. In a typical supply chain, entities are directly linked by one or more upstream and downstream distributions; flows of products, services, finances, or information from a source to end user (O'Brien, 2014).

In recent decades, globalization, outsourcing, and information technology have enabled supply chain entities, to successfully operate collaborative supply networks in which each specialized business partner focuses on their strength or core activities (Yaqubi, 2013). Predefined inter-organizational supply chain a new form of network entity. It is not clear how different supply network structures affect supply chain performance and little is known about the coordination conditions and trade-offs that may exist among the players. Traditionally, companies in a supply chain network concentrate on the inputs and outputs of the processes, with little concern for the

internal management working of other individual players (Waithaka & Waiganjo, 2015).

1.1.1 Global Perspective on Buyer Supplier Relationships on Supply Chain Performance

In a contractual business transaction, a supplier is likely to deliver quality product at the best price, provide good service and be responsive to emergency situations and special requests (Cannon *et al*., 2011), when treated with courtesy, honesty, and fairness. Further there is public image relations aspect between buyer and supplier performance of individual members of the supply chain that should not be overlooked. Buyer supplier relationships enhance overall supply chain and individual performances through established communication platform that facilitate information sharing. An organization's public image can be a valuable asset. A supplier in a supply chain who is treated equitably and professionally is likely to communicate his positive experiences with his associates (O'Brien, 2014). Supply chain management is focused on the relationship between buyer supplier, supplier's supplier and the buyer's buyer that allow supply chain participation using information flow and logistic activities to gain competitive advantage and customer satisfaction (Cannon *et al.,* 2011).

Today's global marketplace trending to gain competitive advantage through technology is characterized by higher levels of turbulence and volatility. The global business transaction, economics and the social political environments are increasingly subjected to unexpected shocks and discontinuities across the world (Mohanty & Gahan, 2015). Customers are persistently seeking for the best product in the market at the lowest price with immediate availability and delivery. The possibility of manufacturing and marketing acting in isolation or independently of each other in a supply chain is almost zero. Members of a supply chain can no longer act as isolated and independent entities in competition with other similar 'stand-alone' businesses. Supply chain design framework involves the overall strategies for optimal resource utilization, inventory management, lead-time, and supplier selection databases, must continuously be updated and developed to meet the challenges in the trending market (Yanping, 2013). Similarly, Collaboration has also been related to

low cost business transactions, shorter lead-time, and high quality products. In a supply chain design framework , the customer order decoupling point is critical as it separates the part of the supply chain based on forecast (leanness) to actual customer orders (agility) (Narasimhan, Narayanan, & Srinivasan, 2013). As a result, agile supply chain design has been very intriguing towards achieving logistics performance.

Today the global sourcing of goods and services from faraway locations is robust and trending, most recently from China and other Southeast Asia countries. This is due to the availability of higher volume of products and improved logistic services. This is because the supply chain due to economy of scale in search of lower material and high production costs has become irresistible (Liu, Ke, Wei & Hua, 2014). However, the supply chain performance based on efficiency of the flows in these longer chains, and consequently the leanness in terms of inventories, strongly relies on the predictability of these elongated lead-times, is far from the current state of affairs due to unforeseen circumstances.

Yanping (2013) warns supply chain managers the consequences of the unpredictable hidden costs due to elongated and variable lead-time supply chains, for instance, the costs for stock outs, excess inventories and write-downs, over and under-productions, among others, and explicitly advises them to consider expediting options for effectively managing such chains to enhance performance. The best options, on the transportation logistics, might go beyond airfreight to paying premiums for preferred relocation from the port of origin to destination by sea, air shippers, port services, and other suppliers. Heide, Kumar and Wathne (2014) report on dynamic rerouting practices for the shortest path based on port congestion and other traffic bottlenecks to optimize supply chain performance. For example, a European food manufacturer supplies the North American market via shipments routing through the Montreal port instead of the heavily congested East Coast ports.

A number of manufacturing firms like Northern Telecom, Toyota and Seiko have all recognized the importance of predictable buyer supplier relationship in providing strategic advantage in a competitive global market (Homburg, Stierl & Bornemann, 2013). In most business environments business relationship can be argued to be one of the key characters and indicators of a company's success. It seems that companies need greater capabilities to respond more quickly to market dynamics and varying demand. As products move over longer distances crossing more national borders and inspection points, the global supply chains of today are longer due to bureaucracy and border control points. The long distance of repositioning of products makes such chains more complex than the localized supply chains of the past (Narasimhan, Narayanan & Srinivasan, 2013). As a result, supply chain risks that require mitigation have become a greater concern particularly those that affect buyer supplier relationships. Operating in developing countries with high cost labour coupled with inadequate supply and production infrastructures, increases the potential for disruptions and unexpected delays in the supply chain (Jin, Vonderembes, Ragu-Nathan & Smith, 2014). Exposed quality requirements and yield problems due to lower worker skills and higher employee turnovers result further deterioration of buyer supplier relationship. Furthermore, the transportation logistics components of the global supply chains are prone to risks that require mitigation and variable duration delays due to congested ocean ports, not only at the sourcing origins, such as the Shanghai port, but also at the destination ports, such as Long Beach, CA and Vancouver, Canada.

Globally, Foreign based development agencies are creating value delivery systems, which are more responsive to fast changing markets and are much more consistent and reliable, The delivery of that value in supply chain to enhance performance requires leanness and agility focused on the achievement of set goals (Gimenez, Vander Vaart & Pieter van Donk, 2012). In Africa, many companies are formulating strategies and sound approaches as a means of overcoming supply chain risks and stiff competition posed by suppliers and established foreign based development agencies operating in the Continent (Staritz, 2011). In other words, African manufacturers and marketers are striving for competitive advantage by differentiating their products and services, in the eyes of the customers, by operating

at a lower cost for goods and services and hence greater profits. However, an increasingly powerful route to achieving a cost advantage comes not necessary through volume and the economies of scale but instead through improved logistics services (Christopher, 2016). In many cases, collaboration has also been related to low cost, predictable buyer supplier relationship and assurance of high quality products and services in a supply chain. Therefore, integrating logistics and supply chain management can provide multiple ways to increase efficiency and productivity in a supply chain and hence contribute significantly to reduce unit cost enhancing performance. Improved logistics means giving the services that customers want at the lowest possible cost (Staritz, 2011). Since it is generally accepted that the need to understand and meet customer requirements is a prerequisite for survival in a competitive environment for goods and services. Coyle Langley, Novack and Gibson, (2016) contends that many industries in the United States, logistics costs represent such a significant proportion of the total costs that it is possible to make major cost reductions through fundamental engineering logistics processes. In Europe and Asia, many businesses are powerhouses in the manufacture of goods, and therefore consider logistics as a key point of focus for simultaneously increasing shareholder and customer value (Mohanty & Gahan, 2015). In that regard, better supplier relations enhances supply chain performance and adds to competitiveness of suppliers in the market.

1.1.2 Regional Perspective of Buyer Supplier Relationships on Supply Chain Performance

In the current competitive market, companies are increasingly obliged by their customers to perfectly enhance buyer supplier relationship for customer satisfaction (Alhawari, Alryalat & Hunaiti, 2016). The ability of a firm to enhance buyer supplier relationship and meet the customer satisfaction, at the minimum cost is then being considered as a key ingredient for competitive advantage and survival (O'Brien, 2014). However, in the current industrial context, many supply chains consists of multiple layers of geographically dispersed manufacturing and distribution facilities that have complex network structures that link global network of suppliers that operate between Africa and other continents.

In that case, final products are manufactured in different facilities and purchased worldwide through complex networks generally located in different countries (Yadav, 2013). Such a globalization of production activities increases the total production cycle time which basically leads to supplier chain and, consequently, makes the supply chain promptly responding to customer demand a challenging task (Staritz, 2011). For instance, when goods are being transferred among a number of geographically dispersed production and distribution centres in a rationalised global manufacturing and distribution networks, shipment lead times are critical and play an important role in the success of the global manufacturing strategy.

There are significant variations in the logistics costs required to access different African markets; this is due to differences in the ease of cross-border trade (Law, Verville & Taskin, 2011). For example, importing auto parts through Port Appal, Nigeria, will take over three months. Importing the same parts through Durban in South Africa takes only one month, with port-capacity limitations and longer handling times accounting for most of the difference (Mezyenski, 2013). Similarly, clearing customs at airports in the Democratic Republic of Congo can take more than 45 days, while customs clearance in South Africa takes only a few days (Storeygard & Storeygard, 2013). This means it might actually be faster, if not necessarily cheaper, to ship goods overland to the Congo from South Africa.

1.1.3 Local Perspective of Buyer Supplier Relationships on Supply Chain Performance

Buyer supplier relationships including logistics support and supply chain concepts can further be enhanced through integrated systems. National and county governments through the integrated Financial Management Systems (IFMIS) ensure delivery of quality products and services in the supply chain. It facilitates planning and coordinating the materials flow from source to customer seamlessly rather than managing the goods flow as a series of independent activities (Mezyenski, 2013).

Locally, supply chain management seeks to achieve linkage and co-ordination between the process of other entities in the pipeline, such as suppliers, customers, and the business entity itself (Raballand, 2012). One goal of supply chain

management might be to reduce or eliminate the buffers of inventory that exist between members of a supply chain through sharing information on demand forecast and current stock levels for possible restocking on prorate basis. Lack of coordinated policy regulatory framework for importation and export of goods and services in addition to overpricing has seen food manufacturing companies based in Nairobi performing poorly. Local suppliers are bearing the brunt due to failure to keep pace of modernising their plants to lower production cost and now facing intense competition from imported food stuffs from overseas (Okello & Were, 2014). This is due to global supply chain that poses enormous challenge and risks in the food industry. Manufacturing of a given product starts once the raw materials required for processing has been bought from the supplier (Law, Verville & Taskin, 2011). This is the point where raw ingredients are transformed into finished products. This becomes part of a supply chain network which is complicated and requires the best practices to achieve the desired overall goal for the organization, which is to optimize profit for individual members of the supply chain.

In a study undertaken by Makena (2014) on the effect of supply chain management practices on the organization performance, it was observed that all the practices studied had a positive effect on the organization's performance. To improve organization performance the supply chain management focused on operational time, costs, responsiveness, customer service, and profitability or margins. However, it was noted that some of the respondents were not well versed with some of the practices like CRM or SRM and hence had missing values (Yadav, 2013). During the survey, some respondents disagreed with the implementation of training and this was a very crucial practice in improving the individual's performance and morale which translated into improved organization performance (Cannon *et al.*, 2011). Accordingly, it was evident that organizational performance of HACO Industries limited had improved with the implementation of the said practices as compared to before implementation, hence customer oriented approach to supply chain management can benefit an organization.

Today the choice of a supplier, depends not only on the commodity price but "the cost of time" in order to satisfy the customer needs (Mohanty & Gahan, 2015). This

means that the sourcing process is demanding and has become more complex for the buyer and should be considered not only for cost efficiency, but also responsiveness of inbound material flow. Possible ways to reduce or close this time gap is shortening the logistics lead-time by employing tools such as supply chain mapping and bottleneck management (Law, Verville & Taskin, 2011). Simultaneously the customers' order cycle could be moved closer by increasing the demand visibility in the supply chain. Globally companies have used inventory management to bridge the lead time gap. This inventory is built up by using a forecast to predict the customers need before the actual demand arises (Gachago, 2013). However, forecast accuracy is elusive and never perfect irrespective of the advanced forecasting system employed. Due to the technology employed and forecasting errors there will be always too much or too little inventory available which impacts the supply chain performance.

1.1.4 Overview of Foreign Based Development Agencies Projects in Kenya

Following the agreements on Millennium Development Goals (MDG) in 2000 (Brunt, 2016), development partners have made considerable progress in expanding and improving the quality of official development assistance (ODA). This has been objectively influenced by financial commitments that date back from 2003 in Rome, Italy, to 2011 in Busan, South Korea. Bilateral and multilateral are foreign based agencies which are non profit based in a single country. They provide concessional loans and grants under technical cooperation. The common narrative for the foreign based development agencies has been the urgent need to rework the development assistance architecture. Employing multi-sector approach, it has to involve as many stakeholders as possible in determining the best different streams of financing development to address the socio-economic needs of emerging and developing economies globally (Imperiale & Vanclay, 2016).

Despite spending a relatively small proportion of external resources, that is, an average of 5% of total government revenues, the Government of Kenya has continued to foster good, working relations with development agencies (Kim et al., 2016). Perhaps due to the need to attract other resource flows such as foreign direct

investment, loans, and other public private partnership flows that depend on good foreign relations. Moreover, Leach and Mearns (2013) posits that it is imperative to note how the stringent processes for negotiating project terms, approvals and monitoring preferred by some development agencies slow down the implementation of projects and concessions that lead to low absorption of development finances. Organizations such as IFAD (International Fund for Agricultural Development) have been in the forefront of initiating crucial projects in Kenya. Since 1979, IFAD hasinvested a total of US$319.3 million in 17 programmes and projects in Kenya, with a total cost of US$659.0 million, in support of the government's efforts to reduce rural poverty (Brunt, 2016). IFAD has also mobilized financing from numerous donors, the Government of Kenya and project participants themselves.

The World Bank has been in the forefront financing most of the health related programs for the longest period in Kenya, which has represented most of its partnership developments (Imperiale & Vanclay, 2016). Today Kenya has met a few of the MDG (Millennium Development Goals) targets, including reduced child mortality in the health sector, near universal primary school enrolment especially in the rural or remote regions and narrower gender gaps in education from early childhood to University. There is no doubt that consistent timely interventions and increased spending on health and education are paying dividends. According to Organisation for Economic Co-operation and Development (OECD) and World Bank (2013), fully devolved function of the health sector from National to county governments will stream line health care and free maternal health care at all public health facilities and improve the overall health care outcomes and develop a more robust equitable health care system.

Equally, Japan International Cooperation Agency (JICA) has been undertaking a number of partnership projects in Kenya for many years now, which range from social development to economic development (Kim et al., 2016). Economic Infrastructure has been a formidable task of the Japan International Cooperation Agency. The emphasis has been on accelerated infrastructure development and cushions the vulnerable groups in the society through concessional financing. This has promoted logistics and overall regional infrastructure with neighbouring landlocked nations such as Uganda, Rwanda, Burundi, DR Congo and Southern Sudan considering the importance of Kenya as a hub for logistics in Africa each & Mearns, 2013). Japan assists not only hard infrastructure (Transport and Energy) development through technology but also technical aspects such as support for smooth custom clearance, and the entire maintenance and management of developed infrastructure. Specifically, Japan has financed studies and digitization to support improvement of transportation networks in Nairobi Metropolitan Area and overall improvement of regional infrastructure, which will enhance logistics in the entire East African region. JICA has provided huge support in the energy sector: geothermal development (renewable energy) and agriculture infrastructure development for rice growing in Kenya.

1.2 Statement of the Problem

The role of bilateral and multilateral foreign based development agencies in Kenya and the world over cannot be ignored. Brunt (2016), notes that these agencies have made considerable inputs towards achievement of official development assistance (ODA). However lack of buyer supplier trust, commitment, cooperation, and communication between business partners when contracting and during contract management period require urgent reworking of development assistance architecture in order to enhance buyer supplier relationship. This is necessary in order to amicably address the socio-economic ills resulting from delayed completion of projects in the emerging economies (Imperiale & Vanclay, 2016). A study conducted by Amimo (2014) on buyer supplier relationship and firm's procurement performance established that superior performance outcomes can be generated in a supply chain that is not focused on buyer supplier dependence. Buyer supplier

relationships are an increasingly important area of interest in the academic and the business world (Monczka, Handfield, Giunipero & Peterson, 2015). Buyer supplier relationships play an important role in improving overall supply chain performance. `

However a study by Wachuma and Shalle (2016) on effect of lean supply chain management practices in Kenya revealed that Buyer Supplier relationship does not improve supply chain performance if the supplier is not involved in decision making. This is echoed further in the findings by Wachira (2013) on supplier relationship management and supply chain performance in alcoholic beverage industry in Kenya in which firms in the beverage industry are struggling to embrace collaborative relationships with their suppliers to enhance buyer supplier relationship and improve on their supply chain performance. A study by Okello and Were (2014) shows that only 20% foreign based development agencies at individual level report and profile supply chain performance and buyer supplier relationships. Furthermore existing buyer supplier relationships have limited integration capability to sustain supply chain performance of each partner (Kumar & Rahman, 2015). This empirical evidence thus is a clear pointer that the relationship between buyer and supplier does not always impact positively on the overall supply chain performance to benefit individual members. From the literature review, there is evidence based on theoretical and empirical sources that buyer supplier relationship improves supply chain performance, the studies by Wachuma and Shalle (2016), Okello and Were (2014) has posed a serious empirical gap that necessitates the need for re-examination. The primary objective of study was to determine the influence of buyer supplier relationship on supply chain performance in foreign based development agencies in Kenya. The study finally created new knowledge hence bridged the existing gap.

1.3 Objectives of study

1.3.1 General Objective

The general objective of this study was to establish the factors that influence Buyer Supplier relationship on performance of foreign based development agencies in Kenya.

1.3.2 Specific Objectives

The specific objectives of the study were to:

1. To determine the influence of buyer supplier trust on the performance of foreign based development agencies in Kenya.
2. To establish the influence of buyer supplier dependence on the performance of foreign based development agencies in Kenya.
3. To evaluate the influence of buyer supplier commitment on the performance of foreign based development agencies in Kenya.
4. To assess the influence of buyer supplier cooperation on the performance of foreign based development agencies in Kenya.
5. To establish the influence of buyer supplier communication on the performance of foreign based development agencies in Kenya.
6. To determine the moderating effect of buyer supplier integration on performance of foreign based development agencies in Kenya.

1.4 Research Hypotheses

Ha_1. Buyer supplier trust significantly influences performance of foreign based development agencies in Kenya

Ha_2. Buyer supplier dependence significantly influences performance of foreign based development agencies in Kenya

Ha_3. Buyer supplier commitment significantly influences performance of foreign based development agencies in Kenya

Ha_4. Buyer supplier cooperation significantly influences performance of foreign based development agencies in Kenya

Ha_5. Buyer supplier communication significantly influences performance of foreign based development agencies in Kenya

Ha_6. Buyer supplier integration significantly influences performance of foreign based development agencies in Kenya

1.5 Significance of the Study

Presumably, foreign based development agencies, their suppliers, customers, and third parties can benefit from a robust open information flow to: reduce or eliminate unnecessary inventory, improve planning, develop active rather than reactive operations, smooth product flows, trim cost and improve service delivery to the beneficiaries. Organizations would realize the important roles played by the members in the supply chain; the unique challenges in the suppliers' processes and how supply chain management can embrace better methods for product or service delivery by integrating procurement systems of development agencies with suppliers and by extension beneficiaries. The study will also explain the challenges that other development agencies in other parts of the world face in buyer supplier relationship.

1.5.1 Foreign Based Development Agencies

The study is of great importance to the management of foreign based development agencies in Kenya, as they will not only enhance reporting but identify various aspects of buyer-supplier relationships that affect the supply chain performance. Based on various challenges and constrains that are known to inhibit supply chain the research aims to establish a new frontier of knowledge and best practices in relationship to buyer supplier relationship. The study brings insights to various players in the foreign based development agencies on effects of buyer-supplier relationships on supply chain performance. The agencies will be able to determine the capacity and capability of their suppliers.

1.5.2 Policy Makers

This study will assist the policy makers in designing policies and necessary regulations that will guide foreign based development agencies in Kenya. This will establish buyer-supplier relationships that will positively influence their overall

supply chain performance in delivery of goods and services to the beneficiaries at national and county governments.

1.5.3 Academicians

The study findings are of great importance and will assist future academicians as it will provide material and basis for future research in buyer supplier relationships. Academicians will understand buyer supplier relationships and explore other possibilities of research in supply chain related areas and add new knowledge to readers.

1.5.4 Private Sector

The study findings will also assist corporate managers in making sound and informed management decisions, and enable them to focus on their customers more efficiently. With such exposition, managers will understand how firms can perform better and add value to the shareholders under Supply Chain Management orientation. Increased performance due to the implementation of buyer supplier relationship will tend to spur economic development and attract investors in the local manufacturing industry**.**

1.5.5 National Government

The National government will benefit from established buyer supplier relationships because projects designed to benefit citizens will be commenced and completed on time as scheduled. Improved buyer supplier relationships will create interactive platforms through integration that will ensure delivery of goods and services to the beneficiaries.

1.6 Scope of the Study

The research covered 37 units of analysis (21 bilateral and 16 multilateral) of foreign based development agencies in Nairobi Kenya between December 2017 and March 2018. The population study target was foreign based development agencies in Kenya undertaking mega projects. The respondents included top management employees in

each agency concerned with procurement; senior managers, procurement and accounting officers. The study evaluated buyer supplier relationship, and the influence it had on supply chain performance.

1.7 Limitations of the Study

The study was limited to the factors that influence buyer supplier relationships on the performance of foreign based development agencies in Kenya, The study target population was 37 agencies in Nairobi Kenya. Therefore the study did not include agencies operating outside Nairobi. This was a challenge to generalize the study findings to the entire population of agencies in Kenya. In addition study was restricted to cover variables within the conceptualized framework.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed both theoretical and empirical literature from professionals and other reviews on the factors that influence buyer supplier relationship on foreign based development performance. Testify critiques that exists relevant to the study and identify research gaps and seriousness of the chapter.

2.1 Theoretical Review

A theory consist of a coherent set of general propositions that offer an explanation of some phenomenon by describing the way other things correspond to this phenomenon. A theory is a formal testable explanation of some events that includes explanation of how things relate to one another. According to Moutinho and Huarng (2008), a theory is viewed as an idea or set of ideas explain facts, events or the general principles that relate to a particular subject. A theory becomes through a process of reviewing previous findings of similar studies, simple logical deductions and knowledge of applicable relevant areas (Zigmund, Babin & Griffin, 2010).

This subsection discussed theories that influence buyer supplier relationship on supply chain performance. It explored trust theory, dependency theory, social exchange theory, accommodation theory and transaction cost theory.

2.2.1 Trust theory

Trust theory is relevant to the first objective of the study: Determination of the influence of buyer supplier trust on the performance of foreign based development agencies in Kenya. It is also relevant to all objectives of the study as trust theory is similar to contract theory, and parties involved in the supply function are in a contractual relationship (Raballand, 2012). According to Mayer, Davis and Schoorman (1995) in a study on integrative model of organizational trust observe that trust is relationship-based phenomenon where one party (trustor) trusts another

part's (trustee) actions. Thus, the trustor voluntarily abandons control and allows the trustee to control specific affairs. To that end, the trustor is uncertain that the trustee will act to their best interest. That is the situation that exists when an organization commits to rely on another to produce a good or a service on its behalf (Shneiderman, 2000). The supplier is the trustee and it is upon the supplier to produce quality product and to continue supplying the products to the buyers/customers both now and into the unforeseeable future.

Simpson (2012) argues that when an organization through its procurement department commits funds to procure a product from a supplier, the company puts its trust on the supplier to deliver products of good quality on time. Also, the supplier puts trust on the buyer to make payment for the goods upon receiving the goods. Therefore, the relationship between the supplier and buyer of goods and services is mutual based on trust and commitment (Welch, 2013). One important thing about the nature of the relationship between the supplier and buyer is that the two entities are committed, rely on each other and have to trust one another both today and in the future**.**

Consequently, companies that have a stronger buyer supplier bond of trust are more likely to do business with one another over a longer period of time, hence benefiting from one another (Chen, 2015). According to Cohen and Dienhart (2013) trust comes over time through consistent actions such that the involved parties feel the other party is responsible and can be trusted. Both the buyer and supplier have to be consistent in what they say or do and develop a trust with one another. Since organizations are ran by humans, it is the people working for those entities who should uphold high morals to safeguard their trust and ones there is trust the organizations can do business with one another over a longer period of time.

2.2.2 Dependency Theory

This theory is particularly relevant to the second objective: Establishment of the influence of buyer supplier dependence on the performance of foreign based development agencies in Kenya. Dating back to 1950s, the dependency theory explains how nations and business organizations have interdependence relationship. Regarding the dependency theory, Theotonio (1971) argues that the theory explains the dependence between countries or organizations and observes that the possible outcome of the dependence is that one loses while the other gains. The theory became to oppose the modernization theory which stated that the underdeveloped countries would be developed one day just like those which were already developed were once underdeveloped and grew to attain their development statues (James, 1997). The proponents of the dependency theory criticized modernization theory as simply leveling the underdeveloped just as primitive versions of the developed ones (Ferraro, 2008). Thus, the theory advocates for a mutual relationship where the involved countries or organizations where each party ensure to benefit from each other rather than impoverish the other for a gain.

The theory was relevant to the study and specifically the objective on buyer supplier dependence which influence foreign based development agency performance because it advocates for a mutual dependence. Firms/ agencies depend on one another. Supplier needs the buyer and the buyer needs the supplier (Chen, 2015). None of the organizations should feel more important than the other as no organization could be independent of others in a supply chain. Coyle *et al.,* (2016) argues that the dependence nature of the business organizations throughout the world enhances commerce and grows commerce. As organizations engage with each other, they should regard the dependence nature of relationship they have with their suppliers and buyers. By being committed to the relationship of dependence; nurturing it and ensuring suppliers do not exploit buyers. Newman and Kenworthy (2015) argue that organizations are able to be more successful and competitive if they are in a robust relationship.

2.2.3 The Social Exchange Theory

The Social Exchange Theory is applicable to the third objective of the study: Evaluation of the influence of buyer supplier commitment on the performance of foreign based development agencies in Kenya. The social exchange theory is applicable in supply chain management as a valuable instrument when analyzing buyer-supplier commitment (Nammir et al., 2012). It is specifically applicable in the selection of supplier strategies and for making decisions about how to deal with buyers and suppliers. A buyer, when engaging in an exchange, should make his agency interesting and should, next to the economic exchanges, focus on social norms like trust and commitment (Kraiselburd, Pibernik & Raman, 2011). Through a commitment exchange relationship, the chance for a continuation of this relationship is higher. A steady continuous and robust exchange relationship ensures reliable supply. Gaining the status of a preferred buyer, instead of simply being a regular buyer or even an exit buyer, is the central objective, as this leads to privileged treatment and an ensured supply, which identify and mitigate risks in the supply chain (López-Navarro *et al.,* 2013).

The Social Exchange Theory can be of practical relevance, but as stated beforehand, only little focus is on social norms and behavior (Mohanty & Gahan, 2015). In accordance with Social Exchange Theory, behavioral aspect is important, as it leads to omitted and improved business relationships, which in turn lead to an increase in the organization performance. The Social Exchange Theory makes assumptions in two fields. Firstly regarding human nature and secondly regarding the quality and nature of relationships. Assumptions about the nature of the human behavior are that, human beings seek remunerations and awards and are simultaneously trying to avoid penalties (Nammir et al., 2012). According to Helm, Rolfes and Günter (2006), the basic assumption is that human beings strive for a positive outcome when considering rewards and costs of a relationship to optimize their satisfaction level.

Furthermore, humans are rational and will attempt to control their environment to achieve specific objectives, which maximize their own benefits. In addition it is assumed that, over a long period of time, the standards of human beings change

when evaluating costs and applicable rewards, and are different from person to person (López-Navarro et al., 2013). For instance when a younger person at the age of 10 decides on a particular issue, it has decision-making process and other preference than a person at the age of 60, due to their age difference. Besides persons tend to hold different views on things, that require different assessments. In addition, assumptions about the nature of relationships are made concerning the Social Exchange Theory. The Social Exchange Theory assumes that relationships between entities in transaction are mutual and interdependent (West & Turner, 2007). "In a completely interdependent system, all sub-criteria of the systems are mutually related, directly or indirectly" for the benefit of parties involved. Therefore human beings are attuned and mutually dependent on each other in a given environment (Yang, Chiu, Tzeng, & Yeh, 2008).

Within the Social Exchange Theory, transactions are bidirectional, meaning that there is mutual exchange of material things, where something has to be given in exchange of something else in a given environment (Cropanzano & Mitchell, 2005). In addition, the Social Exchange Theory assumes that individuals take part in an exchange only when they expect their rewards from it to justify the cost of participation. It means buyer supplier relationship is mutual and there is equitable sharing of resources and benefits. However, in the Social Exchange Theory, there is no guarantee for reciprocal rewards after investing costs or money due to lack of contractual obligations. Hence, the purpose of an exchange is, to maximize benefits and simultaneously minimize costs in a given environment, which would lead to a positive outcome (Nammir et al., 2012),

2.2.4 Transaction Cost Theory

The Transaction Cost Theory is relevant to the study and applicable to the third objective of the study: To assess the influence of buyer supplier cooperation on the performance development agencies in Kenya. Business transactions occur electronically between buyer and supplier whenever there is an exchange of goods or services. Chester Barnard, Herbert Simon and Ronald Coase are among pioneers who describe the contributions of transaction cost theory to the existence of business

entities (Williamson, 2015). Transaction cost theory explains elements of a supply chain or network hierarchically at different levels and how buyer and suppliers relate when transacting. It looks at aspects of the entire supply chain, as a network or as an integration process, by vertically connecting various elements of supply chain from second tier and first tier suppliers to first tier and second tier buyers.

Transaction cost theory is applicable to supply chain management when buyers and suppliers need to cooperate in various aspects by inputting minimum effort, monitoring performance, problem solving, and identifying competitive advantage (Grover & Malhotra, 2003). The minimum effort required to build and maintain sustainable buyer supplier relationships, through cooperation within a network. Buyers and suppliers cooperate in meeting the cost of monitoring supply chain performance, risk identification and mitigation that lead to resolving the problems that arise in the bidirectional business relationships. Further, in engagement of supply chain entities in an opportunistic behavior (Williamson, 1987). However, transaction cost theory is primarily concerned with the direct economic factors in a supply chain and therefore fails to address some important aspects of organizational operation, including personal and human relations among actors in the supply chain (Grover & Malhotra, 2003).

2.2.5 Communication Theory

This theory is relevant to the fifth objective: Determination of the influence of buyer supplier communication on the performance of foreign based development agencies in Kenya. The theory touches on the accommodative communication and was developed by Howard Giles in 1973 (Baker, 1991). The communication accommodation theory (CAT) explains how and why people accommodate one another in a business transaction. People adjust their speech and behavior when communicating with a view to share information and accommodate others. Hehl and McDonald (2014) argue that people adjust their speech styles to communicate values, attitudes, and intentions. Communication accommodation is a very important tool in starting and building mutual relationships. Kim (2003) posits that effective

communication strategy that accommodates both participants is essential for building robust relationships with other parties.

According to Parcha (2014) communication accommodation theory should extend to allowing others to use preferred communication means and channels. That was earlier echoed by the conclusions of Christopherson (2011) who observes that communication accommodation theory has advanced from mere speech to non-verbal and discursive dimensions of social interaction and to other diverse phenomena. The adopted supply chain should be able to accommodate the other party to communicate as per their abilities. In other words, organizations should be sensitive to others by embracing versatile communication means. Pham (2014) posits that in order to have an effective supply chain, organizations should be concerned about their communication effectiveness. Therefore, an organization that has appropriate communication strategies to accurately inform their needs to their suppliers are in no doubt able to build relationships with suppliers (Hehl & McDonald, 2014). Such organizations are more likely to have better procurement function as the information of what quantity and when the supplier is likely to deliver goods or services is undistorted.

2.2.6 Network Theory

This theory is relevant to the moderation variable: Determination of the moderating effect of buyer supplier integration on performance of foreign based development agencies in Kenya. When the buyer supplier establish and transact business over a period of time based on capability and resources, they establish bidirectional business relationship and with time a buyer creates a network of reliable suppliers for business transaction (Hakansson & Ford, 2002). Network theory is primarily concerned with supply chain value generation through inter-organizational relations. Network theory focuses on how elements of the entire supply chain relate (McNichols & Brennan, 2006). This theory was first introduced during the 1970s and

the 1980s and developed from the focus on relationships between business entities, or strategic alliances, towards an approach which entails the entire supply chain (Wellenbrock, 2013).

Harland (1996) looks at a network as a specific type of relationship linking a defined set of persons, objects or events. Chang, Chiang & Pai (2012) argue that the entire supply chain network model is complicated and its specific context depends on the relationships among the network members. Further, networks are seen as beneficial for individual members through investments in the supply chain (Hakansson & Ford, 2002). The network theory has been utilized in specific manufacturing industries across the world (Peck 2005; Zhao, Anand & Mitchell, 2005). Networks theory provides a framework for understanding and analyzing the buyer supplier relationship for increasing resources, capabilities, competencies of the suppliers to enhance organization performance.

2.3 Conceptual Framework

The conceptual framework explains the relationship between the independent and the dependent variables in the study. Waters and Rinsler (2014) infer that a number of the contemporary companies have created global strategies to source raw materials, components and labor from low-cost countries which are often located far from the countries where they will be used (Heide, Kumar & Wathne, 2014).

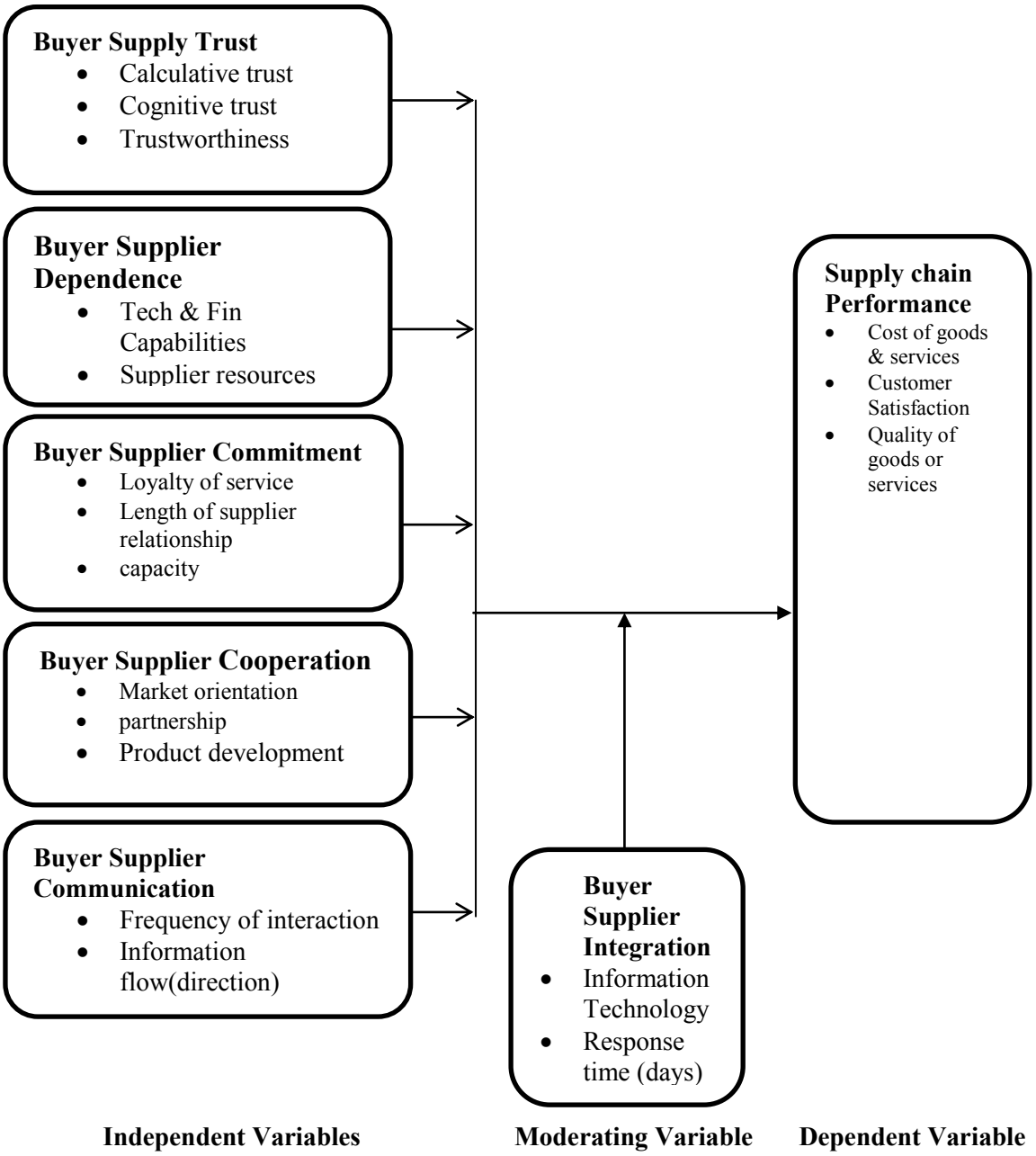

Figure 2.1: Conceptual framework

2.4 Empirical Literature Review

A literature review surveys scholarly articles, books and other sources relevant to a particular issues, area of research, or theory and by so doing, providing a description, summary and critical evaluation of these works (Creswell & Design, 2003). Literature reviews are designed to provide an overview of sources while researching a particular topic and to demonstrate to readers how the research fits into the larger field of study.

2.4.1 Buyer Supplier Trust on Supply Chain Performance

Terpend and Ashenbaum, (2012) argue that in commodity products and services, it is common to find an adversarial relationship mainly based on price and delivery between buyers and suppliers. This type of relationship with suppliers does not allow for cost reduction in the supply chain. It may be beneficial to network the supplier, to develop partnerships and alliances based on trustworthiness that will have mutual benefits both .This could be based on production, finance, personal, and or symbolic networking, which will turn on strategic alliances, allowing the information sharing, risk sharing and mitigation, obtaining mutual benefits and coordinating plans, permitting the improvement of the supply chain (Gualandris & Kalchschmidt, 2016).

The ability of the supplier to follow contractual obligation especially predefined delivery schedule is always the prime criteria for selection in this fast moving world. This means that suppliers who have capacity and keep their promises are easier and profitable to work with in a supply chain. Waithaka and Waiganjo (2015) contend that customers' expectations are also increasing for high quality products at low cost and organizations are prone to more and more uncertain environment/settings to satisfy this requirement. Organizations will find that their conventional supply chain integration will have to be expanded beyond their peripheries through global networks. The strategic and dynamic technological innovations in supply chain will impact on how organizations buy and sell in the future. However Rašković *et al.* (2014) holds that clear vision, strong planning and technical insight would be necessary to ensure that companies maximize the potential for better supply chain management and ultimately improved competitiveness. The organization must

realize that they must harness the power of technology, effective relation with their supplier to collaborate with their business partners to enhance supply chain performance. The global markets offer a variety of products of different quality and cost. As a result, companies are always competing based on calculative trust best on rewards and penalties to influence supplier performance and trying to reduce costs and improve quality. Calculative trust is predominant where behavioral uncertainty is high, relating more strongly to supplier performance in a supply chain. A study by Jung-Seung and Liang (2016) suggests that financial distress is a proposition where a company fails to meet, or settle, its financial obligations to its creditors, typically due to high fixed costs, illiquid assets or revenues sensitive to economic downturns.

A company under financial distress is likely to incur costs related to refinancing, opportunity costs of projects and less productive employees. Gualandris and Kalchschmidt (2016) argue that employees of a distressed organization usually lack cognitive trust and have lower morale and higher stress caused by the increased chance of bankruptcy, which would force them out of their jobs.

The Employees beliefs at individual level lose confidence in their organization and begin to doubt the quality of their products and services in terms of reliability, dependability and competency. Poor profits indicate a company is not financial stable and unlikely to have disposable income to expand business. Struggling to break even is an indication that a business is experiencing financial difficulties and therefore cannot sustain itself from internal funds and needs to raise capital externally. This raises the company's business risk and lowers its creditworthiness with lenders, suppliers, investors and banks (Jung-Seung & Liang, 2016). Limiting access to funds typically results in a company failing to meet its financial obligations. Low volume of sales is an indication of market decline in receiving a company's products or services based on its strategy and business model. When extreme marketing activities fail to grow business, the market is dissatisfied with the quality of product and service, and the company likely to face closure (Jin *et al.,* 2014). Likewise, if a company offers poor quality in its products or services, consumers start buying from competitors, eventually forcing a business to close its doors. Effectively managing supplier risk first requires a systematic process to

monitor the supply base for potential problems and, secondly, taking pre-emptive actions when potential problems are identified (Kasemsap, 2015). Over the past several years new data management and analysis tools have been developed for monitoring the supplier database. These approaches continuously monitoring suppliers on a "watch list" and provide buyers with advance notice that allow them to take action prior to a disruption (Gualandris & Kalchschmidt, 2016). Advanced notice of supplier distress allows supply managers to have more alternatives for dealing with the problem.

Recent trends in supply management have increased efficiencies in the supply chain but have also increased supply chain risk. Examples of these trends include: 1) increases in outsourcing, and 2) lean initiatives, which have resulted in reductions in people, inventory, and suppliers (Gualandris & Kalchschmidt, 2016). These strategies, while increasing efficiencies, have increased the probabilities of supply chain disruptions and the impact of the disruptions. Together they created a need for proactive risk management on the part of supply managers (Yaqub, 2013).

The risk associated with these strategies has been further increased by the recent recession, which put increased financial strain on suppliers and impeded their ability to meet contractual agreements (Jung-Seung & Liang, 2016). This has been a vicious circle of financial distress leading to operational problems that lead to even more financial problems. For example, a supplier who cannot get financing for raw material inventories will not be able to meet production schedules and will miss deliveries (Welch, 2013). This, in turn, will result in reduced payments from customers.

2.4.2 Buyer Supplier Dependence on Supply Chain Performance

Heide *et al.* (2014) argue that in business relationships, dependence based on capability, resources and reliability is associated with organization's lack of knowledge of alternative suppliers/buyers and perceived switching costs involved in replacing the organization in a supply chain. It is perceived that only by understanding the power regime that exists can buyer supplier relationship be fully understood appropriately in a supply chain (Gualandris & Kalchschmidt, 2016). The

link between power dependence and relationship satisfaction has, not been clearly established, as dependence is a double edged sword that may both enhance or reduce relationship satisfaction and have positive or negative impacts on supply chain performance. Dependence may also represent a threat to the buyer's survival or autonomy, and thus result in dissatisfaction in terms of resources and reliability (Li & Wan, 2016). On the other hand, a high level of dependence on a supplier can motivate a buyer to engage in increased exchange of information and show greater willingness to express solidarity with the supplier, which may increase satisfaction (O'Brien, 2014). Research has shown that trust and commitment tend to be high when interdependence asymmetry is low, whereas conflict tends to be high when interdependence asymmetry is high.

Afflerbach, Bolsinger and Röglinger (2016) contend that Quality is not a bonus for the buyer but also important for the acceptance of a product. High costs goods and services, low productivity, and loss of market share due to competition are directly related to poor quality. Quality is meeting or exceeding the expectations of the buyer. This could be achieved, for example, by the use of reliable quality metrics, which improves the production system (Kraiselburd, Pibernik, & Raman, 2011). Achieving better efficiency, quality and productivity, and acquiring the highest value of a product at lower cost will improve the business performance of a company.

Karim (2016) observe that quality assessment is a key factor of suppliers by which they can improve and maintain high quality products and delivery performance towards the overall manufacturing capacity of a firm that is important for the buyers and suppliers. Quality and availability of product depends on the capacity and applicable technology (Kraiselburd, Pibernik, & Raman, 2011). This factor has been variably measured based on the importance of the following quality dimensions: management commitment, product development by manufacturers, quality product selection by suppliers, quality planning and quality assurance in supply chain, quality assessment in production, inspection and experimentation and quality staff of suppliers (Afflerbach, Bolsinger & Röglinger, 2016). The rejection rate of the product is defined in the terms of the number of parts rejected by the buyer because of quality problems. It also includes the defective parts detected in the incoming

products. This encounters the issues like whether or not the frequent quality assessment of the parts has been done by the Supplier.

2.4.3 Buyer Supplier Commitment on Supply Chain Performance

Glock and Ries (2013) point out that inventory positioning and selective location of various items in the product line, plant, regional, or field warehouses is critical for a supply chain. Knowing how to manage inventory position and deployment is as important as determining how much inventory to maintain and where to stock it. As the company shifts its manufacturing or distribution strategy, the inventory positioning and deployment strategy should be realigned in order to enhance supply chain management (Türker & Altuntaş, 2014). Different customers or product lines may require different supply chains and inventory service requirements. Wachuma and Shalle (2016) posit that inventory position and deployment strategy is about deciding how best to manage inventory to support customer delivery and supply chain operations in the most efficient and effective manner. Inventory positioning takes a bearing on the selection of warehouse facility location and should be considered in the logistics strategy.

Wachuma and Shalle (2016) reviewed a number of factors that are critical and seen as essential in the creation, management and maintenance of a collaborative arrangement among members of a supply chain from the global perspective. It is noted in their conclusion that commitment based on loyalty, capacity and length of relationship between members of the supply chain is seen as one of the essential ingredients of trust, a factor that is critical to the maintenance of a sound relationship. Glock and Ries (2013) divided integration into supply and demand integration. Supply integration includes just-in-time delivery concept (frequent, small lots with a reduction of buffer inventories), reduction of the supplier base, evaluating suppliers based on quality and delivery performance history, establishing short and long-term contracts with suppliers, and the elimination of paperwork in business transaction.

In another study, Li and Wan (2016) evaluated electronic information transfers in supply chains from a transaction cost economics viewpoint. It was noted in their findings that the risk of opportunism in supply chain partnerships increased with the

quantity and complexity of the information to be transferred. Ward, Shook and Sobek (2017) observed that increasing pressure to reduce costs and improve service levels has forced companies to redefine where they position inventory throughout their supply chains and at what strategic level. Traditional supply chains followed a push system, holding inventory at the point of consumption. Because this system relies heavily on long-range forecasts, many companies shifted to a pull system, holding no inventory at all (Glock & Ries, 2013). But that approach had its own problems and eventually, companies started to employ a hybrid approach, creating the push-pull supply chain paradigm to enhance performance.

Prajogo, Oke, and Olhager (2016) suggest that for companies to remain competitive, they must make a commitment to seek new solutions to important Supply Chain Management issues such as modal analysis, supply chain management, load planning and route planning and distribution network design. These trends, and the software that supports them, are having a profound effect on the parcel industry. Companies must face corporate challenges that affect Supply Chain Management such as production system reengineering, globalization and outsourcing (Pham, 2014) in order to enhance capacity. This explains why it is so important for companies to get products to their customers quickly. Faster product availability is important to increasing sales and loyalty. There is a substantial profit advantage for the extra time that you are in the market and your competitor is not. The ability to deliver a product faster also can make or break a sale.

Li and Wan (2016) contend that the Supply Chain Management is expected to increase its range of responsibilities, most often in line with the thinking that sees the order fulfillment process as one coordinated set of activities. The most important characteristic of firms that could apply SCM concept is the will to accept innovations and new methods of working to avail goods and services to the buyer. Of course, there should be inventory positioning from the source (manufacturer) to the destination (consumer). The firms should have adequate managerial and organizational depth to capitalize on the benefits that Supply Chain Management brings to a business from raw material to the final consumer. Ward, Shook and Sobek (2017) suggested that service providers should have a profound experience in

organizing the supply chain using a sound methodology in applying organizational change. Service providers should also have to adapt into their solutions Supply Chain Management software systems in order to facilitate the installation of the system into the organizational structure of a firm to enhance efficient and effective rooting of goods (Mohebbi & Shafaei, 2012).

Bajgoric (2014) infers that selecting a relevant mix of carriers to create the ultimate fulfillment experience requires a lot of research and analysis. Part of the equation includes the cost-benefit relationship between faster shipping and the increased costs that this incurs. Mohebbi and Shafaei (2012) argue that retailers have to make sure that faster fulfillment options are managed attentively and that the higher costs associated with carriers, replenishing inventory, warehousing, labour, and distribution are carefully observed. Amimo (2014) posit that it is important to consider the location of delivery because the location of customers strongly influence carrier needs. Factors to consider include urban vs. rural, international vs. domestic, and whether shipments are made locally or across state lines. Several elements are involved when calculating actual delivery rates (Bajgoric, 2014). Awareness of details such as warranty or insurance costs for couriers, exclusions and inclusions on carrier rate cards, and any other surcharges is crucial, as is knowledge of the rate negotiation process. According to Bode and Wagner (2012), it is important to ensure that carriers are on the same page when it comes to the level of service expected. Service conditions should be clearly laid out in carrier agreements, and should include details such as the frequency and format of reporting, and the expected number of shipments per day. Visibility ties into all of the other variables, and is a critical component of carrier relationships (Bajgoric, 2014). That includes the level of insight as a retailer into details such as inventory, tracking, fulfillment costs, as well as tracking, costs, and returns for customers. Numerous occurrences can affect a delivery when it is already en route. How carriers respond to these changes will make or break the customer experience. Attentiveness, flexibility, and the ability to shift deliveries to other carriers as needed are crucial, especially if a carrier's services are interrupted (Bajgoric, 2014). Carrier integration with commerce platform is vital for creating a seamless buying experience and preparing for the future growth of a company.

The right shipping technology should provide valuable insight into all of the above factors, integrate easily with delivery partners, and interact well with the other elements of business.

Supply Chain Management is an essential element to operational efficiency. According to Divanbeigi and Ramalho (2015), supply Chain Management can be applied to customer satisfaction and company success, as well as within societal settings, including medical missions; disaster relief operations and other kinds of emergencies; cultural evolution; and it can help improve quality of life. Because of the vital role Supply Chain Management plays within organizations, employers seek employees with an abundance of Supply Chain Management skills and knowledge (Bajgoric, 2014). The world is one big supply chain. Supply chain management touches major issues, including the rapid growth of multinational corporations and strategic partnerships; global expansion and sourcing; fluctuating gas prices and environmental concerns, each of these issues dramatically affects corporate strategy and bottom line. Because of these emerging trends, supply chain management is the most critical business discipline in the world today (Amimo, 2014). To this end, convenient location of consignment stores enables business to avoid diverse effects of market responses such as the bullwhip effect.

Effectively managing the procurement and production control processes that link suppliers and producers is an essential activity for any business (Christopher, 2014). Each link in a supply chain represents a relationship between an individual customer and an individual supplier. According to Sahay (2013) Some of the most commonly cited supply chain activities include: procurement; inventory management; product design and new product development; manufacturing (planning); order processing; transportation/distribution; sales; demand management; and customer service.

2.4.4 Buyer Supplier Cooperation on Supply Chain Performance

Cooperative Procurement is a term that refers to the combining of requirements of two or more public procurement entities to leverage the benefits of volume purchases, delivery and supply chain advantages, best practices, and the reduction of administrative time and expenses thus improving procurement performance (Benton,

2010). The power of a supplier over a retailer is increased by the level of retailer's cooperation with the supplier. Cooperation based on market orientation, adaptation to product process and quality can be measured on the bases of any decision that shows a need to establish or build a relationship with an organization's suppliers.

Mohebbi and Shafaei (2012) concludes that the benefits of buyer supplier cooperation are many but are associated with quality purchase, quicker detection and elimination of defects in products, low costs on scrap and wastages, lower inventory carrying costs, fewer inspection and rewards, and efficiency on the part of the administration. Therefore, organizations that have stable buyer supplier cooperation would attain greater supply chain benefits and performance (Claub, 2012). As such, market orientation that allows synergistic interaction with a firm's suppliers has benefits to buyers but also it has benefits to the supplier. When the buyer has a tight cooperation with his supplier, purchaser can be able to give the producer the exact quality and quantity required for their consumption (Coyle et al., 2016). Cooperation results from the need to maintain the channel relationship to achieve desired goals and reflects the essentiality and replaceability of the goods and services provided by the supplier thus successful outcomes of procurement actions.

2.4.5 Buyer Supplier Communication on Supply Chain Performance

In a research conducted by Okello and Were (2014) established that the study of relationships is now a well-developed stream of thought in the literature from both buyer and supplier perspective. Relationships are seen as having positive links to performance but little is known about the nature of this performance. Relationships can be seen as generic; applying to all buyer supplier exchanges (Romano & Formentini, 2012). Relationships are viewed as mutual, two-way communication, involved exchanges between buyers and suppliers. While it is accepted that most purchasing and supply relationships might not achieve this ideal, or it may not be relevant to their needs, it does provide insights into potential performance areas such as frequency of communication, information flow through reliable channels we believe are neglected in prior research (Claub, 2012). Often the conceptualization of supplier or buyer performance is limited to easily identifiable bottom line cost

savings for one party. Relationship performance is a wider view that incorporates the perspective by way of effective communication of the other partners and measures the performance of distribution channels and a wider variety of related activities.

Makena (2014) infers that for an organization to achieve a competitive advantage in the global environment, it has to embrace supply chain practices as its culture. For instance, training of employees should be core and this would not be possible without effective communication within the organization. Based on research findings, the researcher recommended that managers should take a serious attention on the relationship among supply chain management practices, performance improvement in the Kenyan Industry (Coyle et al., 2016). Organizations should have the correct mix of practices that would lead to improved performance, as the combined effect is greater than for one practice.

Randy and Mukeri (2015) conducted a study on the effect of training, skills work competency of employees and its impact on performance of work. The findings established that organizations that are significantly outperforming their industry peers also happen to be making more headway on newer approaches to work such as frequent internal information sharing and effective communication among business partners in a supply chain. They are using dynamic, collaborative and connected ways of working to get things done effectively within a constantly changing environment. Investment in frequent training and information sharing tools can improve a company's financial standing (Chen, 2015). Poor performance often results when employees don't know exactly what they're supposed to do, how to do their jobs or why they need to work a certain way due to lack of information sharing. Training can help solve these performance problems by explaining the details of the job. In addition, provision of terms of reference for employees should reduce duplication of effort in the workplace; the time spent correcting mistakes and the problem solving necessary to correct bad performances (Coyle *et al.,* 2016). Improved performance from employee training can reduce staff turnover, lower maintenance costs by reducing equipment breakdowns and result in fewer customer complaints. Better performance from employees typically creates less need for supervision and brings increased worker output.

Hiroki, Garnevska and McLaren (2016) in their study on consumer perceptions about local food in New Zealand, and the role of life cycle–based environmental sustainability, established that worker qualifications, perhaps to develop harmonious employee relations, a learning culture and the enterprise's intellectual capital is essential. The smaller businesses tended to be more discriminating when assigning worth to qualifications; and favoured a closer correlation in time between the investment of resources and the returns to the business (Randy & Mukeri, 2015). Classifying enterprises into 'old' economy and 'new' economy businesses helped to explain the relationships found between the level of change and state of innovativeness of enterprises and their valuing of qualifications.

The study findings suggest that high levels of enterprise change and innovativeness are associated with lower support for the value of qualifications (contrary to what might be expected, a priori) (Hehl & McDonald, 2014). Perhaps the explanation is that these conditions translate into a demand for more 'just in time' type skills development, whereas the pursuit of formal qualifications is more long term and strategic. Finally, while a small proportion of the respondents, below 15%, consistently valued skills and experience above qualifications, a similar proportion of respondents believed strongly in the value of qualifications per se (Jung-Seung & Liang, 2016). The remaining respondents (i.e. the majority) valued qualifications, but conditionally, based on the circumstances facing their enterprise. From the perspective of VET policy, planning and implementation there is the challenge of ensuring that the complexity of circumstances and options that confront individual enterprises appropriately matched the array of training products and services. There are many regulation policies in the marketplace today regarding the supply chains across the globe. Consumers have a legal right to return the products they purchased in many businesses (Kasemsap, 2015), and product return has become a common feature in current marketplaces. In fact, return rates were recorded 5–9% of sales in most businesses and as high as 25–40% in the high-fashion apparel industry (Chen, 2015). The annual value of product returns was around $100 billion in the United States (Stock, & Christopher, 2016) notes that return issues have become even more significant over the last two decades especially due to the Internet, which gave birth to e-commerce and e-marketplaces. In the Internet shopping environment, consumers

consider an ease of return a main motivation for their buying decision and a retailer's generous return policy has become an essential competitive option for attracting consumers. This is because consumers cannot often have a chance to inspect a product before their purchasing decision (Cohen & Dienhart, 2013). A survey conducted by Craig, DeHoratius and Raman (2016) shows that more than 70% of consumers consider a return policy before the buying decision.

2.4.6 Supply Chain Performance

Studies have investigated supply chain performance in several dimensions and perspectives. It is evident that as a supply chain is a network of several organizations; hence working in collaboration is essential for optimal performance while reducing operation cost (Balfaqih, 2014). Several constituents affect the collaboration potential of a supply chain. Any unmeasured changes such as customer satisfaction and quality can have adverse effects on performance. Alhawari, Alryalat and Hunaiti (2016), note that supply chain performance determined by the degree of fit between ideal profiles of knowledge elements and strategies. Supply Chain Performance entails supply chain's activities through integration in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the supply chain to deliver that performance in a responsive manner. Cannon *et al.* (2011) investigated the impact of changes in the constituents and key parameters of a collaborative supply chain on its performance. With the help of underpinnings from extant literature, the study developed a model for collaborative supply chain comprising stakeholders, topology, enabling technology, levels of collaboration, business strategy and processes (Engel, 2012). The study contemplates three performance measures viz. resource, output and flexibility measures. Supply Chain Performance crosses company boundaries since it includes raw materials, components, work-in-progress as well as finished products, and distribution through various channels to the end customer (Gachago, 2013). It also crosses traditional functional organization lines such as procurement, manufacturing, distribution, marketing and sales, and research and development.

2.4.7 Supply Chain Integration

Cohen and Dienhart (2013) point out that best value supply chains use strategic supply chain management in an effort to excel in terms of speed, quality, cost, and flexibility. Despite the value of this concept to modern firms, there is little known about how prominent theories can help shed light on what distinguishes these chains from others and makes them exceptionally successful. Craig, DeHoratius and Raman (2016) reviewed key benefits of SCM proposed in literature and noted the following in the order of their importance; increased inventory turnover, increased revenues, SCM cost reduction, product availability, decreased order cycle time, responsiveness, economic value added, capital utilization, decreased time to market and reducing logistics costs. Information sharing practices such as vendor-managed inventory (VMI) gives manufacturers access to more accurate demand information. Engel (2012) used discrete-event simulation to examine how a manufacturer can combine traditional order data available from non-VMI customers with sales data available from VMI customers in its production and inventory control and what impact this has on the manufacturer's operational efficiency (Kasemsap, 2015). The key finding was that even for products with stable demand a partial improvement of demand visibility could improve production and inventory control efficiency. Other finding was that the value of visibility greatly depends on the target products' replenishment frequencies and the production planning cycle employed by the manufacturer.

Kurbel (2013) posit that supply chain management planning operation integrate the resource planning activities in a firm or organization. Some of the most common planning tools are material requirement planning (MRP), manufacturing resources planning (MRPII), and Enterprise Resource Planning (ERP). Karim (2016) adds that a MRP in operations is a tool that allows an organization to schedule production activities to meet specific deadlines based on the bill of materials, inventory levels, and master production schedule. An improvement of MRP tools is MRPII, which integrates manufacturing capabilities and capacities with the benefits of MRP. According to Stadtler, Kilger and Meyr (2015) an ERP tool allows the organization to integrate all processing information tasks related to all processes in the value chain. Usually this single system might include order management, inventory

fulfillment, production planning, financial planning, and customer service in a company (Kurbel, 2013). It is the backbone of the logistic systems for a variety of firms.

Stadtler, Kilger and Meyr (2015) point out that the complex markets, fierce competition and fast changes in demand require that companies be ready to react promptly to customers' needs through the manufacture and provision of top-notch goods and services. Flexibility is the ability to react and adapt quickly to changes in the market due to an increase or decrease of customers' requirements, accelerating or decelerating the manufacturing processes when requested. Karim (2016), holds that a logistical competency of a firm can be measured by how well it is able to adapt to unpredictable situations. In today's world, the capacity to respond to customers' requirements in ever-shorter periods has become crucial. Not only do customers want shorter lead times, they are also looking for flexibility and increasingly customized solutions and this influenced at times by the manufacturing capacity of firms (Weingarten *et al*., 2014). The key word in this changed environment is agility, which refers the ability to move quickly and to meet customers demand sooner. Organizations are striving to be more demand-driven than forecast driven. Welford (2013) stipulated that companies increasingly cooperates with and rely on other companies to compete on a global market, the concept of supply chain management and logistics is gaining interest, from practitioners as well as researchers.

According to Christopher (2016), firms that can use shorter lead times often yield a flexible manufacturing system that gives the company the capability to produce a much wider variety of products at little increase in overall costs, which can give companies in certain business environments the advantage in competition over their rivals. Authors such as Turker and Altuntas (2014) argue that a supply chain system that lacks flexibility and adaptability is weak and cannot optimally benefit a firm. They argue that supply chain systems should be situational and so should apply to different suppliers and customers differently because of their individual uniqueness.

2.5 Critique of Literature Relevant to the study

Studies on buyer supplier relationships and supply chain performance confirm that there is research carried out in this field. Loice (2015) conducted a study which looked into the effect of buyer-supplier relationships on procurement performance on Kenyan supermarkets. The study concluded that there were four relationship variables (commitment, communication, cooperation and trust). However, the research did not look at the influence of these variables on supply chain performance. Wachira (2013) conducted a study on buyer-supplier relationships and organizational performance among large manufacturing firms in Nairobi, Kenya.

The study concluded that there were five relationship variables (trust, communication, co-operation, commitment and mutual goals). These five variables made the researcher conclude that there was a significant relationship between buyer –supplier relationships and organizational performance. This study however did not show how buyer – supplier relationships influence supply chain performance. A study done by Amimo (2014) discussed on supply chain management practices on performance found that indeed supply chain management practices have an effect on the procurement performance. However, this study was general in referring to supply chain management and not specific areas in supply chain that influence performance.

2.6 Research Gaps

The literature review confirms that many studies on buyer supplier relationships. However, there is little on the influence of buyer-supplier relationships on supply chain performance of development aid agencies in Kenya. Wachuma and Shalle (2016) argue that buyer supplier relationship does not improve supply chain performance if the supplier is not involved in the decision-making. According to Okello and Were (2014) only 20% development agencies at individual level report supply chain performance. Furthermore existing buyer supplier relationships have limited integration capability to sustain supply chain performance of partner. The buyer supplier relationship should be determined based on capability and capacity of the supplier. It is therefore important to carry out a research on the effect of buyer-supplier relationships on supply chain performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter covers the methods used to capture the data for the research. It includes detailed description of the proposed research design, population of interest, sample and sampling techniques, research instruments , data collection procedure, pilot test and data analysis and presentation. This research methodology presents the overall framework on how to achieve research findings through data collection and analysis and presentation.

3.2 Research Design

A research design can either be exploratory, descriptive, experimental or hypothesis testing. The nature of the study-whether it is exploratory, descriptive, experimental depends on the stage to which knowledge about the research topic has advanced (Sekaran, 2003). A design is used to structure the research, to show how all of the major parts of the research work together to try to address the central research questions. A Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The design is the conceptual structure within which research is conducted and constitutes the blueprint for the collection, measurement and analysis of data (Caldwell, 2014). According to Kothari *et al*. (2017) decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design.

This study followed descriptive survey research design where qualitative and quantitative data collected described the nature and characteristics of buyer supplier relationship that influence the performance of foreign based development agencies in Kenya. According to Williams (2016) descriptive survey research design is used to obtain information concerning the status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

Kothari *et al*. (2017) describes descriptive research as including surveys and fact finding enquiries. The study finds this design appropriate since it facilitates gathering of reliable data describing the true characteristics of buyer supplier relationship on the performance of foreign based development agencies in Kenya. Saunders *et al.,* (2015) assert that this type of research design attempts to describe possible behaviour between values and characteristics.

3.2.1 Research Philosophy

Positivism, phenomenological

Research philosophy deals with the source, nature and development of knowledge. In the words of Saunders, Lewis and Thornhill (2015), research philosophy outlines the way data of a certain phenomenon should be gathered, analysed and interpreted. According to Saunders *et al.,* (2015), research philosophy can be divided into three categories namely; positivism, interpretivism and realism.

As a philosophy, positivism relates to the view that only factual knowledge gained through observation, including measurement, is trustworthy for the purposes of making generalizations. In positivism studies the role of the researcher is limited to data collection analysis and interpretation through objective approach and the research findings are usually observable and quantifiable (Caldwell, 2014). Positivism depends on quantifiable observations that lead to statistical analysis. It noted that as a philosophy, positivism is in accordance with the empiricist view that knowledge stems from human experience (Barker, Pistrang & Elliott, 2016). It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner. Moreover, in positivism, the researcher is independent and there are no provisions for human interests within the study. Harreveld *et al*. (2016) infer that positivist studies typically adopt approaches that are deductive whereas inductive research approach is normally associated with a phenomenology philosophy.

Interpretivists contend that only through the subjective interpretation and intervention, reality can be fully understood (Saunders, *et al.,* 2015). The study of phenomena in their natural environment is the key to interpretive philosophy, together with the acknowledgement that scientists cannot avoid affecting the phenomena they study (Caldwell, 2014). Social scientists admit that there may be many interpretations of reality, but maintain that interpretations are part of the knowledge being pursued. Interpretivism research philosophy applied in social sciences. In fact, Baronov (2016) refers interpretivism as anti-positivist while other scholars refer to it as post-positivist indicating the difference between positivism and interpretivism. Under interpretivism, individuals and groups make sense of a situation based on their individual experiences, expectations and memories (Williams, 2016). Thus individual experiences are the basis in which meaning is constructed. Similarly, realism based, on the belief that reality exists and is independent of human consciousness. Realism recognizes that social objects and phenomena are external and independent (Barker, Pistrang & Elliott, 2016) and influence people's perception of the world. Realists' believe that reality is pre-interpreted and may exist whether proven or not. This implies that under realism research philosophy, reality may exist without science or observations (Saunders, *et al.,* 2015). Therefore, realism asserts that there are real underlying causes, structures, processes, and entities that give rise to the observations we make of the world. In addition, Williams (2016) postulates that it is scientifically appropriate to form theories and hypotheses about underlying causes in order to arrive at and explain observations.

In light of the three philosophies discussed above, the choice of the research philosophy is based on the hypothesis to be tested by the researcher (Caldwell, 2014). As such, the research philosophy that best fitted the objectives of this study was positivism. In positivism research philosophy, it is possible to test hypothesis and generalize the findings (Barker, Pistrang & Elliott, 2016). Nevertheless, to test the hypothesis, there is need to translate the underlying concepts into measurable forms (Saunders *et al.,* 2015). According to Williams (2016), research design provides the framework to conduct research with a view to obtain answers to the questions being studied.

3.3 Target Population

Target population refers to the total number of subjects or the total environment of interest to the researcher (Caldwell, 2014). Kothari *et al.,* (2017) defined target population as all real or hypothetical members, people, events or subjects that the researcher wishes to generalize his result findings. Target population is defined as the entire aggregation of respondents that meet the designated set of criteria (Saunders, *et al.,* 2015).

The target population for this study was 37 agencies comprising 21 bilateral and 16 multilateral foreign based development agencies in Kenya (National Treasury, 2016). Therefore, the study used 37 units of analysis with a total of 111 respondents. Three respondents were drawn from the top management team of each unit of analysis involved in the study to increase reliability. The top management team included senior managers, procurement and accounting officers familiar with operations in the supply chain department.

Table 3.1: Sample Size of the Study

Category	Respondents	Percentage	Sample Size
Senior Managers	37	33.333	37
Procurement Officers	37	33.333	37
Accountants	37	33.333	37
Total population	111	100	111

3.4 Sample Frame

The sampling frame for this study consisted of foreign based development agencies that have a long history of undertaking projects in Kenya. Lavrakas (2008) defines a sampling frame as a list of the target population from which the sample is selected. In descriptive survey designs a sampling frame usually consists of a finite population. Mugenda and Mugenda (2003) and Kothari (2004) define the term sampling frame as a list that contains the names of the elements in a universe to be studied. Therefore, the sampling frame is the list of population from which sample respondents are to be drawn.

3.5 Sample and Sampling Technique

A sample is a subset of population (Hyndman, 2008). Kothari (2004) describes a sample as a collection of units chosen from the universe to represent a study. Newing (2011) defines a sample as a subset of sampling units or cases for which data is collected. Sampling is the selection of a subset of individuals from within a population to yield some knowledge about the whole population, especially for the purpose of making predictions based on statistical inference. The sampling process comprises defining the population, sampling frame, sampling method, sample size and sample plan. This study targeted 37 units of analysis with a total of 111 expected observations. Williams (2016) observes that sampling is not necessary when the population is small. Instead, the entire population should be used if time and resources allow as this increases reliability.

3.6 Research Instrument

This study used questionnaire as the instrument for data collection. Questionnaires were constructed based on the research objectives. Questionnaires are preferred since they are easy to administer and time-saving (Saunders, *et al.,* 2015). According to Kothari *et al.,* (2017) each item on the questionnaire should be developed to address a specific objective, research question or hypothesis of study. The questionnaire was based on a 5-point Likert scale and contained a mix of open and closed-ended questions. Questionnaires were administered directly to the respondents and recorded

observations examined for consistency and acceptability and corrections made as appropriate. The results were summarized statistically and findings obtained.

3.7 Data Collection Procedure

The study used questionnaires to obtain qualitative data for analysis to support or refute the hypothesis. According to Saunders *et al.* (2015), the questions in a questionnaire should be directly related to the specific research questions. When developing a survey questionnaire, the variables for which the information needs to be collected have to be identified and followed as per their operational definition. The procedure for issuing the questionnaires to the respondents was through self-introduction. The questions were accompanied with an introduction letter and a data collection authority letter from the university. Primary data was collected through the administration of questionnaires to senior managers, procurement and accounting officers of foreign based development agencies in Kenya. Research assistants were trained and engaged to administer and follow up on the questionnaires using well-spaced phone calls. The key areas of investigation were based on the specific objectives of the study.

3.8 Pilot Study

The questionnaire was pilot tested to determine validity and reliability. Reliability and validity of the research instruments are of great importance in any research (Kothari *et al.,* 2017). The purpose of the pilot test was to determine the approximate length of the survey in terms of time and to further refine the instrument. Pilot testing of the instrument provides opportunities relating to the clarity and content of the instrument included when designing to judge the quality of a study. A sample of 10% (11) of respondents was involved in the pilot study. The respondents who took part in the pilot test were not included in the final data collection process. The pilot-test involved evaluation of the specific questions, format, question sequence and instructions that were used in the main survey.

3.8.1 Validity of Research Instruments

An instrument is valid if it measures the concept prescribed in the study. According to Mugenda and Mugenda (2003), validity is the accuracy and meaningfulness of inference based on the research results. This refers to the degree to which the results obtained in the study represent the phenomenon under study. Saunders *et al.,* (2015) assert that it is relevant to determine the accuracy of the measurement scales in order to assess the extent to which the proposed constructs have been captured to examine the validity of the instrument. Validity of research instruments ensure scientific usefulness of the finding arising from data collection (Williams, 2016).

3.8.2 Reliability of Research Instruments

Reliability seeks to establish whether an assessment instrument gives the same results each time it is used in the same setting with the same type of subjects and thus it essentially means consistent or dependable results (Wildemuth, 2016). Reliability problems may arise when researchers overstate the importance of data obtained from a sample, which is either small or too restricted.

Cronbach's Alpha is a popular method for estimating the reliability of an instrument but it is highly inappropriate for the survey questionnaires according to Kothari *et al.,* (2017). It is further stated that estimating the amount of error is different for different measuring instruments and for different situations, hence Cronbach's Alpha is used to establish the reliability of scores on a psychometric instrument. Cronbach's Alpha determines the internal consistency (reliability) of test scores such that the more research item scores are in agreement with the total scores, the more reliable is the test (Kothari *et al.,* 2017). The Cronbach's Alpha Test of reliability was used to test the reliability of the constructs describing the variables of the study. The values of Cronbach's alpha ranges from 0 to 1 with values equal to 0.7 and above indicating that the questionnaire is reliable.

3.9 Data Analysis and Presentation

According to Kothari *et al.* (2017), there are three objectives in data analysis: getting a feel for the data, testing the goodness or fitness of the data and testing hypothesis developed for the research. A feel for the data gives the researcher a good idea of how well the respondent have reacted to the items in the questionnaire and how good the items and measures are outlined. This includes descriptive statistics such as the response rate, mean and standard deviations of the observed variables (Lerman, 2016). Establishing the goodness or fitness of the data lends credibility to all subsequent analysis and findings because it measures the reliability and validity of the measures used in the study. Once the data is ready for analysis, the hypothesis is tested.

In the study, quantitative data was collected and analysed by calculating the response rate with descriptive statistics such as mean, median, standard deviation and proportions using Statistical Package for Social Sciences (SPSS) version 24.0 and Microsoft Excel. Inferential data analysis was carried out by the use of factor analysis and correlation analysis to determine the strength and the direction of the relationship between the dependent variable and the independent variables (Lerman, 2016). Regression models were fitted and hypothesis testing carried out using multiple regression analysis and standard f tests and t tests.

According to Wildemuth (2016) multiple regression analysis attempts to determine whether a group of variables together predict a given dependent variable and in this way, attempts to increase the accuracy of the estimate. The general multiple regression model for this study was as stated below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where;

Y= Dependent Variable (performance of forei)

$\beta_{0=}$ Constant

$\beta_i = \beta_{i;}$ i=1,2,3,4,5,6 (coefficient of all independent variables)

X_1-X_6-=1, 2, 3,4,5,6 (values of various independent (covariates) variables and moderating variable.

ε = Error term

$X_{1=}$ buyer supplier trust

$X_{2=}$ buyer supplier dependence

$X_{3=}$ buyer supplier commitment

$X_{4=}$ buyer supplier cooperation

$X_{5=}$ buyer supplier communication

$X_{6=}$ supply chain integration

β_0 is the constant or intercept while $\beta_{1,}$ $\beta_{2,}$ $\beta_{3,}$ $\beta_{4,}$ β_5 and β_6 are corresponding coefficients for the respective corresponding independent variables and ε is the error term which represents residual or disturbance factors or values that are not captured within the regression model.

To test the power of the moderating variable in the study a product of each independent variable and the moderating variable was generated in order to produce a new interaction factor and assess how the interaction factor affects the dependent variable (supply chain performance). The test for the power of the moderation variable was assessed based on the magnitude of change of the coefficient of determination. The moderating variable was tested at intervals for each of the independent variables and eventually combined as follows:

$$Y = \beta_6 + \beta_1 X_1 X_6 + \beta_2 X_2 X_6 + \beta_3 X_3 X_6 + \beta_4 X_4 X_6 + \beta_5 X_5 X_6 + \varepsilon$$

3.9.1 Descriptive Statistics

Descriptive statistics are used to describe a data set. An important set of descriptive statistics includes measures of central tendency. They include the mean, median, mode, skewness and kurtosis statistics (Brewer, 2002). In the current study, the descriptive statistics were used to measure and describe responses from questions with ordered (ordinal) scale.

3.9.2 Diagnostic Tests

Since this study sought to determine the influence of buyer supplier relationship on performance of foreign based development agencies in Kenya, regression analysis was carried out. Therefore, the data was tested for adherence to assumptions of regression analysis; Linearity, multicollinearity, autocorrelation, normality and homoscedasticity (Thode, 2002). The failure to adhere to the assumptions of regression due to strong relationships amongst independent/predictor variable necessitated the data to be transformed into their natural logarithm before the regression analysis was carried out.

3.9.3 Linearity Test

Linearity test seeks to establish the nature of the relationship (causation effect) between the dependent and independent variables; correlation coefficient R and the strength of the relationships amongst independent variables; coefficient of determination (R-Square) through regression analysis.

3.9.4 Multicollinearity Test

In regression, multicollinearity is a test of whether the variables, other than the dependent variable have strong relationships. For instance, some independent/predictor variables may have some relationships (Brewer, 2002). It is not a good characteristic for the predictor variables to have strong relationships as this could inflate the coefficients including the nature and size of R and R-Squared. In such situations data should be transformed to trim the causation amongst the

independent variables. Tolerance Statistic (TS) and Variance Inflator Factor (VIF) statistics are used to test the presence of multicollinearity.

3.9.5 Autocorrelation Test

Autocorrelation, also called serial correlation is the measure of the extent to which the data points in a particular data set are related and hence causes each other. For instance, longitudinal data taken over years may interrelate (Berk, 2003). This is often a time series problem where data for future years may be influenced by data from past years. In this study, autocorrelation was tested using Durbin Watson (DW) statistic.

3.9.6 Normality Test

As a definition, normality test refer to statistical tests on a data to determine whether a data set is well modeled by a normal distribution (Berk, 2003). Normally distributed data yields better regression results because any random variable in a data set is normally distributed. Kolmogorov-Smirnov test and Shapiro-Wilk test were used to test the data for adherence to the normality assumptions.

3.9.7 Homoscedasticity Test

Homoscedasticity is the test of whether the data set has equal variances (deviations) throughout from the first data point to the last. That is called homogeneity of variance. Data with equal/homogeneous variances is said to be homoscedastic while those with varying deviations is said to be heteroscedastic (Brewer, 2002). Homoscedastic data sets yields more accurate regression results. Levine Statistic (LS) was used to test the homogeneity of variance in the data sets.

3.9.8 Inferential Statistics

Inferential statistics are those that help a researcher to make deductions, from data analysed in a particular study, and use the deductions to infer some meaning by applying the results of the study/experiment to make general conclusions about the populations and samples, including those that were not included in the study (Thode,

2002). The inferential statistic tells more about the population and bigger samples unlike the descriptive statistics that merely describes a particular data. This study used correlation statistics and multiple linear regression analysis inferential statistics to make inferences about the population with regard to buyer supplier relationship on performance in foreign based development agencies in Kenya. Thus coefficient of correlation (Pearson Product Moment of Correlation) was used to infer the size of correlation between the two variables: buyer supplier and supply chain performance (Berk, 2003). That was shown by cross tabulations also known as correlations table. Also, multiple linear regression statistics: Correlation coefficient (R) was used to measure the nature of the relationship (whether positive or negative) while the coefficient of determination (R-Square) was used to measure the strength of the relationship between the two variables: buyer supplier and supply chain performance.

3.9.9 Test of Hypothesis

In addition, the hypotheses of the study were tested using the inferential statistic (Berk, 2003). The hypothesis is tested by evaluating the coefficients of the regression analysis. In the current study, the dependent variable, Supply Chain Performance was hypothesized to be caused or predicted by 5 variables: Buyer Supplier Trust, Buyer Supplier Dependence, Buyer Supplier Commitment, Buyer Supplier Cooperation, and Buyer Supplier Communication. In that regard, the multiple linear regressions produced 5 coefficients and 5 p-values/significant values for each of the 5 independent variables (*Brewer, 2002)*. The current study tested the statistical significance of the coefficients at 5 percent level of significance. Hence, the study uses 95 percent level of accuracy. If the computed p-value is less than 0.05 (will be within the 5 percent tolerance level) the hypothesis is affirmed. If the calculated p-value is more than 0.05, the hypothesis is rejected because the results indicate that accuracy level of the results (for any particular hypothesis) is less than the desired 95 percent (Brewer, 2002). Below table 3.2 indicates the statistics used to analyse the data in the current study.

Table 3.2: Diagnostic Tests, Descriptive and Inferential Statistics

	Test	Statistic
1	Normality	Kolmogorov-Smirnov test
2	Normality	Shapiro-Wilk test
3	Homogeneity of variance (homoscedasticity)	Levine statistic (LS)
4	Multicollinearity	Tolerance Statistic(TS)
5	Multicollinearity	Variance Inflator Factor (VIF)
6	Serial-Correlation(Autocorrelation)	Durbin Watson (DW)
7	Descriptive Statistics	Mean, Median, Mode, Skewness and Kurtosis Statistics
8	Nature (Nature of the linear relationship)	Correlation coefficient (R)
9	Multiple linear regressions - Strength of the relationship.	Coefficient of determination (R-Squared)
10	Inferential statistic – Test of model coefficient statistical significant.	The p-value/Sig-value

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The chapter provides the findings for the study and discussion of results. The study sought to determine the influence of buyer supplier relationship on performance of foreign based development agencies in Kenya. Before the actual data collection, the research instrument was pilot-tested by conducting a mini-research. The findings for the pilot test were presented and discussed before the actual field work results.

4.2 Response Rate

According to Kothari *et al.* (2017) the respondents involved during pilot-test should not be included in the actual survey as they were already biased. Therefore, out of the 37 foreign based development agencies in Kenya, the 4 that were involved in pilot-testing phase were not visited during the actual study, hence 33 agencies were targeted and the staff involved included: senior managers, procurement officers, and accountants or their equivalents in various institutions. Hence a total of 99 respondents were targeted during the actual field work. However, one development agency declined to participate which reduced the respondents to 96. According to the results shown in table 4.1 below, the study attained 96.97 response rate with only one agency opting out of the study. The response rate was appropriate as almost all the target respondents were reached. Baruch and Holtom (2008) observe that a response rate of 50 % is good enough for social studies. Kothari (2004) argues that representativeness does not necessarily imply inclusion of all the units in a population. Therefore, adequate response rate was attained for the purpose of conclusions and generalization of the study results.

Table 4.1: Response Rate

	Target Respondents	Completed questionnaires	Response Rate
Foreign Based Agencies	33	32	96.97%
Respondents	99	96	96.97%

4.3 Result of Pilot Test

Pilot studies are carried out to evaluate feasibility, time, cost and possible adverse events of the study. In addition, it helps to test and enhance *reliability* (internal consistency) and *validity* (accuracy of measurement) of the research instruments being used (Cooper *et al.,* 2006). During the pilot study, it was noted that data collection from foreign based development agencies in Kenya was a daunting task because of the nature of the institutions. This was because their premises were highly secured and access was not straightforward due to security protocols. However, when their phone addresses were conducted, they answered and were willing to schedule appointment. That was encouraging, although it took longer for them to complete the questionnaires.

Nonetheless, those challenges were anticipated because some foreign based agency premises house embassies and therefore foreign dignitaries are accorded tight security against terrorism. During the pilot study, it was noted that although it took slightly longer time than anticipated the cost for the exercise was further reduced because some agencies accepted delivery of instrument by email and they would sent the soft copy via email after completion. Furthermore, the respondents readily accepted to participate in the study upon understanding that the data to be collected was for academic purposes. Subsections 4.3.1 and 4.3.2 provide the reliability and validity test results obtained from the pilot study.

4.3.1 Reliability Analysis

Regarding the test for reliability (internal consistency) of the research instrument, Cronbach's alpha was used. From the target 37 foreign based development agencies

in Kenya, only 4 were sampled to participate in the survey. Of the 12 questionnaires received, 3 respondents were each from the target agencies, even though one was barely completed. Thus, the 11 questionnaires that were fully completed were used for reliability and validity analysis. For reliability Cronbach's alpha was used to test the reliability of the instrument. The findings were as shown in table 4.2 below.

According to the results as shown in table 4.2 below, 11 questionnaires were analyzed and Cronbach's alpha of 0.712 was obtained with all the responses of 83 ratings for questions composing the questionnaire included. A Cronbach's alpha equal to 0.7 is acceptable of responses for the instrument to have satisfactory consistent responses and 10 percent of the target sample is appropriate to test research instruments (Devellis, 2012). Hence the questionnaire had sufficient internal consistency. The instrument did not need further modifications for enhancement of internal consistency since the tests indicated that the instrument had internal consistency of up to over 70 percent which indicated sufficient reliability as required in social sciences (Cooper *et al.,* 2006).

Table 4.2: Cronbach's test for Reliability

		N	**%**
Cases	Valid	3	100
	Excluded	0	0
	Total	3	100

a. Listwise deletion based on all variables in the procedure.

Cronbach's Alpha 0.712 N of Items 83

4.3.2 Validity Test

Validity refers to accuracy of measurement. Research instrument validity is the extent to which an instrument completely measures the needed concepts. The three major types of validity tests include content, construct and criterion. Golafshani (2003) define content validity as the exhaustiveness of the items in the instrument such that they can measure the traits or property of the variable that needs measure. On the other hand, construct validity is the extent to which the instruments and tools

including the representative constructs correctly and accurately measures the variable it ought to measure (Cooper *et al.,* 2006).

Another type of validity is criterion validity which refers the extent to which an instrument and measurements being applied resemble those that have been used in other studies. Although there are different types of validity tests, McNamara (2006), the common practice is to employ one to enhance validity of an instrument. The common tests of validity include correlation tests, factor analysis and principal component analysis. In this study, principal component analysis (PCA) was used to test and enhance the validity of the research instrument through appropriate factor reduction methods. Table 4.3 shows the extraction sum of squared loadings and determinant values for a series of iterations done to test and enhance study results. In each of the factor reduction iteration, the factors with substantially low loading values were eliminated.

Table 4.3: Total Variance Explained to Test Validity

Study Construct	**Extraction Sums of Squared Loadings**	**Determinant**
Buyer-Supplier Trust	73.419	0.680
Buyer-Supplier Dependence	70.580	0.630
Buyer-Supplier Commitment	79.097	0.600
Buyer-Supplier Cooperation	73.333	0.631
Buyer-Supplier Integration	88.405	0.682
Buyer-Supplier Communication	77.785	0.590
Supply chain Performance	81.386	0.570

According to the principal component analysis results in table 4.3, the extraction sums of squared loadings which explained the total variance by the factors used to measure each of the study variables was above 70 and the determinant statistic was above 50 percent which indicates that the factor reduction iterations through principal component analysis helped to achieve valid measurements of the variables as the factors explained over 70 percent of the variations in the ultimate variables that were being measured (McNamara, 2006). Principal component analysis helps to enhance variable measurement validity by computing contribution of each of the

factors to the ultimate model by comparing specific factor contribution to overall variations in the ultimate variable (Cooper *et al.,* 2006).

4.4 Background Information

4.4.1 Respondents Gender

The appropriateness of the respondent's gender targeted in a study is an essential consideration as this influences the quality and relevance of the obtained responses (Baruch & Holtom, 2008). Table 4.4 shows a cross-tabulation for the gender and title of respondents.

Table 4.4: Gender versus Title of Respondent Cross-tabulation

			Job Position of Respondent			Total
			Senior Managers	Procurement Officers	Accountants	
Gender of Respondents	Female	Count	6	17	17	40
		within Title of Respondent	18.80	53.10	53.10	41.70
	Male	Count	26	15	15	56
		within Title of Respondent	81.20	46.90	46.90	58.30
Total		Count	32	32	32	96
		within Title of Respondent	100.00	100.00	100.00	100.00
Pearson Chi-Square Sig. Value (2-Sided)						0.006

The findings indicate that 41.7 percent of the respondents were female and 58.3 percent were male and a total of 96 respondents were involved in the study. The Pearson Chi-Square significant value of 0.006 which was less than alpha value of 0.05 indicate that there was an association between the gender and job position of the respondent. A quick scan of the results in the table indicates that senior management position highly correlates (81.2 percent) with male gender while female gender dominated the procurement and accounting positions. More experienced people are likely to know much more about the issues being investigated and can enrich the

study appropriately (Baruch & Holtom, 2008). Also, the study inquired about the experience of the respondents in terms of years worked in the three job positions. Table 4.5 shows the cross-tabulations between experience in the department and job position of the respondent.

According to the results in table 4.5, there was a relationship between the years of experience in an agency and their position. Notably, there was high association between more experience (11-15 years) and senior management position. A Pearson Chi-Square Significant value of 0.0001 indicates that results were statistically significant. Thus, the study used experienced personnel, who were likely to shed more light on the issues under inquiry.

Table 4.5: Experience versus Job Position of Respondents Cross-tabulation

			Job Position of Respondent			
			Senior Manager	**Procurement Officer**	**Accountant**	**Total**
Experience in Years	**Below 5 years**	Count	1	20	22	43
		within Title of Respondent	3.1	62.5	68.8	44.8
	6-10 years	Count	7	12	10	29
		within Title of Respondent	21.9	37.5	31.3	30.2
	11-15 years	Count	24	0	0	24
		% within Title of Respondent	75.0	0.0	0.0	25.0
Total		Count	32	32	32	96
		within Title of Respondent	100.0	100.0	100.0	100.0
Pearson Chi-Square Sig. Value (2-Sided)						**0.0001**

4.4.2 Level of Education

Also, the study considered the importance of the level of education in understanding the academic constructs. For that purpose, a test to evaluate the level of education and investigating its influence on job position in the studied organizations was conducted. That revealed the foreign based development agencies' preference for education as possible ingredient for supply chain performance but also was an indicator of the richness of the sampled respondents. The analysis results shown in table 4.6 indicate that there was a relationship between level of education and job

position of respondents. A quick scan indicate a high correlation of having masters and PhD degree at senior manager position in the studied agencies while bachelor's level of degree was more associated with procurement and accounting officer positions. The Pearson Chi-Square Significant value of 0.0001 indicates that the relationship between the two variables is statistically significant.

Table 4.6: Level of Education versus Title of Respondent Cross-tabulation

			Job Position of Respondent			
			Senior Managers	**Procurement Officers**	**Accountants**	**Total**
Level of Education	**PhDz**	Count	7	0	0	7
		% within Title of Respondent	21.9%	0.0%	0.0%	7.3%
	Masters	Count	24	11	6	41
		% within Title of Respondent	75.0%	34.4%	18.8%	42.7%
	Bachelors	Count	1	21	26	48
		% within Title of Respondent	3.1%	65.6%	81.3%	50.0%
Total		Count	32	32	32	96
		% within Title of Respondent	100.0%	100.0%	100.0%	100.0%
Pearson Chi-Square Sig. Value (2-Sided)						**0.0001**

4.5 Descriptive Analysis of Constructs

4.5.1 Description Analysis of Construct Buyer Supplier Trust

The study evaluated the extent of trustworthiness in the supply chain of the agencies under investigations.The results in table 4.7 below indicate that majority of the respondents felt that their agencies had to a great extent relied on suppliers. The mean, median and mode for the constructs apart from the two statements that tested whether suppliers in the supply chain did not regard trust was approximately 4 which stood for agree in the questionnaire. Also, the skewness statistic for majority was negative indicating a skew towards 5 which represented strongly agree.

In supply chain relationship frameworks, buyers and suppliers rely on each other for supplies and revenues (Jung-Seung & Liang, 2016). Therefore, the element of trust cannot be ignored because agencies and firms have to rely on each other. The problem however would be if a member of the supply chain entrusted with the responsibility to complete the chain fails to perform their part (Waithaka & Waiganjo, 2015). That is one of the reasons why it is not prudent to over-rely on one entity or just a few. Strong buyer supplier trust is a good thing but the trust should be on the suppliers that have been tried and tested to prove that they do not fail. As a matter of fact, it would be difficult for entities to transact without trusting each other. Consequently, the element of trust should be built over time. For instance, strong buyer supplier trust is an important ingredient in order for staff of the agencies to be assured of agreed quantities and quality supplies. On the other hand, the supplier has to be assured of receiving the payment for the goods that they have delivered. However, Jung-Seung and Liang (2016) note that it is best for organizations to search and replace members whom they feel may not meet their long-term goals since longevity is an essential factor of consideration for most organizations. Having trustworthy suppliers that can meet the needs of the members in a supply chain makes it possible for members to attain efficiency and effectiveness which would in turn enhance cooperation in the supply chain.

Table 4.7: Description Analysis of construct Trust

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
Our agency can comfortably entrust its long-term supply needs to the firms within our supply chain networks		3.56	4.00	4	.577	-1.257
Trust has helped to attain efficient and effective cooperation in our supply chain		3.65	4.00	4	.580	-.233
Trust, allows free and adequate passage of ideas, knowledge, products, and services in the supply chain aimed at creating value		3.89	4.00	4	.694	-.157
Most business transactions in our supply chain are purely commercial and trust is not important		2.33	2.00	2	.854	.640
Long term business strategy is built on trust among members of the supply chain.		4.57	5.00	5	.497	-.300
The level of trust is very low amongst the suppliers in our network, each works individually to fulfill selfish interests.		2.16	2.00	2	.812	.908
In our networks, there is evidence of trustworthiness built over years		4.30	4.00	4	.682	-.465
My agency has strong buyer supplier trust		3.52	4.00	4	.680	-1.101
Suppliers within our supply chain fulfill their obligation		3.70	4.00	4	.583	-.156
We trust the suppliers within our current supply chain network		3.61	4.00	4	.605	-.454

According to Terpend and Ashenbaum (2012) trust allows free and adequate passage of ideas, knowledge, products, and services in the supply chain which helps to increase value creation. In that regard, it would be inappropriate for each supplier to be focused on making profits. If members in a supply chain only focus on being commercial they may compete rather than work together and build trust.

Furthermore, long-term business strategies should be built on trust such that agencies have suppliers they can reliably entrust their needs for supplies. Jin *et al.,* (2014) opine that absence of trustworthiness causes members to have low reliance in the network destroying value through individualism and selfishness. In that regard, it is better for agencies to search and build trustworthiness with firms that they can rely on over the long-haul.

4.5.2 Description Analysis of Construct Buyer Supplier Dependence

Quite related to trust is the concept of dependence, buyers and suppliers, who have trust, may depend on each other. The level of dependence may be determined by the trust buyers have in the capacity and will for the trusted entity (suppliers) to deliver. Agencies which have strong buyer-supplier dependence are assured of the supplies they need for their business. Heide *et al.* (2014) argue that when there is high buyer-supplier dependence, the bargaining power of other buyers or suppliers may not easily weaken the relationship between entities that have a history of trust. Because of the dependence, agencies to a greater extent are assured of supplies, hence minimal disruptions due to shortages. Firms with superior bargaining power may not be able to overturn the dependence and the association which has been created over time.

This study evaluated the extent of dependence between the members in the supply chain. To analyze the results, descriptive statistics which are the measures of central tendency mean, median, and mode as well as standard deviation and skewness statistic were obtained as presented in table 4.8.

Table 4.8: Description Analysis of Constructs Dependence

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
My agency has strong buyer supplier dependence in business transactions.		3.96	4.00	4	.972	-.687
Bargaining power of other suppliers does not affect our relationship with the present suppliers.		4.03	4.00	4	.900	-.771
Other suppliers do not develop their supply chain capabilities and are unreliable partners for our business transaction.		2.94	3.00	3	.723	-.076
Our agency can comfortably entrust its long-term dependence on suppliers within our supply chain networks.		2.99	3.00	3	.703	.014
Suppliers do not recognize the importance of dependence and show no effort to build their supply chain capabilities.		2.34	2.00	2[a]	.693	-.387
Our agency is unreliable and allocates no resources to enhance our capabilities to attain more benefits from our supply chain function.		2.55	3.00	3	.694	.099
Our long term business strategy does not recognize buyer supplier dependence.		2.19	2.00	2	.850	.679
The level of dependence is very low amongst the firms in our network, each works individually to fulfill selfish interests.		2.16	2.00	2	1.040	.943
Buyer supplier dependence does not exist in our supply chain function.		2.09	2.00	2	.859	.833

According to the results in table 4.8 above, there is high dependence between the sampled agencies with their suppliers. The questions that were asked in the affirmative seeking to test whether the agencies had some dependence received higher mean, median, and mode. Also, the skewness statistic indicate that they were negatively skewed which indicated a slant towards 5 and away from 1. Also, those that were not asked in affirmative regarding extent of dependence received low ratings and were positively skewed as shown in table 8. That suggests that agencies have high levels of dependence. Li and Wan (2016) indicate that suppliers who do not develop their supply chain capabilities are unreliable partners for business transaction. Agencies in a supply chain framework should develop their capabilities so that entities in their environs can comfortably entrust their long-term dependence on suppliers to benefit their supply chain networks. Suppliers who do not put effort to build their supply chain capabilities are unreliable more so when they fail to allocate resources to enhance capabilities to attain higher levels of efficiency and effectiveness to benefit members in the supply chain. Karim (2016) and Stadtler *et al.,* (2015) opine that the culture of building strong, long-term capabilities can help agencies to harness synergies and to grow stronger networks to the benefit of the members in the supply chain.

4.5.3 Description Analysis of Construct Buyer Supplier Commitment

In relation to supply chain performance literature, trust and dependence can be realized where the agencies have commitment (Glock & Ries, 2013). Bode and Wagner (2012) posits that organizations should be committed to strengthen output through loyalty within supply chain frameworks. That includes the commitment to research and obtain safe supplies from firms that can bring benefits to members of the supply chain. Bajgoric (2014) advocates for full disclosure such that the members are not duped into shoddy deals that disadvantage the members. This study sought to determine the extent of commitment of the agencies and firms in the supply chain frameworks to transact business. For that purpose, various questions built from the reviewed literatures were presented in questionnaires.

Table 4.9: Description Analysis of Construct Buyer Supplier Commitment

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
There is commitment to strengthening the output due to loyalty within our supply chain.		4.36	4.00	4	.583	-.267
There is evidence of buyer-supplier commitment to enhance each other's interests such that there is a win-win situation.		4.03	4.00	4	.864	-.661
There is evidence of buyer supplier commitment to develop a stable long term relationship.		3.94	4.00	4	.662	-.822
There is evidence of supplier capacity that enhance performance.		4.27	4.00	4	.640	-.310
Our agency recognizes the importance of buyer supplier commitment in business transactions.		4.27	4.00	4	.552	.036
Our agency is unreliable and there is no evidence of commitment with suppliers.		1.73	2.00	2	.552	-.036
Our long term strategy recognizes commitment with partners to enhance supply chain performance.		4.14	4.00	4	.690	-.380
The level of commitment with suppliers is very low in our supply chain.		1.68	2.00	2	.492	-.496
In our networks there is a huge evidence of loyalty.		2.91	3.00	3	1.027	-.166
Our relationship with suppliers is short term only.		1.61	2.00	2	.587	.656

The results, which comprised of the mean, median, mode, standard deviation and skewness statistic for the ratings from a Likert scale of 1-5, were as shown in table 4.9. The statements used to measure the construct included statements constructed in the affirmative and some on the negative to measure the absence of commitment in the supply chain.

According to the findings in table 4.9, respondents indicated that there was element of commitment in the members' supply chain. That is because the mean, median and mode for the questions stated in the affirmative received higher ratings and the skewness statistics indicate that the ratings were skewed towards 4 and 5. On the other hand, those stated on the negative obtained low ratings suggesting that they were of the opinion that the agencies in their supply chain had buyer-supplier cooperation. According to Divanbeigi and Ramalho (2015) cooperation creates a win-win situation when the members are committed to meet each other's needs. That occurs because when members are committed they tend to create long-term relationships with their buyers and suppliers. When people create long-term networks, they are able to benefit from the strategic capabilities and advantages attained by member agencies over time. Supplier capacity enhances performance of not just the supplier but also the buyers (Bajgoric, 2014). Therefore, there is a need for firms to be committed to bolster their capability not just for their own gain but because they help those that they depend on to increase their outputs.

Notably, unreliable members of a supply chain may not be supportive to partner's endeavors. Instead, as Sahay (2013) point out, they tend to slack and their poor performances affect all supply chain members. Long-term oriented supply chain relationships tend to create loyalty amongst the members and the entire supply chain is able to benefit from loyal members who can grow the agencies' performance because they are able to achieve quality goods and services and extend that benefit to the consumers (Bajgoric, 2014). High quality goods and services attract consumers and accelerate repeat purchase for customer retentions.

4.5.4 Description Analysis of Construct Buyer Supplier Cooperation

According to Benton (2010) cooperation amongst agencies committed towards a certain goal is an essential thing for growth and competitiveness. The major advantage of cooperation is that it brings the synergy and helps agencies to attain benefits of volume purchases, efficient and speed delivery, achieves best practices and reduces administrative expenses and enhances performance (Coyle *et al.,* 2016).

This study evaluated the construct cooperation aiming to measure the extent to which the sampled agencies valued and upheld cooperation in Likert scale of 1-5. The results for the survey were summarized using the measures of central tendency including mean, median, mode, standard deviation and skewness statistic. The findings were as shown in table 4.10. According to the findings in table 4.10, the respondents agreed that member agencies in their supply chains were cooperative. That is indicated by the mean, median and mode which were above 4 and the skewness statistics which indicate that the responses were negatively skewed. That is important because buyer-supplier cooperation is associated with numeral advantages.

According to Benton (2010) cooperation helps the agencies to leverage the benefits of volume purchases in firms involved. Furthermore, cooperation improves delivery of goods and services of the involved agencies. Also, as opined by Mohebbi and Shafaei (2012) it helps the agencies to achieve procurement best practices not to mention the fact that they are able to obtain quality goods that are trending in the market. The cooperation helps the agencies to appropriately adapt the product processes which improve the supply chain performance. In addition cooperation can help the personnel to engage and improve coordination to benefit transacting entities.

Table 4.10: Description Analysis of Construct Buyer Supplier Cooperation

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
Cooperation helps leverage the benefits of volume purchases in our agency		4.50	5.00	5	.523	-.225
Delivery of goods and services have been enhanced through cooperation with suppliers		4.50	5.00	5	.523	-.225
Our agency apply best procurement practices through cooperation with suppliers		4.38	4.00	4	.567	-.199
Our end users source trending goods and services presently in the market		4.40	4.00	5	.657	-.858
Adaptations to product processes through cooperation has improved the overall supply chain performance		4.43	4.00	4	.518	.067
Cooperation has resulted into synergistic advantages and win-win situation with suppliers		4.04	4.00	4	.521	.058
Our cooperative engagements are characterized by long-term contracts, close relationship between our personnel and suppliers for goods and services		3.64	4.00	4	.796	-.393
The level of cooperation with suppliers is very high in our supply chain		3.83	4.00	4	1.073	-.861
There is huge evidence of quality products delivery through cooperation with suppliers		4.43	4.00	4	.576	-.722
Cooperation with suppliers has enhanced supply chain performance in our agency		4.45	4.00	4	.560	-.343

Cooperation is necessary to sustain the functionality of the supply chain and could enhance buyer supplier relationship. It results from the need to maintain the channel relationship to achieve desired goals and reflects the essentiality and replaceability of the goods and services provided by the supplier thus successful outcomes of procurement actions.

4.5.5 Description Analysis of Construct Buyer Supplier Communication

Communication is critical for any undertaking and is more crucial for commercial endeavors like purchases and procurement (Coyle *et al.,* 2016). When agencies have diverse channels that can help to communicate, Hehl and McDonald (2014) argue that it helps to build long-term buyer-supplier relationships to their benefit in a supply chain framework. As a matter of fact, through sharing information buyers and suppliers help the agencies to improve delivery and achieve best practices for the benefit of the entire supply chain. In this study, the respondents were asked to indicate the extent to which they had built channels and created room for effective and efficient communication. The results of the analysis as represented by central measure of tendency, mean, median, mode and skewness statistics were as shown in table 4.11.

The results of the analysis as presented in table 4.11 show that the respondents were positive about the statements seeking to measure the extent of the communication capabilities (efficiency and effectiveness) in their supply chain frameworks. The mean, median, and mode were approximately the same for all the constructs apart from the one that asked whether the agency applied best buyer practices and shared information with supplier's procurement status. Also, the skewness statistic was negative indicating a skew to the right towards 5. The literature review on procurement indicates the importance of efficiency and effectiveness of communication. Craig *et al.,* (2016) opine that communication effectiveness and efficiency help organizations to communicate their needs and help members to respond on time for planning purpose. Importantly, ease of communication enhances frequency of interactions which build bonds between personnel and supports

Table 4.11: Description Analysis of Construct Buyer Supplier Communication

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
Our agency has embraced frequent communications with suppliers through diverse channels and that has built a long-term supplier-buyer relationship.		4.13	4.00	4	.785	-.759
Delivery of goods and services has been improved through information sharing with suppliers		4.25	4.00	4	.768	-.891
Our agency applies best buyer practices and share information with supplier's procurement status.		3.47	3.00	3	.664	.007
The level of communication with suppliers is very high in enhancing supply chain performance		3.34	4.00	4	.881	-.643
The integration with suppliers has improved the overall supply chain performance		3.91	4.00	4	.782	-1.045
The frequency of communication with suppliers has strengthened the performance of our supply chain		4.17	4.00	4	.804	-1.059
Our communication with suppliers has enhance smooth business transaction		4.26	4.00	4	.669	-.571
The needed information on goods and services communicated on time.		3.89	4.00	4	.793	-.438
Our agency has evidence of communication record for every business transaction		4.22	4.00	4	.784	-.944
Our network communication has enhanced supply chain performance in our agency		4.19	4.00	4	.715	-.822

performance by enhancing smoothness of the transactions between entities. That is more important because communication help agencies to pass information about goods and services on time. Jung-Seung and Liang (2016) observe that having diverse means with which agencies can be reached encourages communication with third parties and often creates business opportunities for the suppliers. In that regard, efficient and effective communication is an important ingredient for supply chain performance.

4.5.6 Description Analysis of Construct Buyer Supplier Integration

This study tested the extent to which the sampled agencies had integrated their purchase and supply function with their suppliers. The results in table 4.12 above indicate that the mean, median and mode were between 3 and 4 which indicate that the respondents were either unsure or agreed. However, based on the negative skewness statistics the responses tilted towards 4 and 5. That suggests that agencies had achieved a reasonable degree of integration. The literature on integration of supply chain framework is associated with diverse benefits. According to Randy and Mukeri (2015) agencies should embrace integration for monitoring. Integration tools that use information technology help to strengthen the buyer supplier relationship.

Another important ingredient for supply chain performance is the extent to which the entities are intertwined together through integration frameworks. According to Coyle *et al.,* (2016) the recent benefit of integration is that use of monitoring tools amongst the buyer and supplier such that the supplier can tell when the buyer is about to make an order so that the supplier can be ready to meet the demands of their buyer. It helps the organizations to work like a team to the benefit of each other (Randy & Mukeri, 2015).

In order to take full benefit of the information technology frameworks to enhance relationship with the suppliers, Stock and Christopher (2016) indicate that ICT tools should be upgraded regularly. Also, signing contracts to build collaborative integration and to enhance reliability is important. Craig *et al.,* (2016) opine that enterprise resource planning tools should be employed for the modern day electronic

data interchange. That should be supported by adequate policies to adapt for continuous changes in the business environments.

Table 4.12: Description Analysis of Construct Buyer Supplier Integration

Items	N=96 Valid	Mean	Median	Mode	Std. Deviation	Skewness
Our agency has embraced integration for monitoring activities with suppliers		3.09	3.00	3	.796	-.171
Our organization uses integration tools to strengthen buyer supplier relationship		3.18	3.00	4	.858	-.352
Information technology is well used to enhance relationship with the suppliers		3.35	3.00	4	.846	-.435
ICT tools are upgraded regularly to support integration		3.22	3.00	3	.885	-.354
The agency has signed contracts and collaborated with suppliers		4.36	4.00	4	.618	-.424
Integration technology between the buyer and supplier is reliable		3.25	3.00	4	.918	-.522
Enterprise Resource planning application is used for business transaction		3.71	4.00	4	.845	-.575
Electronic data interchange is used in business transaction		3.55	4.00	4	.905	-.202
Our agency has adequate policies that upgrade information technology development		3.14	3.00	3	.720	-.554
The agency policies are aligned to internal IT development		3.20	3.00	3	.705	-.300

4.5.7 Description Analysis of Construct Supply Chain Performance

Supply chain performance is important for business stability and growth of any organization. Frequent supply chain performance monitoring activities with appropriate tools is critical for improvement of buyer-supplier relationship (Cannon *et al.,* 2011).

Table 4.13: Employee Satisfaction with agency' supply chain performance

			Job Position of Respondent			
			Senior Manager	**Procurement Officer**	**Accountant**	**Total**
Extent of employee's satisfaction with agency's supply chain performance	**Dissatisfied**	Count	4	4	4	12
		within Job Position of Respondent	12.5	12.5	12.5	12.5
	Neutral	Count	4	6	10	20
		within Job Position of Respondent	12.5	18.8	31.3	20.8
	Satisfied	Count	21	21	18	60
		within Job Position of Respondent	65.6	65.6	56.3	62.5
	Very satisfied	Count	3	1	0	4
		within Job Position of Respondent	9.4	3.1	0.0	4.2
Total		Count	32	32	32	96
		within Job Position of Respondent	100.0	100.0	100.0	100.0
Pearson Chi-Square Sig. Value (2-Sided)						0.359

This study investigated the extent of the supply chain performance as per the respondents view. According to the findings in table 4.13 the respondents agreed that their agencies had performed as indicated by the mean, median and mode statistics which were on average 4. In addition, the skewness statistic indicate that the data was negatively skewed which suggests that majority of the respondents responses

tended towards 4 and 5. That finding is important as performance of the agency is critical (Cannon *et al.,* 2011).

Alhawari *et al.,* (2016) indicate that performance can be achieved through creation of robust performance and monitoring frameworks. The frameworks should aim to cut costs and help to attain measures that can enhance supply chain performance. According to Balfaqih (2014) cost cutting is even more effective if an organization can transfer the benefits to their customers but also the cost cutting measures should not compromise on the quality of the product or services being offered. Quality should be enhanced, appropriate policies and integrations incorporated for optimal supply chain performance. Also, the study investigated the respondents' satisfaction with their agencies supply chain performance. This is important because employee's dissatisfaction with their employer's performance is a sure indicator of a failed supply chain.

According to the findings in table 4.13, employee's satisfaction with their employer's supply chain performance and their job position are not statistically significant because the Pearson Chi-Square Sig. Value (2-Sided) is 0.359 which is larger than 0.05.

However, most people were satisfied with their agencies. That indicates that the employee's opinion on their supply chain performance is intendment of their position. That is a good thing as it indicates improvement in trust of their opinions about their employer.

4.5.8 Mean Descriptive Summary of Variables

Before modelling relationships between the dependent variable and the independent/predictor variables, the data was tested for adherence to assumptions of regression analysis. According to Saunders *et al.* (2015) parametric tests should be employed only when data meets the normality test. Otherwise, the non-parametric tests should be employed. However, Kothari *et al.* (2004) suggest that for Likert scale rating kind of data, non-parametric tests that consider the median instead of the mean of the data are most appropriate. First, measures of central tendencies were

used to describe the data before the tests for adherence to regression assumptions. Table 4.14 below shows the study results.

Table 4.14: Mean Descriptive Summary of Statistics

	Buyer Supplier Trust	Buyer Supplier Dependence	Buyer Supplier Commitment	Buyer Supplier Cooperation	Buyer Supplier Communication	Supply Chain Integration	Supply Chain Performance
N Valid=96 Missing=0							
Mean	3.5292	2.8056	3.2938	4.2583	3.9813	3.4052	3.6167
Median	3.5000	2.7778	3.3000	4.3000	4.1000	3.4500	3.7000
Mode	3.70	2.67	3.20	4.40	4.20	3.50[a]	3.70
Skewness	-.249	-.359	-.306	-1.022	-1.261	-.790	-.572
Kurtosis	.092	1.986	-.146	1.026	1.059	.727	-.231

According to measures of central tendency shown in the descriptive statistics table 4.14, the average mean ratings for the indicators used to measure the study variables were not exactly equal with median and mode. Although the data appears almost the same, the variance for the data would be large because the ratings ranged between 1 and 5. Furthermore, the skewness and kurtosis statistics are not exactly equal to zero and would be expected for a normally distributed data using the parametric approach. The negative skewness statistic indicates that data sets were skewed to the right. Since the data did not follow normal distribution curve, non-parametric tests for normality and homogeneity of variance were employed (Corder & Foreman, 2014).

4.6 Diagnostic Tests

The study sought to determine the influence of buyer supplier relationship on performance in foreign based development agencies in Kenya. Therefore, the data was tested for adherence to the assumptions of regression analysis; linearity,

multicollinearity, autocorrelation, normality and homoscedasticity (Thode, 2002). It was necessary to transform the data into their natural logarithms because the assumptions of regression were not adhered to before carrying out regression analysis.

4.6.1 Normality Test

The normality test refers to statistical tests on a data to determine whether a data set is well modeled by a normal distribution (Berk, 2003). Normally distributed data yields better regression results because any random variable in a data set is normally distributed. The normality test used is the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW). The alternative hypothesis for KS and SW test is that the data sets follow a normal curve. The hypothesis is tested at 5% level of significant. If the p-value for KS and SW statistic is more than 0.05, alternative hypothesis is rejected. The results are shown in table 4.15 below. According to the KS and SW test in table 4.15 above, the significant values for all the variables were more than 0.05. Therefore, alternative hypothesis was rejected. It was concluded that the data was not normally distributed. Therefore, the parametric tests and non-parametric tests agree that the data are not normally distributed.

Table 4.15: Normality Test Statistics

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**Df**	**Sig.**	**Statistic**	**Df**	**Sig.**
Buyer Supplier Trust	0.117	96	0.002	0.973	96	0.043
Buyer Supplier Dependence	0.107	96	0.009	0.957	96	0.003
Buyer Supplier Commitment	0.132	96	0.000	0.965	96	0.012
Buyer Supplier Cooperation	0.171	96	0.000	0.913	96	0.000
Buyer Supplier Communication	0.203	96	0.000	0.873	96	0.000
Supply Chain Integration	0.098	96	0.025	0.956	96	0.003

a. Lilliefors Significance Correction

4.6.2 Homoscedasticity test

Homoscedasticity is the test of whether the data set has equal variances (deviations) throughout from the first data point to the last. That is called homogeneity of variance. Data with equal/homogeneous variances is said to be homoscedastic while those with varying deviations is said to be heteroscedastic (Brewer, 2002). Homoscedastic data sets yields more accurate regression results.

Table4.16: Levine test for homogeneity

Variable	Levine Statistic	df1	df2	Sig.
Buyer Supplier Trust	.368	1	94	.546
Buyer Supplier Dependence	.991	1	94	.322
Buyer Supplier Commitment	1.167	1	94	.283
Buyer Supplier Cooperation	.148	1	94	.701
Buyer Supplier Communication	.295	1	94	.589
Supply Chain Integration	2.188	1	94	.142
Supply chain performance	.007	1	94	.936

The test for homogeneity of variance was tested using the non-parametric Levine statistic. The alternative hypothesis is that the data has homogeneous variances and the hypothesis was tested at 5% level of significance. For Levine test, if the significant value of the Levine statistics less than 0.05, we fail to reject the alternative hypothesis. Results are shown in table 4.16. According to the results in table 4.16 above, the significant value for all the study variables are more than 0.05. Therefore, we reject the alternative hypothesis that the data sets have equal variances and conclude that the data sets are heterogeneous.

4.6.3 Multicollinearity Test

The test for multicollinearity evaluates whether the predictor variables do have some association. The collinearity statistics that were used include the Tolerance Statistic and Variance Inflation Factor (VIF). The rule of thumb for this test is that Tolerance Statistic considerably larger than 1 indicates possibility of multicollinearity between the predictor variables, and if any of the variable's VIF is larger than 10,

Table 4.17: Multicollinearity Statistics

Model	Collinearity Statistics	
Factors	**Tolerance**	**VIF**
Buyer Supplier Trust	0.924	1.082
Buyer Supplier Dependence	0.956	1.046
Buyer Supplier Commitment	0.711	1.406
Buyer Supplier Cooperation	0.911	1.098
Buyer Supplier Communication	0.595	1.68
Supply Chain Integration	0.604	1.654

a. Dependent Variable: Supply Chain Performance

multicollinearity is definitely present. The results shown in table 4.17 indicate that the tolerance statistics for all of the predictor variables was less than 1. Also, the VIFs are all way below than 10. The alternative hypothesis for this test was that the data was linearly related. Therefore, according to the study results, we reject the alternative hypothesis and conclude that the predictor variables have no linear relationship (Corder & Foreman, 2014). That is a positive thing because highly correlated predictors tend to inflate the causation as determined by R and R-Squared leading to erroneous conclusions.

4.6.4 Autocorrelation Test

Although autocorrelation is a typical problem with longitudinal data and less common problem in cross-sectional data, it is one of the important tests when conducting studies involving regression analysis. For this study, Durbin Watson (DW) test for autocorrelation was used. According to the study results in table 4.18, the obtained Durbin Watson statistic is 1.253. DW test ranges between 0 and 4. Both extremes suggest presence of autocorrelation. A DW statistic equal to 2.0 indicates no presence of autocorrelation. For the current study, the statistic is 1.253 indicating a possibility of 1st order autocorrelation, although this is not definite as the statistic is still far away from 0.00 (Simel *et al.,* 1991). Therefore, fail to reject the alternative hypothesis that the data has serial correlation.

Table 4.18: Durbin Watson Test for Autocorrelation

Model	Durbin-Watson
1	**1.253**[a]

a. Predictors: (Constant), Supply Chain Integration, Buyer Supplier Trust, Buyer Supplier Dependence, Buyer Supplier Cooperation, Buyer Supplier Commitment, Buyer Supplier Communication

b. Dependent Variable: Supply Chain Performance

In light of the results of the diagnostic tests for adherence to assumptions of regression, the data had to be transformed into natural logarithm before regression analysis as some assumptions such as normality, homogeneity of variance and autocorrelation were violated (Corder & Foreman, 2014).

4.6.5 Linearity Test

Test of linearity is confirmed through regression analysis by assessing the coefficient determination and coefficient of correlation or through scatter plots. Table 4.19 shows the linearity tests using both the correlation coefficient statistics and coefficient of determination (R-Square)

Table 4.19: Model Summary Statistics and Coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.599**[a]	**0.359**	**0.323**	**0.1179**

a. Predictors: (Constant), Ln_Buyer Supplier Communication, Ln_Buyer Supplier Cooperation, Ln_Buyer Supplier Trust, Ln_Buyer Supplier Dependence, Ln_Buyer Supplier Commitment

As shown in table 4.19 above, the linearity test statistic R which is 0.599 is positive and the R-Square which tests the strength of relationship is 0.359, signifying a moderately weak relationship. According to the model results, buyer supplier trust, dependence, commitment, cooperation and communication collectively explains

35.90 percent of variations in changes in performance of the foreign-based development agencies meaning other factors not included in the model are responsible for 64.1 percent of the variations.

4.7 Inferential Results

4.7.1 Correlation Test

In statistics, coefficients of correlation R and R square measure the direction and strength of a linear relationship between two variables. Their numerical value is indicator of the direction and strength of the relation between variables. The value of R and R square can vary from -1.00 to +1.00. Generally, R>0 indicates positive relationship, R<0 negative relationship and R=0 indicates no relationship. This means that the variables under study are independent and

not related. On the other hand, the strength of the correlation R square is not dependent on the direction or the sign.

Table 4.20: Strength and Direction of Linear Relationship

Correlation R	Direction of Relationship
-1.00	Perfect downhill(negative) linear relationship
-0.70	Strong downhill(negative) linear relationship
-0.50	Moderate downhill(negative) linear relationship
-0.30	Weak downhill(negative) linear relationship
0.00	No linear relation
+0.30	Weak Uphill(positive) linear relationship
+0.50	Moderate Uphill(positive) linear relationship
+0.70	Strong Uphill(positive) linear relationship
+1.00	Perfect Uphill(positive) linear relationship

The correlation test evaluates the relationships between the study variables. It is another way to test the size and direction of the relationship between study variables. Table 4.21 indicates the Pearson correlation statistics for the study variables. Since the study is about the influence of buyer-supplier relationship on supply chain

Table 4.21: Correlation Test Statistics

		Buyer Supplier Trust	Buyer Supplier Depend	Buyer Supplier Commit	Buyer Supplier Coop	Buyer Supplier Com	Supply Chain Integ	Supply Chain Perform
Buyer Supplier Trust	Pearson Correlation	1	.109	.106	-.102	-.078	.066	.159
	Sig. (2-tailed)		.290	.303	.321	.451	.521	.121
	N	96	96	96	96	96	96	96
Buyer Supplier Dependence	Pearson Correlation	.109	1	-.018	.085	-.126	-.119	-.174
	Sig. (2-tailed)	.290		.861	.408	.220	.248	.090
	N	96	96	96	96	96	96	96
Buyer Supplier Commitment	Pearson Correlation	.106	-.018	1	.141	.446**	.453**	.350**
	Sig. (2-tailed)	.303	.861		.172	.000	.000	.000
	N	96	96	96	96	96	96	96
Buyer Supplier Cooperation	Pearson Correlation	-102	.085	.141	1	-.042	.138	-.184
	Sig. (2-tailed)	.321	.408	.172		.683	.181	.073
	N	96	96	96	96	96	96	96
Buyer Supplier Communication	Pearson Correlation	-.078	-.126	.446**	-.042	1	.561**	.507**
	Sig. (2-tailed)	.451	.220	.000	.683		.000	.000
	N	96	96	96	96	96	96	96
Supply Chain Integration	Pearson Correlation	.066	-.119	.453**	.138	.561**	1	.529**
	Sig. (2-tailed)	.521	.248	.000	.181	.000		.000
	N	96	96	96	96	96	96	96
Supply Chain Performance	Pearson Correlation	.159	-.174	.350**	-.184	.507**	.529**	1
	Sig. (2-tailed)	.121	.090	.000	.073	.000	.000	
	N	96	96	96	96	96	96	96

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

performance, the interpretation section in this part of analysis focuses on the correlation between supply chain performances with all the other study variables. The correlation results shown in table 4.21, buyer supplier trust positively has a positive correlation with supply chain performance but the correlation is weak as the correlation coefficient is 0.159. Similarly, buyer supplier commitment, communication and integration have correlation with supply chain performance but the correlation is weak as the correlation coefficient, a positive correlation with supply chain performance with Pearson correlation coefficients equal to 0.350, 0.507 and 0.529 respectively.

The statistic 0.350 indicate that buyer supplier commitment has a moderately weak correlation with supply chain performance while communication and integration has a moderately strong relationship because their corresponding correlation coefficient is 0.507 and 0.529 respectively which are slightly more than 0.5. On the other hand, dependence and cooperation have negative correlation with supply chain performance. That suggests that too much dependence or cooperation could destroy value. However, commitment, communication, and integration are desired as they can enhance performance.

4.7.2 Regression Analysis

Regression analysis is the statistic process of estimating the relation between predictor(s)/independent and dependent variables (Berk, 2003). Regression analysis generates equation that describes statistical relationship between independent and dependent variables. The study carried out regression analysis to determine the statistical significance of the relationship between the buyer supplier trust, dependence, commitment, cooperation, communication and supply chain performance. The moderation effect of integration on the relationship between the buyer supplier and supply chain performance was investigated. In this study the R squared value was used to interpret the results of multiple regression analysis and to check how well the model fitted the data. It is important to establish whether the independent and dependent variables relate and the effect of moderation on the model. The coefficient of determination, R squared was used in this study to

determine the strength of the relationship between variables. In this section, three regression results are discussed. First, there is a regression for each of the independent study variable against the dependent variable using the transformed data. Then, there is a regression results for multiple model where all the independent variables are concurrent. Finally a regression to test effect of buyer-supplier integration as a moderator to the relationship between the study variables is shown. All the regression analysis used the data in its natural logarithm form. Transformed data was used because it did not meet all the requirements (assumptions) for regression analysis as shown by the diagnostic test results.

(1) Regression Analysis for Construct Buyer Supplier Trust Versus Performance

The test sought to conduct regression analysis of the independent variable Buyer Supplier trust on performance. The regression results in table 4.22 show that the coefficient of correlation (R) is 0.160 while the coefficient of determination (R-Square) is 0.026. Since R is positive, there is a positive relationship between buyer supplier trust and supply chain performance. That is supported by the fact that the corresponding coefficient is positive. However, the relationship is very weak because R-Square is very small. Furthermore, relationship is not statistically significant because the significant value associated with the coefficients for the predictor variable is 0.118 which is greater than 0.05. In addition, the significant value for analysis of variance (ANOVA) which is 0.118 is also greater than 0.05.

The findings show that buyer supplier trust positively influences supply chain performance and the relationship is not statistically significant. Therefore, the alternative hypothesis that trust significantly influences performance of foreign based development agencies in Kenya is rejected.

That suggests that the buyer supplier relationship is measured using the level of trust in the performance of the supply chain in terms of submission of the orders as well as the execution and completion of the same. Therefore, based on the research findings, the study concludes that trust does not significantly influences performance of foreign based development agencies in Kenya. As the buyer supplier trust increases,

supply chain performance improves. Notably, trust is principally built through supplier centric measures of performance like reliability in delivery and conformity of product quality. The findings are consistent with the conclusions of Jung-Seung and Liang (2016) who argues that trust between buyer and supplier can improve performance. However, the trust should be mutual such that both parties need each other and hence there is no exploitation of the other party. Although mutual trust is not included in the balance sheets of an organization, Gualandris and Kalchschmidt (2016) opine that it is an intangible asset. However, the study finding does not agree with the views of Terpend and Ashenbaum (2012) who argue that there are adversarial relationships mainly based on price between buyer and supplier where the two parties act opportunistically. This type of relationship does not allow for cost reduction in the supply chain. Furthermore, Waithaka and Waiganjo (2015) contend that customers' expectations are also increasing and agencies are prone to more and more uncertain environment/settings.

However, Gualandris and Kalchschmidt (2016) notes that strong buyer-supplier trust behaves like strategic alliances, allowing the information sharing, risk sharing, obtaining mutual benefits and coordinating plans, which permits the improvement of the supply chain. Also, Villena and Craighead (2017) point out that it is not just about the strength of relationship between buyer and supplier.

High level of trust does not necessarily matter; symmetry which is the difference between levels of trust is the real game changer. Low levels of symmetry, that is nearly equal trust reduces opportunistic behavior since both sides have similar levels of trust. A buyer who is stronger and reliable trusts the supplier less and could be opportunistic. For example, Jung-Seung and Liang (2016) notes that larger suppliers can press smaller ones to do what they want. Therefore, both the level of trust and symmetry of trust between buyer and supplier can enhance supply chain performance.

Table 4.22: Regression results for Buyer-Supplier Trust on Performance

Model Summary

Model	R	R Square	Std. Error of the Estimate
1	.160	.026	.14220

a. Predictors: (Constant), Ln_Buyer Supplier Trust

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1	.050	1	.050	2.482	.118[b]
	1.901	94	.020		
	1.951	95			

a. Dependent Variable: Ln_Supply chain performance

b. Predictors: (Constant), Ln_Buyer Supplier Trust

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1	.874	.255		3.425	.001
Ln_Buyer Supplier Trust	.319	.203	.160	1.576	.118

a. Dependent Variable: Ln_Supply chain performance

(2) Regression Analysis for Construct Buyer Supplier Dependence Versus Performance

The test sought to conduct regression analysis of the independent variable Buyer Supplier trust on dependence. Buyer supplier dependence is the measure of the extent to which the buyer or supplier depends on each other. The findings in table 4.23 show that R is equal to 0.153 and R-Square is 0.023 indicating a very weak relationship. However, the corresponding coefficient is negative -0.23 and the significant value is 0.138 which is greater than 0.05. Furthermore, the model coefficient is not statistically significant. Since, the model coefficients were negative, buyer-supplier dependence has a negative influence on supply chain performance but the results noted that the relationship is not statistically significant as the probability

value for the coefficient was 0.230. Therefore, based on the study results, the alternative hypothesis that dependence significantly influences performance of foreign based development agencies in Kenya is rejected at 5% significant level. That suggests that although dependence could impact on the supply chain performance negatively, the causation is therefore insignificant. The study results indicate that buyer-supplier dependence has a negative influence on supply chain performance but the results indicate that the relationship is not statistically significant based on the observed p-value which was larger than the alpha value of 0.05. Therefore, although dependence could influence supply chain performance negatively, the causation is not statistically significant. Although the coefficients are negative, it is correct, based on the findings to conclude that dependence destroys value and calls for the need for agencies to have some independence. Dependence on a single or a few suppliers or buyers is not good for an agency. According to O'Brien (2014), the element of dependence connotes reliance on a certain party for essential inputs. The negative correlation concurs with the findings of Heide *et al.* (2014) who suggest dependence is associated with a buyer's or supplier's weakness or lack of knowledge of alternative suppliers/buyers and/or perceived switching costs involved in replacing the supplier/buyer. Hence, it is not a positive thing for buyer and supplier to be dependent on one party.

Gualandris and Kalchschmidt (2016) opine that dependence has been linked with both positive and negative influence on relationship satisfaction. O'Brien (2014) notes that high level of dependence on a supplier can motivate a buyer to engage in increased exchange of information and show greater willingness to express solidarity with the supplier, which may increase satisfaction. When a supplier knows that they are assured of business because of long-term observation of dependence, the buyer may start being complacent. That may destroy value on the side of the buyer who now becomes disadvantaged. Consistent with that argument, Li and Wan (2016) observed that dependence is associated with autonomy and survival, which connotes reduction in performance.

Table 4.23: Regression results for Buyer Supplier Dependence on Performance

Model Summary

Model	R	R Square	Std. Error of the Estimate
1	0.153	.023	.14238

a. Predictors: (Constant), Ln_Buyer Supplier Dependence

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.045	1	.045	2.240	.138[b]
Residual	1.906	94	.020		
Total	1.951	95			

a. Dependent Variable: Ln_Supply chain performance

b. Predictors: (Constant), Ln_Buyer Supplier Dependence

Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
Constant	1.512	.159		9.534	.000
Ln_Buyer Supplier Dependence	-.230	.154	-.153	-1.49	.138

a Dependent Variable: Ln_Supply chain performance

Consequently, if the supplier highly depends on a certain buyer for much of their revenues, they might be taken advantage of by such buyers. For instance, if a supplier has one or a few major customers, such parties can play games to influence the supplier to act in their favor and to the disadvantage of the supplier. Consistent with this argument, it can be deduced that what matters most is not just high dependence, but the level of inter-dependence. If both parties depend on each other, they can have synergetic associations of interdependence which could have a positive reciprocal effect on performance of both the buyer and supplier. However, if only one party relies on the other, O'Brien (2014) indicate that abuse could arise.

(3) Regression Analysis for Construct Buyer Supplier Commitment Versus Performance

The test sought to conduct regression analysis of the independent variable buyer supplier commitment on performance. Buyer-supplier commitment refers to the extent to which the involved entities feel obligated and perform as pledged.

The findings in table 4.24 show that R-Square is 0.119 which connotes a positive causation. That is supported by the positive coefficient 0.187 which is statistically significant as indicated by the significant value which is 0.001 less than p-value. Since the significant value is less than 0.05, there is a moderately strong relationship which is statistically significant. Also, the analysis of variance test is 0.001 and hence significant. Therefore, the alternative hypothesis that commitment significantly influences performance of foreign based development agencies in Kenya is accepted.

The result of the study indicated that there is a positive relationship between buyer-supplier commitment and performance suggesting that commitment between buyer and supplier could influence supply chain performance positively. That finding is consistent with Wachuma and Shalle (2016) who concluded that creation, management and maintenance of a collaborative arrangement among partners in a supply chain on the global perspective is an essential ingredient for commitment, a factor that is critical for long-term relationship and performance. Glock and Ries (2013) indicate that committed suppliers are loyal and tend to show devotion towards betterment of the supply chain for the benefit of the members.

At the heart of buyer-supplier commitment is the fact that inventory positioning is critical. Hence, having a supplier who is committed to the needs of the buyer by availing the resources when needed can help to avoid possible delays associated with shortage of resources. Divanbeigi and Ramalho (2015) point out that the purpose of supply chain management is to ensure continuity in supply of the required inputs such that there is provision for handling emergencies. An Agency with a supplier who is ready to support and cover up to avoid possible delays has an advantage.

Table 4.24: Regression Results for Buyer-Supplier Commitment on Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.345a	0.119	0.11	0.13521

a Predictors: (Constant), Buyer Supplier Commitment

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.232	1	0.232	12.712	.001b
	Residual	1.719	94	0.018		
	Total	1.951	95			

a Dependent Variable: Ln_Supply chain performance

b Predictors: (Constant), Buyer Supplier Commitment

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.658	0.174		3.791	0
	Buyer Supplier Commitment	0.187	0.053	0.345	3.565	0.001

a Dependent Variable: Ln_Supply chain performance

Also, buyer could benefit from committed suppliers because they can order for their supplies from what they know will be purchased by their buyer in certain dates. According to Glock and Ries (2013) commitment could also help suppliers to effectively employ efficient inventory management techniques such as just-in-time delivery where frequent, small lots with a reduction of buffer inventories strategy is used, which considerably minimizes the costs and increases supply chain performance. That calls for the reduction of the supplier base, evaluating suppliers based on quality and delivery performance, establishing long-term contracts with suppliers, reliance on technology and maintaining a pool of reliable suppliers who are committed to the agencies' success. Therefore, it can be concluded that commitment enhances supply chain performance because of both parties readiness to act even beyond their usual ways to ensure that the buyer/supplier is cautioned of potential inefficiency. According to the study results, there is a positive relationship

between buyer-supplier commitment and performance of agencies and causation is statistically significant because the p-value for the coefficient was less than the alpha value. The positive coefficient suggests that commitment between buyer and supplier could influence supply chain performance positively and the relationship is statistically significant at 5% level. The study concludes that commitment between buyer and supplier influences supply chain performance positively and the influence is statistically significant.

(4) Regression Analysis for Construct Buyer Supplier Cooperation Versus Performance

The test sought to conduct regression analysis of the independent variable buyer supplier cooperation on performance. Coyle et al. (2016) argue that buyer supplier cooperation connotes teamwork on the part of the buyer and supplier with aim of achieving mutual benefits. Most literatures point towards positive causation of buyer-supplier cooperation on organizational performance. The findings in table 4.25 indicate that R (-0.189) is negative but R-square (0.036) is very small suggesting a weak influence of buyer-supplier cooperation on performance. However, the corresponding coefficient (-0.113) is negative which indicate that cooperation has negative influence on performance. Although results are not significant at 5 percent significant level, the results could be statistically significant at 10 percent level of significant because the p-value was 0.065. Same case applied to analysis of the variance which indicates that the model would be statistically significant if the bar is lowered just a little to test the hypothesis at 10 percent level of significant. Based on the findings, the alternative hypothesis that cooperation significantly influences performance of foreign based development agencies in Kenya is rejected. The study results show that buyer-supplier cooperation influences performance of foreign based development agencies negatively but the causation is not statistically significant as the p-value is larger than the alpha value equal to 0.05. Just like the case for dependence, the study findings suggest that higher levels of cooperation are associated with lower supply chain performance. Of the negative coefficients indicates something important which is the fact that some collaboration destroys value as the buyer and supplier over depend on each other and exclude possibility of

applying competitive bidding on the part of the buyer, leading to reliance on few specific suppliers, a practice highly discouraged in procurement and purchasing theory.

According to the results, buyer-supplier cooperation influences supply chain performance negatively but the causation was not statistically significant as the p-value for the coefficient was 0.063 which is slightly higher than the p-value equal to 0.05. That suggests that higher levels of cooperation are associated with lower supply chain performance. The finding negates the assertions of Mohebbi and Shafaei (2012) who, through an empirical study determines that the benefits of buyer supplier cooperation are many and are associated with quality purchase, quicker detection and elimination of defects in products, low costs on scrap and wastages, lower inventory carrying costs, fewer inspection and rewards, and administrative efficiency. Also, the study disagrees with the findings of Coyle et al. (2016) who concluded that cooperation affects supply chain performance positively because when the buyer has a tight cooperation with his supplier, they can arrange so that the two benefits by procuring what they need in terms of quantity and quality. At the heart of buyer-supplier cooperation, combining of synergies between the buyer and supplier in meeting their individual needs but as a team. By combining efforts, of two or more entities members can take advantage of purchase in big volumes, delivery and supply chain advantages, best practices, and the reduction of administrative time and expenses which can improve the supplier's procurement performance (Benton, 2010).

Table 4.25: Regression Results for Buyer-Supplier Cooperation on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.189a	0.036	0.026	0.14147

a Predictors: (Constant), Ln_Buyer Supplier Cooperation

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.07	1	0.07	3.48	.065b
	Residual	1.881	94	0.02		
	Total	1.951	95			

a Dependent Variable: Ln_Supply chain performance

b Predictors: (Constant), Ln_Buyer Supplier Cooperation

Coefficientsa

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	1.757	0.258		6.80	0
	Ln_Buyer-Supplier Coop	-0.113	0.061	-0.189	-1.86	0.065

a Dependent Variable: Ln_Supply chain performance

The negative correlation in the current study can be explained by the fact that some cooperative arrangements, tend to encourage dependence on a single supplier/buyers (Claub, 2012). That is related to the supply chain dependence concept which again had a negative coefficient. Furthermore, some cooperation can lead to excessive familiarity where personnel fail to follow policy and the laid down procedures. In addition, some bigger companies could take advantage and oppress smaller ones and some would either be acquired or forced to close when their buyer learns their business models and takes advantage of that, becoming a competitor. Nonetheless, based on the findings, the study concludes that buyer-supplier cooperation does not significantly influence performance of foreign based development agencies.

(5) Regression Analysis for Construct Buyer Supplier Communication Versus Performance

The test sought to conduct regression analysis of the independent variable Buyer Supplier communication on performance. Communication is critical for any business. Glock and Ries (2013) opine that effectiveness of communication in terms of multiple options and turnaround speed for responses is critical for supply chain performance.

The results in table 4.26 show that R and R-Square equal to 0.525 and 0.275 respectively. Also, the coefficient corresponding to buyer-supplier communication (0.574) is positive and the significant value is 0.0001. Hence, the findings indicate that there is a positive, moderately strong relationship which is statistically significant because the coefficient was positive and the p-value was 0.0001 which was lower than 0.05. Based on the findings, the alternative hypothesis that communication significantly influences performance of foreign based development agencies in Kenya was accepted.

That finding concurs with the conclusions of Cohen and Dienhart (2013) who point out that ease in communication improves supply chain performance because it eases transfer of information in terms of speed, quality, cost, and flexibility. It also concurs with the findings of Craig, DeHoratius and Raman (2016) who indicate that high level of communication are highly associated with product availability, decreased order cycle time, responsiveness, economic value added, capital utilization, decreased time to market and reducing logistics costs.

Table 4.26: Regression Results for Buyer-Supplier Communication on Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.525a	0.275	0.268	0.12263

a Predictors: (Constant), Ln_Buyer Supplier Communication

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.537	1	0.537	35.733	.000b
	Residual	1.414	94	0.015		
	Total	1.951	95			

a Dependent Variable: Ln_Supply chain performance

b Predictors: (Constant), Ln_Buyer Supplier Communication

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.487	0.133		3.675	0.0000
	Ln_Buyer Supplier Communication	0.574	0.096	0.525	5.978	0.0001

a Dependent Variable: Ln_Supply chain performance

According to Glock and Ries (2013) communication builds the bond between the two entities and the ease of communication is fundamental for reacquisition and processing of orders. Information is power and both parties need to know about the specific needs of their partners. Systems of communication, which empower the staff from the two entities to interact, is fundamental.

Glock and Ries (2013) indicate that high having multiple channels of communication helps buyers and suppliers to complete procurement processes. Accordingly, efficient communications are associated with supply chain efficiency, operation progress, cost effectiveness and joint-innovations, which bring mutual benefits to the two entities.

4.8 Buyer Supplier Integration on Supply Chain Performance

The test sought to conduct regression analysis of the moderation variable, buyer supplier integration on performance. Buyer supplier integration is viewed as strategic resource which plays an important role in improving performance.

The findings in table 4.27 indicate that supply chain integration has a positive influence on the buyer supplier relationship and supply chain performance. The moderation effect increased R and R-Square from 0.599 and 0.359 to 0.653 and 0.426 respectively. It also caused a downward and upward movement on some of the p-values for the coefficient making some independent variables that were statistically significant like commitment become statistically insignificant. This implies that integration systems between the buyer and the supplier may not be influenced by the independent variables trust, dependence, commitment and cooperation because processes are automated and void of human intervention unless when there is an error. However, the independent variable, communication positively influences supply chain performance and is statistically significant at 5% level of significance. Therefore, the alternative hypothesis that supply chain integration significantly influences the buyer supplier relationship and the performance of foreign based agencies in Kenya was accepted.

Overall, that indicates supply chain integration improves the buyer-supply relationship which in turn improves supply chain performance. The finding is consistent with the results of Stadtler, Kilger and Meyr (2015) who point that integration of supply chain frameworks is essential for eased communication and interactions between the two parties. Integrated supply chain framework enhances competencies that are desired for efficient flow of information and avoidance of delays, defect and unpredictability on the part of the buyer as well as the supplier (Karim, 2016). That calls for reliance on information technology in the supply chain frameworks. For instance, Stadtler, Kilger and Meyr (2015) observe that tools like ERP integrates the involved organizations and enhances information processing for the benefit of the members. Further, integration can help production planning, financial planning, inventory management and operations management.

Table 4.27: Model Summary Statistics and Coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.653[a]	.426	.394	.11154

a. Predictors: (Constant), BS_Communication_times_SC_Integration, BS_Dependence_times_SC_ Integration, BS_Trust_times_SC_Integration, BS_Cooperation_times_SC_Integration, BS_Commitment_times_SC_Integration

b. Dependent Variable: Ln_Supply chain performance

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
Model	B	Std. Error	Beta		
(Constant)	.882	.098		8.994	.000
BS_Trust_times_SC_Integration	.029	.012	.338	2.386	.019
BS_Dependence_times_SC_Integration	-.013	.014	-.114	-.925	.357
BS_Commitment_times_SC_Integration	.017	.014	.216	1.176	.243
BS_Cooperation_times_SC_Integration	-.030	.012	-.407	-2.535	.013
BS_Communication_times_SC_Integration	.030	.008	.556	3.705	.000

a. Dependent Variable: Ln_Supply chain performance

Further, the study result concurs with the conclusion of Glock and Ries (2013) argue that supply chain integration, which refers to alignment, and coordination of supply chain processes through physical and technological platforms, improves the supply chain performance in terms of order application by buyers and execution of orders on the other hand. In integrated platforms, the suppliers are able to implement their desired quality of products, services and processes. Notably, integration enhances supply chain performance because it serves to bring the two entities closer together. That is consistent with the conclusions of Christopher (2016) who opine that supply chain shortens the lead times and achieves flexible systems that produces overall cost reduction.

To test the effect of moderation, the data values for the five predictor variables were multiplied by the moderating variable and the constituent product variables used as the predictor variables. The model summary statistics and coefficients are as shown in tables 4.27.

The study findings show that supply chain integration positively influences the buyer supplier relationships and performance of foreign-based development agencies in Kenya. The values of R and R-square increased substantially and it caused the coefficients significant value to decrease to the extent some independent variables like cooperation that was not statistically significant in the model where moderation was not included turned out to be significant. Thus, the higher the levels of supply chain integration, the greater the influence of buyer-supplier relationship on performance of foreign based development agencies.

The analysis results shown in table 4.30, the R and R-Square were 0.653 and 0.426 respectively. The results can be expressed using the model $Y= 0.882 + 0.029X_1X_6 – 0.013X_2X_6 + 0.017X_3X_6 – 0.030X_4X_6 + 0.030X_5X_6$ where X_6 is the moderating variable. Notably, the relationship is still positive but has improved because both R and R-Square have increased from 0.599 and 0.359 respectively. Also, the t statistics increased and coefficients decreased but the p-values decreased. As a matter of fact the business cooperation factor became statistically significant when moderator was included. Thus, supply chain integration moderates the relationship between buyer-supplier relationship and supply chain performance. Table 4.28 below shows the analysis of variance (ANOVA) for the regression analysis.

Table 4.28: Analysis of Variance

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.831	5	.166	13.363	.000[b]
Residual	1.120	90	.012		
Total	1.951	95			

a. Dependent Variable: Ln_Supply chain performance

b. Predictors: (Constant), BS_Communication_times_SC_ Integration, BS_Dependence_times_SC_ Integration, BS_Trust_times_SC_ Integration, BS_Cooperation_times_SC_ Integration, BS_Commitment_times_SC_ Integration

Results show analysis of variance, which is F-test statistic for whether the model is statistically significant. The findings of the analysis above show that F (5, 90) =

13.363 and p-value for the model is 0.000 which indicates the model was statistically significant. Therefore, supply chain integration enhances the buyer-supplier relationship and performance of foreign based agencies in Kenya.

4.9 Optimal Model

4.9.1 Multiple Linear Regressions for all Variables

To test the regression results of when a multiple regression is done instead of simple linear model for each coefficient, multiple regression analysis involving all the independent variables was carried out.

The results in table 4.29 indicate that similar conclusions would have been arrived at whether simple linear regression for each independent variable as the predictor or whether multiple linear regression was carried out. According to the coefficients in table 4.29, the relationship can be described using the model $Y = 0.560 + 0.348X_1 – 0.157X_2 + 0.246X_3 – 0.372X_4 + 0.499X_5$.

Table 4.29: Multiple Linear Regression Coefficients and Significant Values

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.560	0.432		1.296	0.198
Ln_Buyer Supplier Trust	0.348	0.172	0.175	2.017	0.118
Ln_Buyer Supplier Dependence	-0.157	0.129	-0.104	-1.217	0.227
Ln_Buyer Supplier Commitment	0.246	0.171	0.140	1.438	0.001
Ln_Buyer Supplier Cooperation	-0.372	0.214	-0.151	-1.734	0.086
Ln_Buyer Supplier Communication	0.499	0.106	0.456	4.715	0.000
a. Dependent Variable: Ln_Supply chain performance					

The coefficient for supply chain dependence and cooperation were negative suggesting that an increase in the two factors influences performance downwards. This could be because dependence signifies reliance on single sourcing which is

highly discouraged in procurement management (Mohebbi & Shafaei, 2012). Also, some cooperation could destroy value when personnel for the organizations become very used to each other and by-pass important procurement protocols weakening compliance and control (Heide *et al.,* 2014).

However, some of the individual coefficients were not statistically significant in influencing the observed relationship. As a matter of fact, only buyer-supplier commitment and communication were statistically significant at 5% level of significant as p-value corresponding to their coefficients was less than 0.05 as shown in table 4.29. Buyer-supplier trust, dependence and cooperation were not statistically significant. That implies that they do not contribute significantly in influencing performance of foreign based development agencies. The result in Table 4.30 shows the analysis of variance (ANOVA) testing the statistical significance of the model.

The statistical significance test of the analysis of variances for the model as shown in table 2.28 indicate show a F(5,90) = 10.07 and p-value for the model as 0.000 implying that the model is statistically significant in explaining relationship between the buyer-supplier relationship and performance of foreign based agencies.

Table 4.30: Analysis of Variance

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.7	5	0.14	10.07	.000[b]
Residual	1.251	90	0.014		
Total	1.951	95			

a. Dependent Variable: Ln_Supply chain performance

b. Predictors: (Constant), Ln_Buyer Supplier Communication, Ln_Buyer Supplier Cooperation, Ln_Buyer Supplier Trust, Ln_Buyer Supplier Dependence, Ln_Buyer Supplier Commitment

The findings indicate that there is a positive, statistically significant relationship between buyer-supplier communication and performance because the coefficient was positive and the p-value was 0.000 which is way below 0.05. Notably, the coefficient for supply chain communication was largest than those for the other factors. That

indicates that higher levels of communication increases performance of the foreign based development agencies. Therefore, based on the study results, the alternative hypothesis that communication significantly influences performance of foreign based development agencies in Kenya was confirmed at 5% level of significance. The fact that the significant value is way below 0.05 and the coefficient was largest than the rest, the study concludes that, communication plays the greatest role in influencing performance of development aid agencies. Therefore, the study concludes that communication increases supply chain performance.

Figure 4.1 depicts the conceptual framework of optimal model. The multiple regression analysis demonstrates that the statistical tool is useful in predicting the behaviour of dependent variable; Supply chain performance and its predictors namely; commitment and communication. The conceptual framework in chapter two of this study (figure 2.1), two independent variables; commitment and communication had statistical significant levels more than the p-value (0.05). The other independent variables namely; Trust and cooperation became statistically significant in prediction of supply chain performance. The independent variables, dependence and commitment were removed from the optimal model and from the conceptual framework because p-values were 0.05.

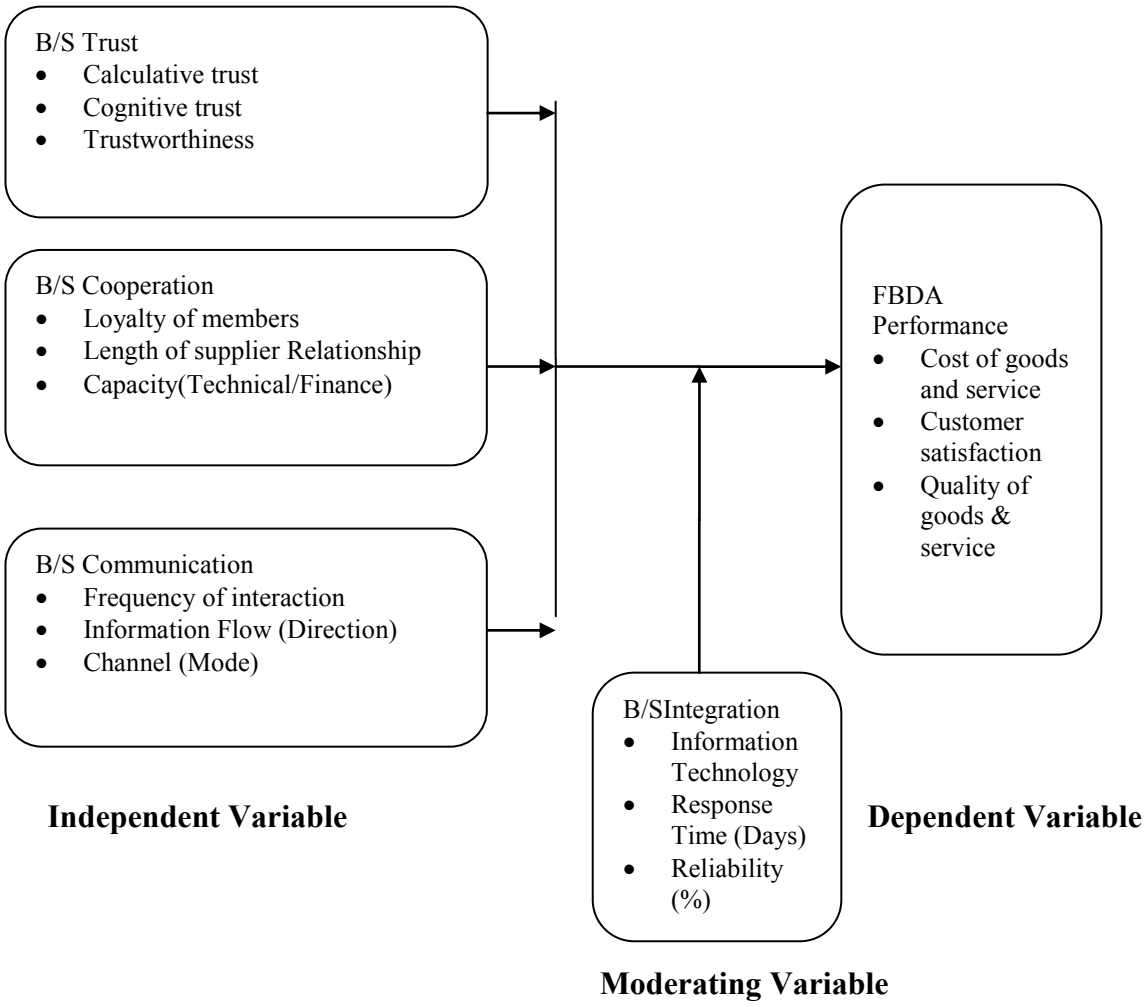

Figure 4.1: Conceptual Framework of Optimal Model

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONs

5.1 Introduction

This chapter provides the summary, conclusion and the recommendations arising from the study results. It contains a summary of the study, conclusions arising from the findings of the study, and recommendations arising from the conclusions of the study.

5.2 Summary of the findings

This study sought to determine the influence of buyer-supplier relationship on the supply chain performance in foreign based agencies in Kenya. It was guided by objectives: determine the influence of trust on the performance of foreign based agencies in Kenya, establish the influence of dependence on the performance of foreign based agencies in Kenya, evaluate the influence of commitment on the performance of foreign based agencies in Kenya, assess the influence of cooperation on the performance of foreign based agencies in Kenya, determine the influence of communication on the performance of foreign based agencies in Kenya and to determine the moderating effect of supply chain integration on the relationship between buyer-supplier integration and performance in foreign based agencies in Kenya. The study was anchored on trust theory, dependency theory, the social exchange theory, transaction cost theory, communication theory and network theory.

5.2.1 Influence of Buyer Supplier Trust on Supply Chain Performance

The study sought to determine the influence of trust on the performance of foreign based agencies in Kenya and to test the hypothesis that Trust significantly influences performance of foreign based development agencies in Kenya. The findings indicated that coefficient of correlation (R) was 0.160 while the coefficient of determination (R-Square) was 0.026. Since R was positive, there was a positive relationship between buyer supplier trust and supply chain performance. However, the relationship was very weak because R-Square was very small. The relationship

was not statistically significant because the significant value associated with the coefficients for the predictor variable 0.118 was greater than 0.05. In addition, the significant value for analysis of variance (ANOVA) 0.118 was greater than 0.05.

According to the study results buyer-supplier trust positively influences supply chain performance and the relationship is statistically significant. That suggests that as buyer-supplier relationship as measured using the level of trust positively informs the performance of the supply chain in terms of submission of the orders as well as the execution and completion of the same. Therefore, the alternative hypothesis that trust significantly influences performance of foreign based development agencies in Kenya was confirmed at 5% significant level. Therefore, based on the research findings, the study concludes that trust significantly influences performance of foreign based development agencies and the relationship between the two is positive. Study concludes that the higher the level of trust between the buyer and supplier the higher the performance of foreign based development agencies.

5.2.2 Influences of Buyer Supplier Dependence on Supply Chain Performance

The study sought to establish the influence of dependence on the performance of foreign based agencies in Kenya and to test the hypothesis that dependence significantly influences performance of foreign based development agencies in Kenya. The results showed that R was equal to 0.153 and R-Square was 0.023 indicating a very weak relationship. However, the corresponding coefficient was negative -0.23 and the significant value was 0.138 which was greater than 0.05. Furthermore, the model coefficient was not statistically significant. Since, the model coefficients were negative, buyer-supplier dependence had a negative influence on supply chain performance but the results noted that the relationship was not statistically significant as the probability value for the coefficient was 0.230. That suggested that although dependence impacted on the supply chain performance negatively, the causation was insignificant.

The study results indicate that buyer-supplier dependence has a negative influence on supply chain performance but the results indicate that the relationship is not statistically significant based on the observed p-value which was larger than the alpha value of 0.05. Therefore, although dependence could influence supply chain performance negatively, the causation is not statistically significant. Therefore, based on the study results, the alternative hypothesis that dependence significantly influences performance of foreign based development agencies in Kenya is not confirmed at 5% significant level. Although the coefficients are negative, it is correct, based on the findings to conclude that dependence destroys value and calls for the need for agencies to have some independence. Dependence on a single or a few suppliers or buyers is not good for an organization.

5.2.3 Influence of Buyer Supplier Commitment on Supply Chain Performance

The study sought to evaluate the influence of commitment on the performance of foreign based agencies in Kenya and to test the hypothesis that commitment significantly influences performance of foreign based development agencies in Kenya. According to the study results, R is 0.345 and R-Square is 0.119 which connotes a positive causation. That is supported by the positive coefficient 0.187 which is statistically significant as indicated by the significant value which is 0.001. Since the significant value is less than 0.05, there is a moderately weak relationship which is statistically weak relationship. Also, the analysis of variance test is 0.001 and hence significant. According to the study results, there is a positive relationship between buyer-supplier commitment and performance of a firm but the causation is not statistically significant because the p-value for the coefficient was higher than the alpha value. The positive coefficient suggests that commitment between buyer and supplier could influence supply chain performance positively but the relationship is not statistically at 5% significant level. Therefore, the alternative hypothesis that commitment significantly influences performance of foreign based development agencies in Kenya is not true at 5% level of significant. The study concludes that commitment between buyer and supplier influences supply chain performance positively but the influence is not statistically significant.

5.2.4 Influence of Buyer Supplier Cooperation on Supply Chain Performance

The study sought to assess the influence of cooperation on the performance of foreign based agencies in Kenya and to test the hypothesis that cooperation significantly influences performance of foreign based development agencies in Kenya. The results indicated that R (0.189) was positive but R-square (0.036) was very small suggesting a weak influence of buyer-supplier cooperation on performance. However, the corresponding coefficient (-0.113) was negative which indicated that cooperation had negative influence on performance. Although results were not significant at 5 percent significant level, the results could be statistically significant at 10 percent level of significant because the p-value was 0.065. Same case applied to analysis of the variance which indicated that the model would be statistically significant if the bar was lowered just a little to test the hypothesis at 10 percent level of significant.

The findings show that buyer-supplier cooperation influences performance of foreign based development agencies negatively but the causation was not statistically significant as the p-value was larger than the chosen alpha value equal to 0.05. Just like the case for dependence, the study findings suggest that higher levels of cooperation are associated with lower supply chain performance. Based on the findings, the alternative hypothesis that cooperation significantly influences performance of foreign based development agencies in Kenya was not confirmed at 5% level of significant. The negative coefficient indicates collaboration destroys value as the buyer and supplier over depend on each other and exclude possibility of applying competitive bidding on the part of the buyer, leading to reliance on few specific suppliers, a practice highly discouraged in procurement and purchasing theory. Nonetheless, based on the findings, the study concludes that buyer-supplier cooperation does not significantly influence performance of foreign based development agencies.

5.2.5 Influence of Buyer Supplier Communication on Supply Chain Performance

The study sought to determine the influence of cooperation on the performance of foreign-based agencies in Kenya and to test the hypothesis that cooperation significantly influences performance of foreign-based development agencies in Kenya. The results showed that R and R-Square were equal to 0.525 and 0.275 respectively. Also, the coefficient corresponding to buyer-supplier communication (0.574) was positive and the significant value was 0.0001. Hence, the findings indicated that there was a positive, moderately strong relationship which was statistically significant because the coefficient was positive and the p-value was 0.000 which was lower than 0.05.

The findings indicate that there is a positive, statistically significant relationship between buyer-supplier communication and performance because the coefficient was positive and the p-value was 0.000 which is way below 0.05. Notably, the coefficient for supply chain communication was largest than those for the other factors. That indicates that higher levels of communication increases performance of the foreign based development agencies. Therefore, based on the study results, the alternative hypothesis that communication significantly influences performance of foreign based development agencies in Kenya is confirmed at 5% level of significance. The fact that the significant value is way below 0.05 and the coefficient was largest than the rest, the study concludes that, communication plays the greatest role in influencing performance of development aid agencies. Therefore, the study concludes that communication increases supply chain performance.

5.2.6 Influence of Buyer Supplier Integration on Supply Chain Integration

The study sought to determine the influence of moderation on the performance of foreign-based development agencies in Kenya and to test the hypothesis that integration significantly influences performance of foreign based development agencies in Kenya. The findings from the analysis indicated that supply chain integration had a positive influence on the buyer supplier relationship and supply chain performance. The moderation effect increased R and R-Square from 0.599 and

0.359 to 0.653 and 0.426 respectively. It also caused a downward and upward movement on some p-values for the coefficient making some that were statistically significant like commitment to become statistically insignificant. However, communication had a positive influence on supply chain performance and statistically significant at 5% level of significance. Overall, that indicates supply chain integration improves the buyer-supply relationship which in turn improves supply chain performance.

The findings from the study show that supply chain integration positively influences the buyer-supplier relationships and in turn the performance of foreign based development aid agencies because, the size of R and R-square increased substantially and it caused the coefficients significant value to increase or decrease to the extent some factors like commitment that was statistically significant in the model where moderation was not included turned out to be insignificant. Therefore, the alternative hypothesis that supply chain integration significantly influences the buyer-supplier relationship and the performance of foreign based agencies in Kenya is confirmed. Thus, the higher the levels of supply chain integration, the greater the influence of buyer-supplier relationship on performance of foreign based development agencies.

5.3 Conclusion

The general finding from the regression analysis is that the buyer-supplier relationship positively influences supply chain performance, but the relationship is moderately weak. That implies that the stronger the relationship between buyer and supplier, the higher the supply chain performance. Thus, the general conclusion of the analysis is that stronger buyer-supply relationship can positively influence supply chain performance. Therefore, organizations should aim to establish a good relationship with their buyers/suppliers for better supply chain performance because close mutual relationship adds value to each of the firms involved.

Based on the findings, it can be concluded that buyer supplier commitment and communication can positively influence the performance of foreign based development agencies in Kenya. This confirms the findings by Jung-Seung and Liang (2016) who argue that commitment between buyer and supplier can improve

performance. However, commitment should be mutual such that both parties need each other and hence there is no exploitation of the other party. Study concludes that the higher the level of commitment between the buyer and supplier the higher the performance of foreign based development agencies in Kenya. Glock and Ries (2013) posit that commitment could help firms to effectively employ efficient inventory management techniques such as just-in-time delivery where frequent, small lots with a reduction of buffer inventories strategy is used, which considerably minimizes the costs and increases supply chain performance.

That finding concurs with the conclusions of Cohen and Dienhart (2013) who point out that ease in communication improves supply chain performance because it eases transfer of information in terms of speed, quality, cost, and flexibility. It also concurs with the findings of Craig, DeHoratius and Raman (2016) who indicate that high level of communication are highly associated with product availability, decreased order cycle time, responsiveness, economic value added, capital utilization, decreased time to market and reducing logistics costs. Glock and Ries (2013) opine that communication builds the bond between the two entities and the ease of communication is fundamental for reacquisition and processing of orders. Information is power and both parties need to know about the specific needs of their partners.

The finding is consistent with the results of Stadtler, Kilger and Meyr (2015) who opine that integration of supply chain frameworks is essential for eased communication and interactions between the two parties. Integrated supply chain framework enhances competencies that are desired for efficient flow of information and avoidance of delays, defect and unpredictability on the part of the supplier as well as the buyer (Karim, 2016). That calls for reliance on information technology in the supply chain frameworks. For instance, Stadtler, Kilger and Meyr (2015) observe that tools like ERP integrates the involved firms and enhances information processing for the benefit of the members. Further, integration can help production planning, financial planning, inventory management and operations management.

Further, the study result concurs with the conclusion of Glock and Ries (2013) argue that supply chain integration which refers to alignment and coordination of supply chain processes through physical and technological platforms, improves the supply chain performance in terms of order application by buyers and execution of orders on the other hand. In integrated platforms, the firms are able to implement their desired quality of products, services and processes. Notably, integration enhances supply chain performance because it serves to bring the two entities closer together. That is consistent with the conclusions of Christopher (2016) who opine that supply chain shortens the lead times and achieves flexible systems that produces overall cost reduction.

The study concluded that buyer-supplier trust, dependence and cooperation have an insignificant negative influence on performance of foreign based development agencies in Kenya.

5.4 Recommendations

(Overall, this study concluded that buyer supplier relationship is positively related with performance of foreign based development agencies in Kenya. Hence, stronger relationships enhance the performance of organizations. To organizations, the study recommends that they should endeavour to build strong ties with their buyers/suppliers. A close relationship can help them to have better order lead times which can improve the performance of their organizations as a result of being in a reliable supply chain.

This study concludes that buyer supplier trust although statistically insignificant has a positive influence performance of foreign based development agencies. The study recommends that foreign based development agencies' management should be purposive in building trust with their buyers/suppliers for higher performance. Trust, if principally built through supplier centric measures of performance like reliability in delivery and conformity of product quality can substantially influence organization's performance.

The current study reached a conclusion that buyer-supplier dependence does not significantly influence performance of foreign based development agencies in Kenya. Nonetheless, as much as the influence is not significant, the study observes that the relationship is negative. That indicates that dependence on a few specific buyers/suppliers destroys performance. Consistent with this conclusion, the recommendation for the study is that organizations should aim to diversify the number of suppliers and of course buyers for higher results. The variable dependence is associated with a buyer's weakness or lack of knowledge of alternative suppliers and perceived switching costs involved in their replacement, which is not a positive thing for the supply chain performance.

The study has concluded that buyer-supplier commitment has a positive influence on performance but statistically weak relationship. To the management, the study recommends that managers should aim to identify, develop and uphold supply chain networks with committed buyers/suppliers for better results however small the influence it may have no the overall performance as the causation is positive. Although the causation is not significant, the study concludes that creation, management and maintenance of a collaborative arrangement between committed buyers/suppliers who are partners in a supply chain is an essential ingredient that could help to attain long-term relationship and better performance.

Based on the results, the study concluded that buyer-supplier cooperation has an insignificant negative influence on performance of foreign based development agencies. Therefore, the study recommends that organizations should be careful of the associations they create with potential partners in their supply-chain networks. The negative influence is possibly because some cooperative arrangements tend to encourage dependence on single supplier/buyers. The choice of the partner in the supply chain is critical as this enables the firm to choose partners who can be committed to their success and because some members within a supply chain framework can take advantage and oppress smaller ones and some would even end up becoming competitors rather than supporters, more so when they discover the lucrative nature of the member's business model.

Regarding communication, the study recommends that organizations should aim to achieve multiple, reliable communication channels for optimal results. That is important because the current study has concluded that communication plays the greatest role in influencing performance. Good and reliable communication channels increases supply chain performance. Although it is important for every organization to have its preferred communication methods and frameworks, being flexible and having multiple means through which others can use to reach a firm has couple of advantages as it provides for the variety and hence makes it possible for more buyers/suppliers to make their purchase or order requests.

That finding concurs with the conclusions of Cohen and Dienhart (2013) who point out that ease in communication improves supply chain performance because it eases transfer of information in terms of speed, quality, cost, and flexibility. It also concurs with the findings of Craig, DeHoratius and Raman (2016) who indicate that high level of communication are highly associated with product availability, decreased order cycle time, responsiveness, economic value added, capital utilization, decreased time to market and reducing logistics costs. According to Glock and Ries (2013) communication builds the bond between the two entities and the ease of communication is fundamental for reacquisition and processing of orders. Information is power and both parties need to know about the specific needs of their partners. Systems of communication, which empower the staffs from the two entities to interact, is fundamental. Glock and Ries (2013) indicate that high having multiple channels of communication helps buyers and suppliers to complete purchase processes. Accordingly, efficient communications are associated with supply chain efficiency, operation progress, cost effectiveness and joint-innovations which bring mutual benefits to the two entities.

Based on the results, the study concluded that buyer-supplier integration has positive influence on performance of foreign based development agencies in Kenya. Therefore, the study recommends that buyer supplier processes should be integrated with modules that can enhance performance and improve supply-chain networks. The statistically weak relationship is possibly because some independent variables

such as trust, dependence and cooperative become statistically insignificant except for communication in fully integrated business models.

5.5 Recommendation for Further Research

For further research, the study recommends that a study on the relationship between buyer/supplier relationship and supply chain performance focusing on the effect of asymmetry of each of the factors such as trust, dependence, commitment, cooperation and communication. That would help to determine the influence of the asymmetry (difference in level of strength) when two entities are working together. It can help to resolve the controversial view that equal (symmetry) levels of trust, dependence, commitment, cooperation and commitment would significantly enhance supply chain performance.

Another study can be focused on the study variables in a different context. For instance, other industries with larger populations for analysis would perhaps yield results with some implications in relation to the theories. Also, the study would seek to determine the influence of technology adoption as mediator variable to test the role of technology in enhancing buyer/supplier relations and supply chain performance.

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APPENDICES

Appendix I: Bilateral and Multilateral Foreign Based Development Agencies in Kenya

1.	Canadian International in Kenya-Global Affairs Canada (GAC), Limuru Road, P.O.Box 1013 oo621, Gigiri, Nairobi Kenya
2.	International Development Research Centre (IDRC), Kitusuru, P.O.Box62084 (00200) Nairobi Kenya
3.	China-Department of Foreign Aid of the Ministry of Commerce (MOFCOM),

	P.O, Box 48190 (00100) Nairobi Kenya
4.	Danish International Development Agency (DANIDA), 13 Runda Drive, Runda, P.O.Box 40412-00100, Nairobi Kenya
5.	Europe Aid Development and Cooperation (EADC), Upper hill, P.O.Box 45119, (00100) Nairobi Kenya
6.	Department for International Development cooperation (FINNIDA), Nairobi Kenya
7.	French Development Agency (AFD) ,Upper hill, P.O.Box 45955, (00100) Nairobi Kenya
8.	German-Kreditanstalt fur Wiederaufbau (KfW) Riverside, P.O.Box 52074-00200 Nairobi Kenya
9.	Deutsche Gesellschaft fur International Zusammenarbeit (GIZ) Riverside, P.O.Box 52074-00200 Nairobi Kenya
10.	Spanish Agency for International Cooperation (AECID), Westlands, P.O. Box 45503-00100, Nairobi Kenya
11.	Japan International Cooperation Agency (JICA), Rahimtulla Towers, P.O.Box 50572, 00100, Nairobi Kenya
13.	Swedish International Development Cooperation Agency (SIDA) , United Nations Crescent, P.O.Box 30600, 00100, Nairobi Kenya
14.	Norwegian Agency for Development Cooperation NORAD, P.O.Box 30709, 00100, Nairobi Kenya
15.	United States Agency for International Development (USAID) P.O.Box 629, Village Market, Gikiri, Nairobi Kenya
16.	UK-Department for International Development (DFID) , 2nd Upper hill road, P.O.Box 30465(00100) Nairobi Kenya
17.	Belgium Development Agency (BTC) ,Muthaiga, P.O.Box 30461, (00100)Nairobi Kenya
18.	Netherlands organization of International Development Cooperation (NOIDC) ,Block B, Keystone Park, 95 Riverside Drive ,Nairobi Kenya
19.	Switzerland -Swiss Development Cooperation (SDC), Rosslyn Green Estate , Rosslyn Green Drive , off Red hill Road ,Nairobi, Kenya
20.	Italian Agency International cooperation (AICS) , International House, Mama

	Ngina street, P.O.Box 30107 (00100) Nairobi Kenya
21.	India's Development Co-operation, Bank of India Building, Nkrumah Road, P.O Box 90164, 00100 Nairobi Kenya
22.	Saudi Arabia Monetary Authority, Muthaiga Road, Saudi Arabia Building ,Nairobi Kenya
23.	Abu Dhabi Fund for Development, P.O.Box 42222(00100), Nairobi Kenya
24.	Bayer College of Medicine (USA), P.O.Box 629, (00100) Village Market, Nairobi Kenya
25.	International Development Association (IDA), Menengai Road, Upper hill, P.O.Box 30577, Nairobi Kenya
26.	Global Environmental Trust Fund(GETF), P.O.Box 30126-00100, Gigiri, Nairobi Kenya
27.	Global Fund (GF) , P.O.Box 50358-00100, Gigiri, Nairobi Kenya
28.	European Development Fund (EDF) ,P.O.Box 45119 (00100) Nairobi Kenya
29.	Arab Bank for Economic Development in Africa (BADEA),P.O.Box 42222 (00100) Nairobi Kenya
30.	Organization of Petroleum Exporting Countries (OPEC) ,Nairobi Kenya
31.	United Nations Development Programme (UNDP), P.O.Box 30218-00100, Gigiri, Nairobi Kenya
32.	United Nations Fund for Population Activities (UNFPA), P.O.Box 30218-00100, Gigiri, Nairobi Kenya
33.	United Nations Environment Programme (UNEP), P.O.Box 30218-00100, Gigiri, Nairobi Kenya
34.	United Nations International Children Education Fund (UNICEF), P.O.Box 44145-00100, Gigiri, Nairobi Kenya
35.	World Food Programme (WFP) , P.O.Box 64902-00620, Gigiri, Nairobi Kenya
36.	Global Alliance Vaccine Initiative (GAVI), P.O.Box 52773-00100, Gigiri, Nairobi Kenya
37.	Food and Agricultural Organization (FAO), P.O.Box 67578-00100, Gigiri, Nairobi Kenya

Appendix II: Letter of Introduction

KARUNGANI WALTER PHILIP
P.O.Box 51295-00200
NAIROBI
Kenya
E-Mail: walkar1712@gmail.com

Date_____

_____

_____

Dear Sir/Madam,

RE: LETTER OF INTRODUCTION AND QUESTIONNAIRE GUIDE

I am a PhD student (Supply Chain Management) at JKUAT University. I am conducting research on "Influence of Buyer Supplier Relationship on Supply Chain Performance for Development Aid Agencies in Kenya". You have been identified as a supply chain member and respondent in this study and I kindly request for your assistance towards making this study a success.

I therefore request you to find time to respond to the attached questionnaire objectively and exhaustively. I assure you that the information you will provide will be used for academic consumptions only and will be treated with utmost confidentiality. The instruction for filling the questionnaire is availed for each question.

Your assistance in this matter will be highly appreciated.

Yours sincerely,

Karungani Walter Philip

STUDENT REG. NO. HD411/4916/2015

Appendix III: Questionnaire

INTRODUCTION

I am doctoral student at Jomo Kenyatta University of Agriculture and Technology (JKUAT) and as part of my degree requirements; I am conducting research titled "**Influence of Buyer Supplier Relationship on Performance of Foreign based Development Agencies in Kenya**" I have identified your agency as one the potential respondents. Your participation in filling this questionnaire will be appreciated and it will contribute to this research. I assure you that the information collected will be used purely for this academic research and I guarantee utmost confidentiality to your agency and responses.

Please provide the following information about your agency. Answer each question as completely and as clearly as possible and tick one answer from the choices given or writing your responses appropriately in the space provided.

SECTION I: BACKGROUND INFORMATION

1. Please indicate your gender:

   Male [ ] Female [ ]

2. How long have you worked your current?

   Below 2 years [ ] 2-6 years [ ] 7-10 years [ ] above 10 years [ ]

3. How long have you worked in the current position?

   Below 5 years [ ] 5-10 years [ ] 10-15 years [ ] 15-20 years [ ]

4. Please indicate your highest level of education:

   PhD [ ] Masters [ ] Bachelors [ ] Diploma [ ] Certificate [ ]

5. Are you able to understand and interpret the company vision, objectives and core values?

   Yes [ ] No [ ]

If no explain

6. Do you agree that team work improves supply chain performance?

Strongly agree	[ ]
Agree	[ ]
Neutral	[ ]
Disagree	[ ]
Strongly disagree	[ ]

7. To what extent do you agree that your agency offers opportunities for employees to discover their highest level of potential?

To a very great extent	[ ]
To a great extent	[ ]
Neutral	[ ]
To a little extent	[ ]
To no extent	[ ]

8. Do you have issues with any proposed institutional improving of supply chain performance even if it affects you directly?

Yes [ ] No [ ]

If no explain

_____

_____

_____

9. Do you agree that the business strategy established by your agency is adequate in empowering employees to achieve their highest level of performance

Strongly agree	[ ]
Agree	[ ]

Neutral [ ]

Disagree [ ]

Strongly disagree [ ]

10. To what extent of satisfaction concerning your agency's supply chain performance as an employee?

Very satisfied [ ]

Satisfied [ ]

Neutral [ ]

Dissatisfied [ ]

Very dissatisfied [ ]

11. How would you classify the quality of supervision in your agency?

Very supportive [ ]

Supportive [ ]

Neutral [ ]

Very Low [ ]

12. How often are personal development opportunities and plans availed to staff?

Often [ ]

Don't Know [ ]

Not at all [ ]

13. How often are personal development opportunities and plans availed to staff?

Yes [ ] No [ ]

SECTION 2: BUYER SUPPIER TRUST

Trust is the extent to which the buyer trusts the supplier and vice versa. Foreign based Development agencies are calculative most of the times seeking long term suppliers they can trust for business transaction to enhance their supply chain performance.

Do you agree that trust influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	My agency has strong buyer supplier trust					
2.	Suppliers within our supply chain fulfill their obligation					
3.	We trust the suppliers within our current supply chain network					
4.	Our agency can comfortably entrust its long-term supply needs to the firms within our supply chain networks					
5.	Trust has helped to attain efficient and effective cooperation in our supply chain					
6.	Trust, allows free and adequate passage of ideas, knowledge, products, and services in the supply chain aimed at creating value					
7.	Most business transactions in our supply chain are purely commercial and trust is not important					
8.	Long term business strategy is built on trust among members of the supply chain.					
9.	The level of trust is very low amongst the suppliers in our network, each works individually to fulfill selfish interests.					
10.	In our networks, there is evidence of trustworthiness built over years					

11. State and explain factors that are specific to your agency that facilitate or hinder buyer supplier trust

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SECTION 3: BUYER SUPPLIER DEPENDANCE

Dependence refers to the relationship that exists between the suppliers and the buyers over a period of time due to supply chain capability. Business transactions between supply chain partners require sustained dependence in order to improve supply chain performance,

Do you agree that dependence influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	My agency has strong buyer supplier dependence in business transactions					
2.	Bargaining power of other suppliers does not affect our relationship with the present suppliers					
3.	Other suppliers do not develop their supply chain capabilities and are unreliable partners for our business transaction					
4.	Our agency can comfortably entrust its long-term dependence on suppliers with resources within our supply chain					

	networks					
6.	Suppliers do not recognize the importance of dependence and show no effort to build their supply chain capabilities.					
7.	Our agency is unreliable and allocate no resources to enhance our capabilities to attain more benefits from our supply chain function					
8.	Our long term business strategy does not recognize buyer supplier dependence					
9.	The level of dependence is very low amongst the firms in our network, each works individually to fulfill selfish interests.					
10.	Buyer supplier dependence does not exist in our supply chain function because limited supplier resources					

11. State and explain factors that are specific to your agency that facilitate or hinder buyer supplier dependence

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SECTION 4: BUYER SUPPLIER COMMITMENT

Commitment is the belief that a business partner has an on-going relationship with each other and continuous relationship, it is important to guarantee high and trying to maintain its commitment to a lasting relationship of limited help thus enhancing high supply chain performance

Do you agree that commitment influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	There is commitment to strengthening the output due to loyalty within our supply chain					
2.	There is evidence of buyer-supplier commitment to enhance each other's interests such that there is a win-win situation					
3.	There is evidence of buyer supplier commitment to develop a stable long term relationship,					
4.	There is evidence of supplier capacity that enhance performance					
5.	Our agency recognizes the importance of buyer supplier commitment in business transactions					
6.	Our agency is unreliable and there is no evidence of commitment with suppliers					
7.	Our long term strategy recognizes commitment with partners to enhance supply chain performance					

8.	The level of commitment with suppliers is very low in our supply chain					
9.	In our networks there is a huge evidence of loyalty					
10.	Our relationship with suppliers is short term only					

11. State and explain factors that are specific to your agency that facilitate or hinder buyer supplier commitment

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SECTION 5: BUYER SUPPLIER COOPERATION

Cooperation is a term that refers to the combining of requirements of entities to leverage the benefits of volume purchases, delivery and supply chain advantages, best practices, and the reduction of administrative time and expenses thus improving supply chain performance. From the word cooperation buyer supplier cooperation has the connotation of engaging in a process that makes two parties to work together for a similar goal to the same end.

Do you agree that cooperation influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	Cooperation helps leverage the benefits of volume purchases in our agency					

2.	Delivery of goods and services have been enhanced through cooperation with suppliers					
3.	Our market orientation has enhanced practices through cooperation with suppliers					
4.	Our end users source trending goods and services presently in the market					
5.	Adaptations to product processes through cooperation has improved the overall supply chain performance					
6.	Cooperation has resulted into synergistic advantages and win win situation with suppliers					
7.	Our cooperative engagements are characterized by long-term contracts, close relationship between our personnel and suppliers for quality goods and services					
8.	The level of cooperation with suppliers is very high in our supply chain					
9.	There is huge evidence of quality products delivery through cooperation with suppliers					
10	Cooperation with suppliers has enhanced supply chain performance in our agency					

11. State and explain factors that are specific to your agency that facilitate or hinder buyer supplier cooperation

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SECTION 6: BUYER SUPPLIER COMMUNICATION

Communication is the formal as well as informal sharing of meaningful and timely information amongst members of the supply chain. It is a process through which information is conveyed or exchanged between parties to enhance supply chain performance.

Do you agree that communication influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	Our agency has embraced more frequent communications with suppliers through diverse channels and that has built a long-term supplier-buyer relationship.					
2.	Delivery of goods and services has been improved through information sharing with suppliers					
3.	Our agency applies best buyer practices and share information with supplier procurement status.					
4.	The level of communication with suppliers is very high in enhancing supply chain performance					
5.	The integration with suppliers has improved the overall supply chain performance					
6.	The frequency of communication with suppliers has strengthened the performance of our supply chain					
7.	Our communication with suppliers has enhance smooth business transaction					
8.	The needed information flow on goods and services are communicated on time.					

9.	Our agency has evidence of communication record for every business transaction					
10	Our network communication has enhanced supply chain performance in our agency					

11. State and explain factors that are specific to your agency that facilitate or hinder buyer supplier cooperation

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SECTION 7: SUPPLY CHAIN INTEGRATION

Integration is the ability (of the entire supply chain) of the buyer supplier to enhance information sharing through communication to meet end-customer needs, associated with ensuring the availability of product, deliver it on time in the right way and ensure appropriate inventory levels.

Do you agree that trust influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	Our agency has embraced integration for monitoring activities with suppliers					
2.	Our organization uses integration tools to strengthen buyer supplier relationship					
3.	Information technology is well used to enhance relationship with the suppliers					

4.	ICT tools are upgraded regularly to support integration					
5.	The agency has signed contracts and collaborated with suppliers					
6.	Integration technology between the buyer and supplier is reliable					
7.	Enterprise Resource planning application is used for business transaction					
8.	Electronic data interchange is used in business transaction					
9.	Our agency has adequate policies that upgrade information technology development					
10.	The agency policies are aligned to internal IT development					

11. State and explain factors that are specific to your agency that facilitate or hinder integration with suppliers

_____

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SECTION 9: SUPPLY CHAIN PERFORMANCE

Supply chain performance is the ability (of the entire supply chain) to meet end-customer needs, associated with ensuring the availability of product, deliver it on time in the right way and ensure appropriate inventory levels.

Do you agree that trust, dependence, commitment, Cooperation, communication and integration influences supply chain performance?

Yes [ ] No [ ]

To what extent do you agree with the following statements that relate trust and supply chain performance? Tick one level of agreement for each statement in the table below:

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	Our agency has embraced more frequent supply chain performance monitoring activities to improve buyer-supplier relationship.					
2.	Our organization has established supply chain performance monitoring tools to strengthen buyer supplier relationship					
3.	Our agency has employed cost, cutting measures to improve supply chain performance					
4.	Our agency aims at customer satisfaction to improve supply chain performance					
5.	The agency has adopted quality goods and services to improve performance					
6.	Resources in our agency are allocated to enhance supply chain performance					
7.	Customer satisfaction is at the centre of our business strategy					
8.	Resources in our agency are allocated to enhance quality of goods and services					
9.	Our agency has adequate policies that support customer satisfaction					

10.	The agency policies are aligned to integration to enhance performance					

11. State and explain factors that are specific to your agency that facilitate or hinder supply chain performance

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