

**THE PRACTICE OF SUPPLY CHAIN MANAGEMENT: THE CASE OF  
UNICEF KENYA COUNTRY OFFICE //**

**BY**

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## DECLARATION

This project is my original work and has never been presented for a degree award in any other university.

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## DEDICATION

This work is affectionately dedicated to my husband Joe for his love , support and encouragement and to my dear children Evelyn and Ben.

May the Almighty God bless you abundantly.

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## **LIST OF ABBREVIATIONS**

CSCMP – Council of Supply Chain Management Professionals

KCO – Kenya Country Office

NGOs- Non-Governmental Organizations

SCM – Supply Chain Management

UN- United Nations

UNICEF – United Nations Children Fund

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## **EXECUTIVE SUMMARY**

This study was conducted as an academic paper on the practice of and challenges facing the Supply Chain Management at UNICEF KCO. It was a case study.

The data collection was done in June 2007, using a questionnaire. Statistical analysis was used to analyze the data and was documented in chapter four.

The results were interpreted and recorded in chapter five. The practice and the challenges are described in this chapter, together with the suggested areas of further study.



# CHAPTER ONE

## INTRODUCTION

### 1.1 Background

Increased sophistication in customer requirements and greater competition has pushed many organizations towards higher and higher levels of efficiency in an effort to meet customer needs and cut costs. One of the results of this drive has been the outsourcing of goods and services, in a way that has inexorably bonded the supply chains of operators, contractors and suppliers. The question today is whether increased efficiency in the way individual companies are run is going to provide organizations with the performance improvements they seek, or whether a new approach is needed which takes into account the whole Supply Chain.

To successfully operate in today's market place; companies need to effectively and efficiently manage the activities of design, manufacturing, distribution and recycling of their products and services. Management of these activities constitutes supply chain management. Over the last few decades a large number of organizations have made a conscious effort to manage their buyer-supplier relationships (Lincoln et al., 1998). As Narus and Anderson (1996) noted, forward-looking companies are experimenting with their channels to make them more flexible and responsive.

The ongoing changes on the global scene has lead to more differentiated distribution systems than traditionally was the case, and to stronger interdependencies among the actors and, therefore, also closer relationships. Parallel to this process, companies have outsourced not only traditional distribution activities, such as warehousing and transportation operations, but also managerial activities related to the flow of goods (Gadde, 2003). Owing to the enhanced specialization among firms, the supply processes increasingly span the boundaries of several firms or organizations. By sharing capabilities and resources, channel members can offer better service at a lower cost than they could by acting alone.

Supply chains become longer and more complex as the world shrinks due to globalization. Today's organizations find that the complex corporate supply chains on which they depend

stretch across borders and also embrace relationships with an increasing number of partners and suppliers. The major challenges for organizations today arise from the fact that the longer the supply chain becomes, the more complex it is to manage (Zheng et al; 2000).

The tendency towards increased integration and cooperation, as a response to increased demand for coordination of resources and activities in the chain, leads to increased complexity in management and planning tasks. It is not enough to focus on the management of one's own organization. One has to also consider and take part in the management of a network of organizations involved in upstream supply processes and downstream distribution processes towards the end-customers.

Today, we find cases where organizations are bringing logistics service providers even closer to the center of operations (Financial Times, 2004). Oliver and Webber (1992) observed that these developments in distribution arrangements have triggered an interest among managers for a whole range of empirical issues including firm positioning, exchange processes, adaptation and coordination, as well as the dynamics of distribution systems. One of the most popular management concepts today addressing some of these inter-organizational issues is Supply Chain Management, further discussed next.

## **Supply Chain Management**

Supply Chain Management (SCM) is a major issue in many industries as firms realize the importance of creating an integrated relationship with their suppliers and customers. Managing the supply chain has become a way of improving competitiveness by reducing uncertainty and enhancing customer service (Chandra and Kumar, 2000).

According to Dawson (2002), the term Supply Chain is used to represent the complete set of activities involved in the full manufacturing, distribution and delivery process. He argues that customers not only want the right product, but they want it “when they want it”. As a result, he asserts that supply chain management recognizes this and focuses effort on achieving tight integration between the various links of the chain. These include procurement, operations and

logistics from the identification and selection of appropriate materials and components right through to delivery to the end customer and the realization of customer satisfaction.

Supply Chain Management is the process of planning, implementing, and controlling an organization's operations with the purpose to satisfy customer requirements, movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption (Spekman et al., 1998). As quoted in Christopher (1992), the Council of Supply Chain Management Professionals (CSCMP), holds that SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers.

Supply Chain Management is about managing the flow of information, materials, services and money across any activity, in a way, which maximizes the effectiveness of the process (Spiers, 1997). The main aspects of SCM are multiple firms, multiple activities and the coordination of these activities across functions and across firms in the supply chain (Ballou et al., 2000). For the purposes of this study, the definition by the Council of Supply Chain Management Professionals (CSCMP) was adopted.

The traditional view of SCM is to leverage the supply chain to achieve the lowest initial purchase prices while assuring supply. In the earlier years, the emphasis was on materials planning, utilizing materials requirements planning techniques, inventory logistics management with one warehouse multi-retailer distribution system, and push and pull operation techniques for production systems (Chandra and Kumar, 2000). Typical characteristics include: multiple partners; partner evaluations based on purchase price; cost-based information bases; arm's-length negotiations; formal short-term contracts; and centralized purchasing (Spekman et al., 1998).

However, Fisher (1997) argued that traditional supply chains are operating on borrowed time. It is no longer simply a matter of pushing products and services toward the customer as efficiently as possible. Instead, the supply chain is becoming pivotal to the success and survival of business

as many managers consider the supply chain so crucial to the survival of their business that the future has been nicknamed the supply chain age.

In the last few years, however, there has been a renewed interest in designing and implementing integrated systems, such as enterprise resource planning, multi-echelon inventory, and synchronous-flow manufacturing. Under the new paradigm, supply chain management is redefined as a process for designing, developing, optimizing, and managing the internal and external components of the supply system, including material supply, transforming materials and distributing finished products or services to customers, that is consistent with overall objectives and strategies. Analytically, a supply chain is simply a network of material processing cells consisting of supply, transformation, and demand functions (Davis, 1993).

Many companies are achieving significant competitive advantage by the way they configure and manage their supply chain operations (Chase et al., 2001). Fisher (1997) concurs and argues further that senior executives acknowledge the importance of improving their supply chain to enhance the competitive position of their companies. While supply chains are more difficult to manage, the competitive environment means that most companies need to further reduce costs. In such an environment, successful supply chain management means getting better results with the same, or fewer, resources.

The objective of supply chain management is to satisfy end customer requirements. Its essence, as a strategic weapon, is to develop a sustainable competitive advantage by reducing investment without sacrificing customer satisfaction (Lee and Billington, 1992). Since each level of the supply chain focuses on a compatible set of objectives, redundant activities and duplicated effort can be reduced. In addition, supply chain partners openly share information that facilitates their ability to jointly meet end-user's needs (Spekman et al., 1998).

Ultimately, integrated processes and information systems must be created to support collaboration and transaction management to meet this objective. In summary, successful supply chain management aims to reduce the costs of both clients and suppliers, while sustaining or improving added value and margins. Consequently, companies that have effective supply chains

are most successful (Childerhouse and Towill, 2000). In line with the foregoing background, the proposed study seeks to explore supply chain management at UNICEF KCO.

### **The United Nations Children Education Fund (UNICEF)**

UNICEF was first known as the United Nations International Children's Emergency Fund created by the United Nations General Assembly in 1946 to take care of children affected after World War II in Europe. In 1953, UNICEF became a permanent part of the United Nations system, its task being to take care of children living in poverty. Its name was shortened to the United Nations Children's Fund, but it retained the acronym "UNICEF" , by which it is known to this day.

As per its mandate, UNICEF helps children get the care and stimulation they need in the early years of their lives and encourages families to educate their children. It strives to reduce the mortality rates and illness of children and to protect them in the midst of war and natural disaster. UNICEF supports young people, wherever they are, in making informed decisions about their own lives, and strives to build a world in which all children live in dignity and security.

UNICEF works to strengthen existing co-ordination mechanisms and partnerships with governments, sister UN agencies, non- governmental organizations (NGOs) and religious organizations involved in programmes for women and children. Working with national governments, NGOs, other United Nations agencies and private-sector partners, UNICEF protects children and their rights by helping shape policy agenda and budgets in the best interests of children. UNICEF's governing body of thirty-six nations, representing all regions of the world, establishes policies, reviews programs and approves budgets for the organization. Headquartered in New York, UNICEF carries out its work through seven regional offices and one hundred and twenty six country offices covering more than 160 countries, territories and areas. UNICEF Kenya Country Office (UNICEF KCO) is one of the country offices in the global structure.

The Supply Chain in UNICEF is such that there is a global center and regional center. The headquarters for the Supply Division is in Copenhagen, Denmark. It is from this center that most

of the global contracts and orders are processed. Each region has its own Consolidated Supply office, which serves as a link between the Supply Division headquarters and the country offices within each respective region.

## **1.2 Statement of the Problem**

SCM serves a very critical role in humanitarian organizations such as UNICEF in their overall strategy. This is because the programmes implementation would be incomplete without an effective supply chain. Most of the UNICEF programmes involve delivery of various supplies and emergency services to various project sites or locations in addition to the usage of various supplies in the office.

However, as in most organizations, SCM in UNICEF would have various successes and failures. Some of the issues that raise concern in SCM, amongst others, include corruption, quality, costs, and operational efficiencies. Due to its significance, Supply Chain is an area that is always checked during every Internal Audit. Unfortunately, for UNICEF KCO, the Supply Chain consistently fails to meet the expectations of the auditors and is therefore a common audit qualification issue. The importance of managing buyer-supplier relationships is fundamental for continued organizational success. What is questionable, however, is how the methods used to manage these relationships become operationalized in organizations (Mudambi and Schrunder, 1996).

Various studies have been undertaken in the past on Supply Chain Management in Kenya but most of them focused on the commercial entities. Rwti (2005) in his study of procurement performance of large firms argues that procurement management is a critical issue in organization's management. He further argues that procurement management is significantly affected by rapid changes in business environment. Some of the critical issues arising from changes in environment include quality, supply lead-time, costs and supplier relations.

Mwanyota (2004) studied Supply Chain Management and Enterprise Resource Planning Systems with a focus on supermarkets. The study outlined importance of supply chain management in an organization as including: customer satisfaction, quality improvement and timeliness in delivery.

In his conclusion, he suggested that further study need be done to evaluate the hindrances to effective implementation of supply chain management in organizations.

Lutta (2003) studied outsourcing of distribution logistics within supply chain system and concluded that success of the outsourcing can be realized through delegation of responsibilities and accountability to the supplier. Team approach during the implementation stage was critical to its success.

Motari (2002), in his study on outsourcing of logistics, concentrated on Medium and Large manufacturing firms. He noted that the field of supply chain management is elitist and needs some kind of special attention. He further observed that with the advent of liberalization, costs consideration has become a major competitive tool. In his conclusion, he advocates for further research in different organizational setting to evaluate and understand current trends in outsourcing and supply chain management.

While appreciating the findings of the previous studies, they were focused on profit making entities. A study on a humanitarian organization would be worthwhile so as to bridge this gap. It is from this that the proposed study seeks answers to the following questions:

- i. What is the status of the practice of Supply Chain Management at UNICEF KCO?
- ii. What are the challenges facing UNICEF KCO in managing its supply chain?

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

The objectives of this study are to:

- i. Determine the status of the practice of Supply Chain Management at UNICEF KCO.
- ii. Determine the challenges facing UNICEF KCO in managing its supply chain.

### **1.4 Importance of the Study**

The findings of this study will be beneficial to a number of stakeholders:

- i. The management of UNICEF KCO to take note of the aspects of SCM that needs to be strengthened.

- ii. UNICEF staff, who are directly responsible for the Supply Chain Management, to take note of the ineffective and inefficient areas and the extent to which they need to improve their work to be more useful to the organization as a whole.
- iii. Other UNICEF country offices worldwide, as they would use it as a framework for similar studies within their offices.
- iv. Scholars and researchers as they may use the results as a source of reference.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Meaning and Role of Supply Chain Management

Supply chain is defined as “a group of organizations connected loosely, all collaborating on the same goal: efficient and economical product delivery” (Zheng et al., 2000). Dobbler and Burt (1990) defined the supply chain as the upstream portion of the organization’s value chain and is responsible for ensuring that the right materials, services and technology are purchased from the right source, at the right time and in the right quantity. More and more organizations are promoting employee empowerment and the need for rule-based, real-time decision support systems to attain organizational and process flexibility, as well as to respond to competitive pressure to introduce new products more quickly, cheaply and of improved quality. The underlying philosophy of managing supply chains has evolved to respond to these changing business trends.

Supply Chain Management is thus the management of the network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers (Krajewski and Ritzman, 1998). They further note that the philosophy is translated into the interrelated issues of customer satisfaction, inventory management, and flexibility. Customer satisfaction, is to a high degree, dependent on the flexibility of the supply chain, i.e. its ability to respond to changes in demand. Flexibility is often imperfect because of long lead times, uncertainties, and unforeseen events. To counterbalance this lack of flexibility, companies will keep inventories at various levels of the supply chain. Balancing the costs of imperfect customer satisfaction and holding inventory is a classic issue of logistics and supply chain management.

Supply Chain Management decisions are often said to belong to one of three levels; the strategic, the tactical, or the operational levels. The three levels of decisions can be viewed as a pyramid shaped hierarchy as shown in the figure below. The decisions on a higher level in the pyramid will set the conditions under which lower level decisions are made.

*Figure 2.1 1: Hierarchy of Supply Chain Decisions*



Source: Adopted from Sheombar (1995) page 27

On the strategic level, long term decisions are made. According to Sheombar (1995), these are related to location, production, inventory, and transportation. Location decisions are concerned with the size, number, and geographic location of the supply chain entities, such as plants, inventories, or distribution centers. The production decisions are meant to determine which products to produce, where to produce them, which suppliers to use, from which plants to supply distribution centers, and so on. Inventory decisions are concerned with the way of managing inventories throughout the supply chain. Transport decisions are made on the modes of transport to use (Mabert and Venkataramanan, 1998).

Decisions made on the strategic level are interrelated (Sheombar, 1995). For example, decisions on mode of transport are influenced by decisions on geographical placement of plants and warehouses, and inventory policies are influenced by choice of suppliers and production locations. Modeling and simulation is frequently used for analyzing these interrelations, and the impact of making strategic level changes in the supply chain (Zheng et al., 2000).

On the tactical level, medium term decisions are made, such as weekly demand forecasts, distribution and transportation planning, production planning, and materials requirement planning (Sheombar, 1995). The operational level of supply chain management is concerned

with the very short term decisions made from day to day. However, the border between the tactical and operational levels is vague.

A properly managed supply chain presents various benefits to the respective organization. First, supply chain management fosters a spirit of shared ownership of the problems and solutions; strong commitment and involvement by top management; consistent goals and objectives communicated to all levels and functions and across organizations in the supply chain, so that all programmes are in consonance; and effective use of recognition and rewards. This acts as a motivating factor for employees in the organizations that constitute the supply chain (Zheng et al., 2000).

Secondly, as Krajewski and Ritzman (1998) observed, Supply Chain Management encourages the organization to adopt current information, process and product technologies in enhancing the organization's performance. This ensures that the organization is not rendered technologically obsolete in its business operations.

Another role of supply chain management is the reduction in costs as a result of strategic business alliances among the members of supply chain, which in turn leads to increased profitability for the organization (Zheng et al., 2000). Supply Chain Management is one of the practices that enhance the chances of an organization to attain world-class performance status. This is because it spurs the organization to aim for constant and continuous improvement on a global scale (Chase et al., 2001). Furthermore, SCM spurs the organization to rapidly adapt to changes in the external environment thereby fostering a fluid and flexible organization, an essential characteristic for survival and growth in today's ever changing business environment (Fisher, 1997; Zheng et al, 2000).

In many organizations embracing Supply Chain Management, as noted by Fisher (1997), there is increased internal business operations efficiency as a result of promoting inter-departmental cooperation and collaboration towards achieving common organization objectives. On the same, Krajewski and Ritzman (1998) argued that Supply Chain Management necessitates more efficient management of inventory where the emphasis is zero tolerance to inventory. As a result,

they noted that this results in decreased inventory costs, a saving for the organization in the supply chain.

Various approaches towards SCM have led to the development of philosophies, further discussed below.

## **2.2 Supply Chain Management Philosophy**

To balance customers' demands with the need for profitable growth, many firms have moved aggressively to improve Supply Chain Management (Andersen et al., 1997). Their channel integration efforts have focused on the following main issues: flexible organizations; supply chain coordination; inter- and intra-enterprise communication; sourcing; manufacturing orientation; and inventory and cost management. These issues are discussed next.

### **2.2.1 Flexible organizations**

An important attribute for any supplier is agility realized through its flexible organization. A flexible organization supports plant and distribution networks by achieving operational efficiency through quick line changeovers, savings are realized as a result of avoiding back hauling and enhanced product realization (Poirier and Reiter, 1996).

As firms move towards supply chain excellence, they are concerned with both internal and external efficiencies. Internal efficiency is the key driving force to supply chain operational efficiency, its agility rather than economies of size. Investments in plant and distribution equipment are important to maintain an agile organization in a supply chain. Thus, as Copacino (1997) observed, externally, supplier efficiency is extremely critical to supply chain performance.

### **2.2.2 Organizational Relationships**

Strategic alliances and partnerships are crucial to the success of a supply chain. Firms are encouraged to focus their attention on the entire supply chain and reduce the number of suppliers that they have to deal with. Many firms have developed preferred supplier programs as well as core transport carriers to ensure that a quality product is received where and when it is needed

(Francett, 1996). Gould (1998) concurred that a successful strategic alliance or a partnership must be based on extreme trust, loyalty, positive sum game (a win-win relationship), cross-functional teams, sharing common goals and cooperation that includes willingness to assist, and positive negotiations based on fairness.

### **2.2.3 Total Supply Chain Coordination**

Each firm may have multiple supply chains and each of these may have potentially different business needs. It is important to employ cross-channel co-ordination when sharing some of the common resources among different supply chains. This co-ordination allows supply chains in a company to integrate with each other (Harlend and Scharlacken, 1997). According to Costanza (1998), creating supply chain value is important for successful co-ordination. He asserts that the most important single factor in creating supply chain value is the ability to predict or forecast demand.

The goal for total coordination is to be demand driven and not lot size driven. This implies that suppliers should supply products according to demand and not lot quotas. In the past, forecasting was done primarily utilizing historical data. Firms are moving away from this method and beginning to use point of sale data, which tell them exactly how much was purchased during a certain period (Fraser, 1998).

### **2.2.4 Improved Communications**

Both uncertainty and inventory levels are lowered through improved communications within and between supply chain constituents (Copacino, 1997). Poirier and Reiter (1996) concurred with this and noted that a successful customer vendor relationship is built by exchanging information pertaining to product development for new products, product improvements, costs, demand schedules (including point of sale data), and materials and supplies needed to meet production schedules. They further pointed out that it is crucial to relay information about end-use consumers to manufacturers back through the chain, which results in better product information about customers' needs and improved production operations.

### **2.2.5 Outsourcing Non-Core Competencies**

Outsourcing will continue to be important for having a cost-effective business (Poirier and Reiter, 1996). Such arrangements place responsibility for logistics or production functions in the supply chain in the hands of the constituent most capable of performing these successfully. Mayer (1996) pointed out that many firms are currently outsourcing the distribution process, upon which they are able to track all deliveries through a third party provider.

### **2.2.6 Inventory Management**

In the past, carrying inventory in stock was a normal business practice to guard against risk of unfulfilled demand (Chandra and Kumar, 2000). They further pointed out that today, many firms find that holding inventory is costly and so they try to push inventory on to someone else in the supply chain. It is a challenge for constituents to ascertain where inventory should be held in the supply chain. Consequently, some firms are demanding that the manufacturer deliver inventory to private customer warehouses more frequently and in smaller lots.

Some important supply chain inventory issues are: shorter delivery times, just in time (JIT), point of sale data, vendor-managed inventory, and consignment inventory (Mayer, 1996). Shorter delivery times, JIT, and point of sale data are complementary to one another. For example, in order to utilize a JIT system, shorter delivery times are needed and point-of-sale data are required to know which products are to be replenished quickly. Information sharing is critical in resolving these issues. Vendor-managed and consignment inventory are becoming important management strategies designed to locate inventory in the supply chain efficiently.

### **2.2.7 Cost Control**

Supply chain management must be able to quantify a bottom line impact, as there is a tendency to accept short-term profits as opposed to long-term investments for sustained profits and growth (Fisher et al., 1994). He argued that it is typical in many firms that the operations function desires improved product forecasts and longer lead times. On the other hand, the "sales and marketing" function desires more inventories to alleviate the potential for stock-out. These

demands lead to enhanced production capacity, thus creating excess inventory and consequently higher production costs.

Arising from the discussion for and against short-term profits as opposed to long-term investments, Chandra and Kumar (2000) concluded that these issues have potential impact on the enterprise both at the micro and macro levels. They observed that channel integration for an enterprise is best achieved when macro and micro level issues are resolved in a coordinated manner. It requires integration of generic strategies at the macro level with functional strategies at the micro level.

### **2.3 Supply Chain Structures and Dynamics**

According to Krajewski and Ritzman (1998), a supply chain can either be of a segmented or an integrated structure. In a segmented structure, each department such as purchasing, production control or distribution has a separate manager. In an integrated structure, there's a unified department, mostly called materials management or logistics management that is headed by one manager at a higher level. This structure not only elevates the function but also recognizes that the various materials management tasks are all part of the same supply chain management activity. However, most firms use hybrid structures, in which two or three departments typically report to the same executive.

Supply Chain dynamics are factors that affect the supply chain, they be internal or external. External supply chain factors include volume change; Product/service mix changes; late deliveries; and under filled shipments. Volume change may depict demand changes, product/service mix changes may be in the form of a change in the mix by a retailer, which will cause a ripple effect throughout the supply chain to the manufacturer and the manufacturers' supplies. Late deliveries disrupt the supply chain according to scheduled activities while under filled shipments are supplies that end partial shipments, which affects the entire chains (Lyson, 1996).

Internal supply chain factors include internally generated shortages arising from causes such as machine breakdown, inexperienced workers, labour shortages; engineering charges; new

product/service introductions that may cause abrupt increased demand; and information errors in forecasting demand or physical count faulty communication links.

External and internal disruptions can impair the performance of the Supply Chain. Many disruptions are caused by ineffective co-ordination between external and internal supply chain operations or poorly executed internal supply chain operations. Although it's impossible to eliminate all disruptions, the challenge for supply chain managers is to remove as many disruptions as possible and design a supply chain that minimizes the impact of those disruptions that they cannot eliminate (Chase et al, 2001).

## **2.4 Functions of Supply Chain Management in organizations**

Supply Chain Management plays a pivotal role in any organization. Some of the roles include purchasing, materials management, inventory management and distribution. Each of these functions are discussed next.

### **2.4.1 Purchasing**

Krayewski and Ritzman (1998) define purchasing as the management of the acquisition process, which includes deciding which suppliers to use, negotiating contracts and deciding whether to buy locally or offshore. Over the last few decades, a large number of organizations have made a conscious effort to manage their buyer-supplier relationships. This has led to greater recognition of purchasing management as a value adding activity within some firms.

Waters (1992) argues that purchasing is often used to refer to the actual acquisition process, which has five basic steps. These are recognizing a need, selecting suppliers, placing the order, tracking the order, and receipt of ordered goods.

### **2.4.2 Materials Management**

The terms materials management and logistics are commonly and interchangeably used to describe an assortment of activities within the supply chain. Different authors have attempted to distinguish the two using the following definitions.



The Chartered Institute of Purchasing and Supply, as quoted in Lysons (1996), defines materials management as the total of all those tasks, functions, activities and routines, which concern the transfer of external materials and services into the organization and the administration of the same until they are consumed or used in the process of production, operations or sale. Materials management plays a major role in the supply chain management as it is concerned with decisions about purchasing materials and services, inventories, production levels, stuffing patterns, schedule and distribution (Krayewski and Ritzman, 1998). It is the management function that supports the complete cycle of material flow from the purchase and internal control of production materials; to the planning and control of work-in-process; to the purchasing, shipping and distribution of the finished product (Chase et al, 2001).

According to Mulcahy (1994), logistics has the same meaning as distribution. But it encompasses all activities that are required to have controlled product and information flow between two locations. The first flow pattern is between vendor location and warehouse. The second flow pattern is between vendor's warehouse and the customer's location. This controlled product and information flow maximizes the return on investment and the number of satisfied customers. Closely related to the concept is material handling which Mulchay (1994) defines as the task that involves the movement of bulk, packaged and individual goods in semi-solid or solid state by means of a human or machine and within the limits of the facility.

In conclusion, logistics and materials management can therefore be defined as having the right quantity at the right time for the right price. It is the process that incorporates all industry sectors, and manages the fruition of product life cycles and resultant efficiencies. When this is successfully done, there is improved customer satisfaction, which is a key strategic objective in any organization.

### **2.4.3 Inventory management**

Waters (1992) defines inventory as a list of items held in stock. Stock on the other hand, consists of all the goods and materials stored by an organization for the future use. Mulcahy (1994) defines warehousing as the function of storing a variety of product type that have small or large quantity of storage units between the time that the product is manufactured by your facility

(vendor) and the time that the product is required by the customer or workstation within the manufacturing facility.

Indeed, inventory management is one of the key purposes of an efficient supply chain. Stock can exist at three different levels as raw materials, work – in- process, and finished goods (Krayewski and Ritzman, 1998). Raw materials include parts and other inputs into the conversion/manufacturing process; work in progress includes all products/items within the processing stage/manufacturing line, which are not completely worked (not fully processed into finished products/items); whereas finished goods refer to products which are fully processed and ready for delivery/sale.

In the course of managing inventory, organizations encounter a number of pitfalls. Waters (1992) describes these as to include the absence of supply chain metrics, inadequate definition of customer service, inaccurate delivery status data, inefficient information systems, ignoring the impact of uncertainties, simplistic inventory stocking policies, organizational barriers, and an incomplete view of the supply chain.

#### **2.4.4 Distribution**

According to Mulcahy (1994), distribution refers to the functions of moving various products from your vendor's facility or your manufacturing workstation (where the product was manufactured) to your company's facility for storing the product, picking the product to your customer's facility or workstations in your manufacturing facility. The three critical issues in distribution are where to stock finished goods; what transportation mode to use; and how to schedule, route and select carriers.

Placement of finished goods is in two forms. These are forward placement and backward placement. Forward placement involves locating stock closer to customers at a warehouse or a distribution center (Robinson, 1998). The main advantages of this include reduced delivery times and reduced transportation costs. This is because up to the placement point, the organization is able to plan ahead and transport the goods in bulk and possibly via a cheaper mode, which ultimately reduces the total costs (Lee and Billington, 1995).

Backward placement is mostly suited where the demand is for customized products (Mulcahy, 1994). The inventory is held at the manufacturing plant or holding no stock of finished products. It's most useful when the demand in various regions may be unpredictably high in one season and low in the next. Thus, as Magretta (1998) noted, shipment of excessive inventories is therefore minimized and only optional quantities are produced / procured.

The second critical issue of distribution is selection of the transportation mode. The five basic modes of transportation are road, rail, water, pipeline and air. Providers of these services become part of a firm's supply chain (Mulcahy, 1994). However, it is important to note that priorities vary from time to time. In addition, some modes of transport can be internally owned such as a fleet of vehicles or outsourced, as is the case of independent private carriers (Van der Vorst, 2000).

## **2.5 Implementing Effective Supply Chain Management Strategies**

The primary purpose in establishing supply chains is to minimize the flow of raw materials and finished products at every point in the pipeline in order to enhance productivity and cost savings (Cohen, 1996). Successful supply chain ventures involve managing the following critical elements for parts (individual business unit, or a division/function), and/or the whole (the entire supply chain): inventory investment, supplier relationships, customer responsiveness, competitive advantage, and an enabling information technology. Each of these elements is discussed next.

### **2.5.1 Inventory Investment in the Chain**

Each constituent of the supply chain desires to hold no more than its fair share of inventory. For instance, the distributor desires fewer inventories and would like to see inventory held by the manufacturer. This system allows the inventory to be pushed back to the vendor and as a result lowers the investment and risk for the other chain members (Donovan, 1997). May (1994) notes

that this improves customer service by facilitating the customer to get the right amount of product, when and where it is needed.

### **2.5.2 Supplier Relationships**

It is important to establish strategic partnerships with suppliers for a successful supply chain. Corporations have started to limit the number of suppliers they do business with by implementing vendor review programs. These programs strive to find suppliers with operational excellence so the customer can determine which supplier is serving it better (Coyle et al., 1996). With the evolution towards a sole supplier relationship, firms need full disclosure of information such as financial performance, gain-sharing strategies, and plans for jointly designed work. They may establish a comparable culture and implement compatible forecasting and information technology systems. This is because their suppliers must be able to link electronically into the customer's system to obtain shipping details, production schedules and any other needed information (Copacino, 1996).

### **2.5.3 Customer Responsiveness**

To remain competitive, firms focus on improved supply chain efforts to enhance customer service through increased frequency of reliable product deliveries. Increasing demands on customer service levels is driving partnerships between customers and suppliers (Keller, 1995). The ability to serve their customers with higher levels of quality service, including speedier delivery of products, is vital to partnering efforts. Having a successful relationship with a supplier results in trust and the ability to be customer driven, customer intimate and customer focused (Willis, 1995).

### **2.5.4 Competitive Advantage**

Achieving and maintaining competitive advantage in an industry is not an easy undertaking for a firm (Chandra and Kumar, 2000). Attaining competitive advantage in the supply chain comes with top management support for decreased costs, waste management, and enhanced profits. However, these cost reducing tactics tend to increase the competitive efficiency of the entire supply chain (Robinson, 1998). In spite of this, the use of point of sales data and increased

efficiency of distribution also has been instrumental in improving channel power and competitive advantage (Magretta, 1998).

### **2.5.5 Supply Chain Management Solutions and Information Technology**

Information is vital to effectively operating the supply chain. The communication capability of an enterprise is enhanced by an information technology system. However, information system compatibility among trading partners can limit the capability to exchange information. An improved information technology system that is user friendly, where partners in the channel have access to common databases that are updated in real-time, is needed (Chandra and Kumar, 2000). Recent changes in information and communication technology have revolutionized the manner in which business is conducted. Most organizations have taken advantage of the ICT to enhance their operations. However, organizations that were not ready for the ICT revolution have had to put up, with numerous challenges.

## **2.6 Challenges Facing Supply Chain Management**

According to Lummus and Vokurka (1999), the growth of integrated supply chain management has been slow despite the acceptance of the concept. They pointed out that the reasons for the slow growth of integrated supply chain management include: lack of guidelines for creating alliances with supply chain partners; failure to develop measures for monitoring alliances; inability to broaden the supply chain vision beyond procurement or product distribution to encompass larger business processes; inability to integrate the company's internal procedures; lack of trust inside and outside a company; organizational resistance to the concept; lack of buy-in by top managers; and lack of integrated information systems and electronic commerce linking firms.

The basic enabler for effective Supply Chain Management is information sharing among the business partners, and advances in information technology have supported this. However, supply chain management is not free from barriers. These barriers can not only affect the enablement process, but also influence one another (Jharkharia and Shankar, 2005). These include language, distance, laws and regulations, supplier selection, lead-time, investment, erosion of domestic

supplier base, fluctuating exchange rates, bureaucracy, effect of competitive reactions by domestic suppliers, and customs clearance. The challenges are discussed next:

### **2.6.1 Language**

In terms of language, when you and the supplier do not speak the same language, you risk misunderstandings. This causes many kinds of problems, not least of which is when the supplier makes the wrong product for you, and someone has to take the loss on it. New technology is making the world smaller, especially for communications (Jharkharia and Shankar, 2005).

### **2.6.2 Distance**

The physical movement of goods, though, does not yet travel at the speed of light. In the long process of moving goods around the world, many mishaps can occur, from sinking ships, to delays caused by political unrest and missing paperwork. Distance becomes even more challenging when goods may have to be returned to the supplier for one reason or another.

### **2.6.3 Different Legal systems**

A country's legal system may differ considerably from an organization's and its suppliers'. Whenever possible, an organization has to try to get the supplier to agree to submit to the legal jurisdiction. There is a need to establish, before making agreements, how legal questions will be settled. In addition where goods may have to transit thorough another country, organizations must comply with the regulations of this country as well (Blaser, and Westbrook, 1995).

### **2.6.4 Supplier selection**

Supplier selection as highlighted by Fraser (1998) is another challenge to effective supply chain management. To find the right suppliers, and evaluate them requires a visit to facilities. For instance, when suppliers are 8,000 to 12,000 miles away, you need to plan this process properly. Furthermore, from ordering to delivering, lead-time for foreign purchases is longer simply because of the distance involved. This causes higher inventories, difficulties in obtaining quick replacements of poor quality goods, inability to get quick deliveries for unforeseen demand,

obsolescence and products arriving too late to meet demand. As a result of the distance involved in international procurement, lead times of several months are common (Davis, 1995).

### **2.6.5 Investment**

Another noted challenge is additional investment. Dealing with foreign suppliers and customers may need new tooling in terms of human resources and operational systems, in addition to what organizations may already have in place with domestic suppliers. This investment may be sound, but if anything goes wrong and supplies never materialize, an organization's investment would be lost (Krause and Ellram, 1997). Besides, Jharkharia and Shankar (2005) observed that erosion of domestic supplier base is a problem that arises when all domestic customers decide to source internationally for the same reasons at the same time. Rather quickly, domestic suppliers find that they are out of the market, and withdraw or go bankrupt.

### **2.6.6 Balancing domestic and foreign supply**

Keeping a good balance between domestic and foreign supply is tricky. Organizations are understandably tempted to give the high volume work to the foreign supplier while giving the more difficult, unprofitable work to the domestic supplier. Furthermore it is noted by Robinson (1998) that depending on a country's resource base, international purchasing may result in lower costs than the domestic purchasing. However, exchange rates between the buying and selling countries may affect these costs. Exchange rates are outside the control of both parties and to manage it effectively calls for investment in a competent treasury system.

Apart from the aforementioned, Jharkharia and Shankar (2005) pointed out that buying and selling domestically is relatively straightforward compared to doing so internationally. They noted that the additional workload includes establishing payment methods; insurance; use of import brokers; allowing for customs duties and paperwork; bills of lading; freight forwarders; import licenses; commissions to trading companies and sourcing agents. Also, just when organizations have gone through all the processes to establish their foreign sources of supply, they learn that domestic suppliers have altered their pricing to meet foreign competition. So what looked like good cost savings turns out to be no savings at all.

### **2.6.7 Customs clearance**

Customs clearance is another challenge. Jharkharia and Shankar (2005) hold that this is a stage that would not arise in local procurement and it's generally complicated by instances of incomplete and incorrect documents such as invoices, import licenses, airways bills, and bills of landing. This results into delays and other unnecessary costs. The result then is that companies may adopt a strategy of holding higher stocks in order to take into account clearance delays, and the cost of holding higher stocks may outweigh the benefits of international procurement.

### **2.6.8 Uncertainty**

Uncertainty in the supply chain is also a notable challenge. Uncertainty exists at every echelon in the supply chain (Lee and Billington, 1995). For example, upstream uncertainty can be manifested through late deliveries by suppliers or poor quality of the incoming materials and parts (Davis, 1993). Looking downstream, uncertainty takes the form of unforeseen demand variability, which in turn creates problems in planning, scheduling, and control that jeopardize delivery performance (Fisher et al., 1997). Milgate (2001) concluded that as the level of uncertainty increases, both delivery speed and reliability performance worsens.

Supply chain management is also affected by technological intricacies. Technologies have been broadly classified based on their linkages to either the product design or process structure (Chase and Aquilano, 1995), both of which have been considered in assessing and managing manufacturing complexity (Khurana, 1999). Milgate (2001) concurs with them and asserts that as the level of technological intricacy increases, delivery speed worsens.

Organizational systems also affect supply chain management in organizations. Internal organizational systems consider both the level and form of integration between different departments within an organization. In contrast, external organizational systems focus on informational, product and service transactions and relationships with other organizations. As the firm becomes more vertically integrated, the complexity of external organizational systems is reduced, while internal systems must increase, ideally to a lesser degree. In addition, as the global reach of a supply chain expands, the organizational systems needed to manage across



different cultures and languages; technical standards, regulatory requirements and geographic distances must become increasingly heterogeneous (Daft, 1995). In relation to this, as the complexity of organizational systems increases, delivery speed worsens (Milgate, 2001).

### **2.6.9 Complexity**

Another challenge facing supply chain management is complexity in an international context. General differences often exist between countries in the availability of information technology, development of infrastructure, consistency of suppliers' standards and availability of skilled labour. All these have implications for management of the supply chain (Simchi-Levy et al., 2000).

This section has outlined various academic and practical aspects of Supply Chain Management within an organizational setup. Various issues covered include the definition, philosophies, structure and dynamics of Supply Chain Management, role of Supply Chain Management in an organization as well as various challenges in effective implementation and management of Supply Chain Management in an organization.

## **2.7 Recap**

As outlined in the literature review, to balance customers' demands with the need for profitable growth, many firms have moved aggressively to improve Supply Chain Management. Their channel integration efforts have focused on organizational structures and associated relationships; supply chain coordination; inter- and intra-enterprise communication; sourcing; manufacturing orientation; inventory and cost management.

However, as argued by the various authors, an integrated SCM is characterized by a slow growth in organizations. The reasons attributed to this include: lack of guidelines for creating alliances with supply chain partners; failure to develop measures for monitoring alliances; inability to broaden the supply chain vision beyond procurement or product distribution to encompass larger business processes; inability to integrate the company's internal procedures; lack of trust inside and outside a company; organizational resistance to the concept; lack of buy-in by top managers;

and lack of integrated information systems and electronic commerce linking firms. It is from this background that the current study seeks to establish the status of the practice of supply chain management and the ensuing challenges facing UNICEF KCO in managing its supply chain.

This study focused on the level of orders compared to the storage capacity, release of excess inventory back to vendor and the release of safety stock from the warehouse as indicators of inventory management. On the aspect of relationships with suppliers, the study focused on areas of accurate documentation and surcharges, timeliness and completeness of deliveries. The responsiveness of the organization of study to the end-user requirements were reviewed, focusing on the timeliness, quality and quantity of the supplies. The use of ICT across the supply chain was evaluated using the data availability, synchronization with actual needs and the user-friendliness of the ICT systems.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The study was exploratory in nature, using a case study research design. A Case Study involves a careful and complete examination of a social unit, institution, organization family, cultural group or an entire community and embraces depth rather than breath of a study (Kothari, 1990). In this case the study involved a humanitarian institution.

The study took an exploratory perspective arising from the researcher's observation that little research has taken place in this region, with respect to the practice of Supply Chain Management. Further, the study focused on a single organization as the unit of study, thus a case study design approach. However, a survey of the entire organizations' staff was undertaken.

#### **3.2 Population**

The study population comprised all staff members in UNICEF KCO. At the time of study, there were a total of 182 employees. They were categorized as senior management, international and local professional specialists, semi-professional staff and general support staff.

#### **3.3 Sampling**

In sampling, a sample size of at least 30 respondents is considered to be large and reasonably adequate, hence a good reference point in determining a reasonable sample size. Taking into consideration low response rate and other hurdles (technical, financial, and time) generally reported in research, the current study targeted 25 percent of the study population, hence a sample size of 46 employees. This sample size accommodated the non-responses.

To obtain the said sample size, and given the different categories of staff at UNICEF, proportional stratified random sampling technique was used. Thus the final sample was comprised of 46 staff members selected randomly from the various categories as stipulated in

Table 3.3.1. The selection of respondents was based on the understanding that they were either directly or indirectly involved in the supply chain. It is worthwhile to note that the sample did not include auxiliary staff (cleaners and messengers) because these services were outsourced. As such, this level of staff was not involved directly or indirectly in UNICEF KCOs' supply chain management.

**Table 3.3.1: Sample size by stratified sampling**

Category	No of employees	Target sample (25% of category)
Senior Management (P4 and above ,NO-D)	12	3
International professionals (P2 - P3)	16	4
National professionals (NO-B to NO-C)	39	10
Semi- professional staff (GS6- NO-A)	42	11
General staff (GS 5 and below)	73	18
<b>Total</b>	<b>182</b>	<b>46</b>

### 3.4 Data Collection

The research relied on primary data, collected through questionnaires. Questionnaires were administered on the randomly selected employees directly by the researcher, thus face-to-face interviews were conducted. However, where face to face interview was not possible with a respondent, the questionnaire was dropped and picked later.

The questionnaire was divided into three parts. Part A was designed to collect general information about the respondents. Part B had 5-point Likert scale questions to collect data on the various aspects of Supply Chain Management; whereas part C focused on the challenges faced by UNICEF KCO in managing its Supply Chain.

### 3.5 Data Analysis

Descriptive statistics, in particular frequency tables, the mean, and standard deviation were used in analyzing the data. Frequency tables were been used to classify the respondents according to their employment category. This has been captured as depicted in Table 3.5.1.

**Table 3.5.1: Frequency table showing respondents' stratification**

	Category	Target respondents	No. of respondents (n)	Proportion of respondents as a % of total respondents
1	Senior Management	3		
2	International professionals	4		
3	National professionals	10		
4	Semi professional staff	11		
5	General staff	18		
	Total	46		

The final stratification compiled in the table was used to describe the sample, upon which the analysis of Supply Chain Management practice at UNICEF was based.

Frequency tables were also generated in order to determine level of application / existence of the various aspects in the Supply Chain Management such as inventory management, supplier operations, organizational focus in Supply Chain Management, use of IT and various challenges as highlighted in Questions 6, 7, 8, 9 and 10 of the questionnaire. Table 3.5.2 shows a dummy frequency table for the analysis.

**Table 3.5.2: Dummy frequency table to be used to report frequency of scores on the various aspects of Supply Chain Management**

Characteristic of interest	Mean score	Standard Deviation	Total respondents	5	4	3	2	1
Order exceeds storage capacity				n (%)	n (%)	n (%)	n (%)	n (%)
Timely delivery				n (%)	n (%)	n (%)	n (%)	n (%)
-				-	-	-	-	-
-				-	-	-	-	-
-				-	-	-	-	-

where n represents the number of respondents indicating a particular score (as per scale provided), and (%) represents the percentage of respondents in favour of a particular score.

The mean and standard deviation were used to describe the overall rating of various aspects in Supply Chain Management practices. For instance, the mean score obtained on provision of quality products (Question 8.3) was be used to rate the general scoring (average) whereas the

standard deviation was used to measure the variability of the scoring obtained. These measures were summarized as in Table 3.5.2. These measures were obtained as described below:

Mean ( $\bar{x}$ ) = (sum of all scores on a concept /No. of respondents). In mathematical notation:

$$\bar{x} = \frac{\sum x}{n}$$

where x is the score on an aspect and n is the sample size

A mean score of 5 is considered to be showing that the aspect of interest such as provision of quality products, is being practiced to a very great extent in UNICEF KCO. A mean score of one (1) would imply that the aspect has not been practiced at all.

Standard deviation (in mathematical notation):

$$S = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

where x is individual score on an aspect,  $\bar{x}$  is the mean score of the concept and n is the sample size.

The standard deviation would show the variation of the scores obtained on the aspect from the mean, thus providing some indication on how far off the practice may be in practice from the general average.

Correlation analysis was performed to establish if indeed any relationships exist amongst the respondents' scores on the various characteristics of Supply Chain Management; for instance, the relationship between orders exceeding storage capacity and timely delivery scores. This was tabulated in a correlation table as shown in Table 3.5.3.

**Table 3.5.3: Correlation table for the various aspects of Supply Chain Management**

Characteristic	Correlation value on various characteristics						
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	.	.	.	X <sub>n</sub>
X <sub>1</sub>	Cor (X <sub>i</sub> , X <sub>j</sub> )						
X <sub>2</sub>							
.							
X <sub>n</sub>							

where X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub> ..... X<sub>n</sub> represents the various aspects of Supply Chain Management, and Cor (X<sub>i</sub>, X<sub>j</sub>) represents the correlation score obtained.

Correlation analysis results assist in the understanding of the status of Supply Chain Management, hence fulfilling objective one.

Factor analysis was used to analyze and categorize various challenges facing UNICEF in its efforts to manage the Supply Chain based on the responses obtained from Question No. 10. Factor analysis entails reduction of a large number of variables by grouping them into categories, referred to as factors, using their measures of association while maintaining a reasonable indication of the variables.

The challenges that were evaluated through the questionnaire and analyzed in the data analysis are listed in Table 3.5.4.

**Table 3.5.4: Challenges in SCM**

1. Lack of guidelines for creating alliances	13. Erosion of domestic supplier base
2. Lack of measures to monitor alliances	14. Unforeseen demand variability
3. A narrow supply chain vision	15. Technological intricacies
4. Disintegrated internal procedures	16. Availability of skilled labour
5. Lack of trust in partners	17. Late deliveries from suppliers
6. Organizational resistance	18. Partial deliveries
7. Lack of ownership of SCM	19. Poor quality of products
8. Lack of integrated information systems	20. Lobbying for particular suppliers
9. Language in use	21. High storage costs
10. Laws and regulations	22. Obsolescence of stock
11. Fluctuating exchange rates	23. Rigidity of policies
12. Organizational systems	

For ease of data analysis, both Microsoft Excel and Statistical Package for Social Science (SPSS Version 11.0) were used.

## CHAPTER FOUR

### RESEARCH FINDINGS

This chapter focuses on the study findings. Thirty six (36) questionnaires were completed. This is 79% response rate. The distribution of the respondents by categories is shown in Table 4.1.

*Table 4.1 Respondents by categories*

	Category	Target respondents	No. of respondents (n)	Proportion of respondents as a % of target respondents
1	Senior Management	3	3	100%
2	International professionals	4	3	75%
3	National professionals	10	7	70%
4	Semi professional staff	11	11	100%
5	General staff	18	12	67%
Total		46	36	79%

Although the results show that all categories responded to the questionnaire, senior management and semi professional staff had the highest response rate at 100%. The lowest response rate was from the general staff at 67%.

A summary of the respondents' number of years of employment in UNICEF, and in the current position is shown in Table 4.2.

*Table 4.2 Summary respondents' length of employment*

Duration of Employment	Minimum	Maximum	Mean	Std. Deviation	n
Tenure in the organization	1	18	8.22	4.776	36
Tenure in the position	1	15	5.15	3.837	36

Study results indicate the average stay in the organization (mean = 8.2 years) as longer than average period in which the various respondents have been in their current positions (mean = 5.15 years). This implies that the respondents have been with the organization for reasonably long period, with some occupying different positions during the period.



The study was formulated with two objectives: to document the status of the practice of Supply Chain Management at UNICEF KCO and to determine the challenges faced. The study findings are presented next.

#### 4.1 Status of the practice of SCM at UNICEF KCO

The level of satisfaction by respondents towards the organization's approach to supply chain management is summarized in Table 4.3

*Table 4.3: Respondents' satisfaction towards UNICEF- KCO's approach to SCM*

<b>Embrace SCM?</b>	<b>No. of respondents</b>	<b>Unsatisfied</b>	<b>Satisfied</b>	<b>Highly satisfied</b>
Yes	34 (95%)	10(28%)	23(64%)	1 (3%)
No	3 (5%)	0 (0%)	0 (0%)	0 (0%)
Total	36			

The results indicate that majority of the respondents (95%) acknowledge that the organization embraces supply chain management. 5% of the respondents did not give a definite answer to this question. However, the level of satisfaction with the approach to SCM in UNICEF KCO was average with 67% of the respondents satisfied, 3% being 'highly satisfied' and 28% of the respondents were unsatisfied.

Analysis of the scores on respondents' opinion on occurrence of the various aspects characteristics of the SCM chain is provided sections 4.1.1 to 4.1.5.

##### 4.1.1 Management of inventory in the supply chain.

The frequencies (numbers and percentages) the responses on occurrence of the various aspects of inventory management are summarized in Table 4.1.1a:

*Table 4.1.1 (a): Summary frequency of responses on Inventory Management*

<b>Nature of supply inventory management</b>	<b>Not at all (1)</b>	<b>Little Extent (2)</b>	<b>Some Extent(3)</b>	<b>Large extent (4)</b>	<b>Very large extent (5)</b>	<b>Total (count)</b>
Orders exceed storage capacity	8 (22.9%)	5 (14.3%)	5 (14.3%)	7 (20.0%)	10 (28.6%)	35
Releases safety stock	2 (6.1%)	8 (24.2%)	17 (51.5%)	3 (9.1%)	3 (9.1%)	35
Allows excess inventory back to vendor	24 (72.7%)	5 (15.2%)	2 (6.1%)		2 (6.1%)	33

The results show that some of the respondents did not answer the questions relating to Inventory management. 62.9% of the respondent indicated that orders do exceed storage capacity, with 28.6% indicating that this occurs to a very large extent. In addition, 69.7% feel that buffer stock is usually released for some items. 72.7% of the respondents indicated that excess stock is not returned to the supplier at all. Only 12.2% of the respondents indicated that excess stock is returned to the supplier.

Table 4.1.1(b) provides the summary statistics for the management of inventory in the supply chain by UNICEF-KCO.

**Table 4.1.1(b): Summary statistics for the management of the supply chain**

<b>Nature of supply investment management</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>n</b>
Orders exceed storage capacity	3.17	1.562	35
Releases safety stock	2.91	.980	33
Allows excesses inventory back to vendor	1.52	1.064	33

A mean of 3.17 and a standard deviation of 1.562 indicate that many situations arise whereby the orders exceed the storage capacity of the organization. The results show that rarely is the excess stock allowed back to vendor; at a mean of 1.52 and standard deviation of 1.064. The mean of 2.91 and a standard deviation below 1 indicates that most respondents are of the opinion that safety stock is released in many cases.

#### **4.1.2 Establishment of supplier relationships**

Table 4.1.2(a) depicts the frequency scores (and percentage of respondents) for the various supply chain characteristics supportive of the supplier relationship.

**Table 4.1.2(a): Frequencies for responses related to supplier relationships**

Supply chain characteristic	Not at all (1)	Little Extent (2)	Some extent (3)	Large extent (4)	Very large extent (5)	Total
i. Provides correct transaction code			5 (13.9%)	17 (47.2%)	14 (38.95)	36
ii. Orders picked correctly		1 (2.8%)	11 (30.6%)	15 (41.7%)	9 (25.0%)	36
iii. Documents are complete & accurate		2 (5.6%)	11 (30.6%)	16 (44.4%)	7 (19.4%)	36
iv. Timely delivery	1 (2.8%)	13 (36.1%)	17 (47.2%)	4 (11.1%)	1 (2.8%)	36
v. Shipment not damaged		3 (8.3%)	8 (22.2%)	19 (52.8%)	6 (16.7%)	36
vi. Accurate invoices			9 (25.0%)	17 (47.2%)	10 (27.8%)	36
vii. Accurate surcharges	7 (19.4%)	7 (19.45)	8 (22.2%)	11 (30.6%)	3 (8.3%)	36
viii. No errors in payment processing	1 (2.8%)	1 (2.8%)	8 (22.2%)	15 (41.7%)	11 (30.6%)	36

The results show that all the respondents were of the opinion that transactions are coded correctly across the supply chain. In addition, 97.3% of the respondents agreed that orders are picked correctly and 94.4% agreed that documents are complete and accurate. On the other hand, some aspects had low score, indicating unsatisfactory performance. For instance, only 61.1% of the respondents agreed that there is timely delivery and 61.1% indicated that accurate surcharges are imposed.

Table 4.1.2(b) shows the summary statistics on extent to which the current supply chain system supports the supplier relationships.

**Table 4.1.2 (b): SCM characteristics supportive of supplier relationships**

Characteristics of the supply chain	Mean	Std. Deviation	n
i. Provides correct transaction code	4.25	0.692	36
ii. Accurate invoices	4.03	0.736	36
iii. No errors in payment processing	3.94	0.955	36
iv. Order picked correctly	3.89	0.820	36
v. Shipment not damaged	3.78	0.832	36
vi. Documents are complete & accurate	3.78	0.832	36
vii. Accurate surcharges	2.89	1.282	36
viii. Timely delivery	2.75	0.806	36

The results further indicated poor scores on ‘accurate surcharges’ (mean score 2.89) and ‘timeliness of deliveries’ (mean score 2.75). All the other characteristics had a favourable mean score of above 3.

#### 4.1.3 Responsiveness of the organization to the beneficiaries.

The current study sought to evaluate the extent to which the staff of UNICEF KCO felt the supply chain meets the needs of the end users (customers/ beneficiaries). The actual number (and percentage) of respondents indicating each level of ranking of the various aspects evaluated are provided in Table 4.1.3.

**Table 4.1.3 (a): Respondent ranking of the various SCM activities chain to end- user needs**

Supply chain characteristic	Little extent (2)	Some extent (3)	Large extent (4)	Very large extent (5)	Total
i. Provides correct transaction code	8 (22.2%)	16 (44.4%)	6 (16.7%)	6 (16.7%)	36
ii. Orders picked correctly	4 (11.1%)	11 (30.6%)	14 (38.9%)	7 (19.4%)	36
iii. Documents are complete & accurate	4 (11.1%)	9 (25.0%)	15 (41.7%)	8 (22.2%)	36
iv. Timely delivery	5 (13.9%)	6 (16.7%)	15 (41.7%)	10 (27.8%)	36
v. Shipment not damaged	8 (22.2%)	15 (41.7%)	10 (27.8%)	3 (8.3%)	36

From the results above, over 78% of the respondents agreed that the correct transaction codes are provided. The correct picking of orders was supported by over 88% of the respondents who agreed that documentation across the supply chain is complete and accurate, 86% of the respondents agreed that deliveries are made in a timely manner and 22% of the respondents felt the shipments are damaged before they reach the end-user.

The mean scores and standard deviation for the various dimensions of interest to end users are provided in Table 4.1.3. (b)

**Table 4.1.3(b): Descriptive measures for supply chain end user dimensions of interest**

Dimension of interest to end users	Mean	Std. Deviation	n
i. Shares technical information	3.83	1.000	36
ii. Provides required quality	3.75	0.937	36
iii. Provides products in needed quantities	3.67	0.926	36
iv. Ensures timely delivery of services	3.28	1.003	36
v. Avails needed items	3.22	0.898	36

The results indicate average performance with respect to the aspects evaluated (mean score of 3). The particular aspects are arranged in the descending order of the mean score. For instance, the respondents felt that the supply chain provided for 'sharing of technical information' (mean score =3.83) more than 'the availability of items needed' (mean score=3.22).

#### 4.1.4 Use of ICT in SCM

The responses to questions on the use of ICT are summarized in Table 4.1.4(a).

**Table 4.1.4(a): Frequency table for use of ICT in SCM at UNICEF KCO**

ICT usage aspect	Little extent (2)	Some extent (3)	Large extent (4)	Very large extent (5)	Total
i. Avails data cross the supply chain	2 (5.6%)	13 (36.1%)	11 (30.6%)	10 (27.8%)	36
ii. Uses technology in usable format	4 (11.1%)	11 (30.6%)	9 (25.0%)	12 (33.3%)	36
iii. Synchronizes orders with final demand	5 (13.9%)	17 (47.2%)	9 (25.0%)	5 (13.9%)	36

The results in Table 4.1.4 show that in each of the aspects, only less than 14% rated the use of ICT across the supply chain negatively. More specifically, over 94% of the respondents agreed that ICT has enabled the availability of data across the supply chain. 88% of the respondents agreed that the ICT formats applied are user friendly, while over 86% agreed that the orders are easily synchronized with demand due to use of ICT.

Table 4.1.4(b) shows the descriptive measures for the perception of UNICEF staff in view of the use of ICT in the organization supply chain.

**Table 4.1.4 (b): Descriptive statistics for use of ICT in SCM**

ICT usage aspect	Mean	Std. Deviation	Total
i. Avails date across the supply chain	3.81	0.920	36
ii. Uses technology in usable format	3.81	1.037	36
iii. Synchronizes orders with final demand	3.39	0.903	36

The results indicate that all aspects to do with the use of ICT have a mean score of above 3. In addition, two of the aspects evaluated have a standard deviation of less than one while the third aspect has a standard deviation of 1.037, which can be rounded off to 1. The results thus indicate overall agreement by the respondents on the use of ICT in facilitating SCM.

**4.1.5 Correlation analysis between various aspects of SCM.**

The various characteristics of the supply chain were subjected to correlation analysis. The correlation coefficients for the various characteristics are as shown in the Table 4.1.5.a.

**Table 4.1.5 (a): Correlation coefficients for the various supply chain characteristics**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
A	1																		
B	0.009	1																	
C	-0.278	0.228	1																
D	0.017	-0.061	0.234	1															
E	0.219	-0.088	0.193	0.654 (**)	1														
F	0.243	0.043	0.004	0.546 (**)	0.507 (**)	1													
G	-0.224	-0.106	0.323	-0.038	0.086	0.043	1												
H	0.209	0.062	0.021	0.248	0.381 (*)	0.339 (*)	0.043	1											
I	0.043	0.188	-0.185	0.21	0.005	0.104	-0.036	0.384 (*)	1										
J	-0.444 (**)	0.242	0.173	0	-0.066	-0.077	0.083	-0.158	0.276	1									
K	0.089	0.121	0.124	0.325	0.430 (**)	0.452 (**)	0.278	0.272	0.124	0.228	1								
L	-0.235	0.15	0.202	0.0620	0.143	0.076	0.512 (**)	-0.061	-0.088	0.313	0.255	1							
M	-0.14	0.031	0.132	0.134	0.326	0.272	0.345 (*)	0.124	0.056	0.233	0.269	0.501 (**)	1						
N	-0.009	0.037	-0.057	0.408 (*)	0.446 (**)	0.476 (**)	0.18	0.183	0.259	0.095	0.431 (**)	0.501 (**)	0.494 (**)	1					
O	0.001	0.292	-0.126	0.062	-0.058	0.126	-0.124	-0.046	0.395 (*)	0.275	0.349 (*)	0.19	0.247	0.472 (**)	1				
P	0.163	0.023	-0.069	0.092	0.073	0.068	-0.158	0.03	0.206	-0.028	-0.219	0.31	0.367 (*)	0.306	0.392 (*)	1			
Q	0.125	0.324	-0.076	0.213	0.235	0.017	-0.144	0.166	0.303	0.126	-0.013	0.06	0.123	0.141	0.15	0.261	1		
R	-0.068	0.331	-0.069	0.189	0.041	-0.018	-0.026	0.048	0.232	0.177	-0.098	0.328	0.198	0.125	0.271	0.539 (**)	0.648 (**)	1	
S	0.18	0.189	0.194	0.297	0.446 (**)	0.308	0.098	0.08	0.198	0.211	0.191	0.193	0.194	0.253	0.232	0.243	0.472 (**)	0.449 (**)	1

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

\* Correlation is significant at the 0.05 level (2-tailed)

Key		
a) Orders exceed Storage capacity	g) Time delivery	m) Provides products in needed quantities
b) Releases safety stock	h) Shipment not damaged	n) Provides required quality
c) Allows excess inventory back to vender	i) Accurate invoices	o) Shares technical information
d) Provides correct transaction code	j) Accurate Surcharges	p) Avails needed items
e) Orders picked correctly	k) No errors in payment processing	q) Avails data
f) Documents are complete and accurate	l) Ensures timely delivery of services	r) Uses technology in usable format
		s) Synchronizes orders with demand

The results indicate existence of significant relationships at either 95% or 99% level of confidence. Few of the relationships were negative while most were positive. Statistically significant negative relationship was reported for 'orders exceed storage capacity' and 'accurate surcharges'. Statistically significant positive relationships reported are summarized in Table 4.1.5 (b)

**Table 4.1.5b: Summary of statistically significant positive relationships in SCM characteristics.**

Provides correct transaction code & orders picked correctly	Documents are complete and accurate & no errors in payment processing	Ensures timely delivery of services & provides required quality
Provides correct transaction code & documents are complete and accurate	Documents are complete and accurate & provide required quality.	Provides products in needed quantities & provides requites quality.
Provides correct transaction code & provides required quality	Timely delivery & accurate invoices	Provides products in needed quantities & avails needed items
Orders picked correctly & documents are complete and accurate	Timely delivery& provides products in needed qualities	Provides required quality & chares technical information
Orders picked correctly & shipment not damaged	Shipment not damaged & accurate invoices	Shares technical information & avails needed items.
Orders picked correctly & No errors in payment processing	Ensured timely delivery of services & accurate invoices	Avails needed items & uses technology in usable format
Orders picked correctly & provides required quality	No errors in payment processing & provides required quality	Avails data & uses technology in usable format
Orders picked correctly & synchronizes orders with demand	No errors in payment processing & no errors in payment processing	Avails data & synchronizes orders with demand
Document are complete and accurate & shipment not damaged	Ensures timely delivery of services & provides products in needed quantities	Uses technology in usable format & synchronizes orders with demand.

The results indicate that there exists significant interrelationships between various aspects of the practice of SCM at UNICEF KCO thus the aspects influence each other within the SCM. Hence for successful use of the SCM, there is need to focus on all the aspects of the SCM, paying particular attention on the ‘cause and effect’ relationships between them.

#### 4.2: Challenges facing UNICEF KCO in the management of its supply chain

The various challenges as identified by the respondents are summarized in Table 4.2.1, with the listing arranged in descending order of the mean score.

**Table 4.2 1: Rating of Challenges facing SCM at UNICEF – KCO.**

Challenges	Mean	Std. Deviation	n
1. High storage costs	3.74	1.268	35
2. Lobbying for particular suppliers	3.65	1.300	34
3. Obsolescence of stock	3.58	1.131	36
4. Fluctuating exchange rates	3.53	1.183	36
5. Late deliveries for supplies	3.50	.845	36
6. Rigidity of policies	3.44	1.021	34
7. Unforeseen demand variability	3.42	1.052	36
8. Lack of measures	3.28	1.085	36
9. Organizational systems	3.11	1.105	35
10. Lack of trust	3.11	1.237	36
11. Lack of ownership of SCM	3.09	1.311	34
12. Narrow vision	3.03	1.200	35
13. Lack of guidelines for alliances	3.00	1.265	36
14. Erosion of domestic supplier base	2.97	1.230	36
15. Partial deliveries	2.94	1.013	36
16. Laws & regulations	2.94	1.472	36
17. Organizational resistance	2.86	1.018	36
18. Disintegrated internal procedures	2.77	.942	35
19. Poor quality of products	2.72	1.059	36
20. Technological intricacies	2.50	1.000	36
21. Lack of integrated IS system	2.34	1.211	35
22. Availability of skilled labour	2.11	1.116	36
23. Language in use	1.69	1.167	36

As shown in Table 4.2.1, the most significant challenge was identified as ‘high storage costs’ (mean =3.74) whereas ‘language in use’ (mean =1.69) was identified as the least challenging of all.

A further attempt was made to classify the challenges into fewer categories using factor analysis. A summary of the factor loadings are provided in Table 4.2.2.



**Table 4.2 2: Eigen values for the various challenges to the SCM at UNICEF - KCO**

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of squared loadings		
	Total	% of variance	Cumulative %	Total	%of variance	Cumulative %	Total	% of variance	Cumulative %
1	6.357	27.638	27.638	6.357	27.638	27.638	3.715	16.151	16.151
2	2.580	11.217	38.855	2.580	11.217	38.855	3.155	13.717	29.868
3	2.282	9.922	48.777	2.282	9.922	48.777	2.267	9.855	39.723
4	1.779	7.735	56.512	1.779	7.735	56.512	2.118	9.208	48.931
5	1.497	6.510	63.022	1.497	6.510	63.022	1.973	8.578	57.509
6	1.210	5.260	68.282	1.210	5.260	68.282	1.885	8.197	65.706
7	1.109	4.820	73.103	1.109	4.820	73.103	1.701	7.397	73.103
8	.980	4.261	77.364						
9	.909	3.953	81.317						
10	.794	3.450	84.767						
11	.585	2.545	87.311						
12	.539	2.345	89.657						
13	.455	1.979	91.636						
14	.445	1.934	93.569						
15	.314	1.366	94.935						
16	.296	1.287	96.222						
17	.231	1.005	97.227						
18	.157	.685	97.911						
19	.156	.676	98.587						
20	.121	.528	99.115						
21	.105	.455	99.570						
22	.060	.259	99.829						
23	.039	.171	100.000						

Table 4.2.2, sometimes referred to as ‘Total variance table’, shows the variance of the 23 variables, the percentage of variance attributable to each challenge and the cumulative variance of all factors. Principal component analysis was used and it extracted 7 orthogonal and independent principle challenges/factors, which account for 73.1% of the 23 variables (challenges) evaluated. These principle components have Eigen value (measure of variance) greater than 1, thus deemed significant.

Table 4.2.3 indicates rotated component matrix, which was used to extract the various components for each of the identified 7 principle factors. This matrix shows the loadings of the 23 factors on the seven factors extracted. The higher the absolute value of the variable loading, the more that variable contributes to the factor.

**Table 4.2.3 Rotated Component Matrix:**

<b>Challenge</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Lack of guidelines for a alliances	0.826	-0.118	0.108	0.066	-0.132	-0.299	0.106
Lack of measures	0.79	0.321	0.323	-0.103	-0.046	0.178	0.095
Availability of skilled labour	<b>0.73</b>	0.006	-0.024	0.065	0.203	-0.014	-0.017
Language in use	<b>0.662</b>	0.067	-0.324	0.492	0.102	0.05	0.161
Narrow vision	<b>0.64</b>	0.26	0.369	-0.153	0.146	0.388	0.072
Laws & regulations	<b>0.586</b>	0.423	0.224	0.254	0.144	0.199	0.025
Lack of ownership of SCM	<b>0.512</b>	0.031	0.312	0.057	0.34	0.37	0.233
Lobbying for par suppliers	0.094	<b>0.856</b>	0.205	-0.003	0.067	0.039	-0.118
Late deliveries for supplies	0.081	<b>0.723</b>	0.066	0.06	0.052	0.151	0.205
High storage costs	-0.151	<b>0.623</b>	-0.029	0.023	-0.148	-0.256	0.483
Org. Resistance	0.203	<b>0.526</b>	0.334	0.131	0.081	0.377	0.055
Fluctuating exchange rates	0.253	<b>0.494</b>	-0.02	-0.04	0.475	-0.111	0.041
Lack of trust	0.138	0.351	<b>0.794</b>	0.151	-0.003	0.147	0.047
Erosion of domestic supplier base	0.212	0.102	<b>0.738</b>	-0.001	0.294	0.084	0.21
Poor quality of products	-0.209	0.284	-0.18	<b>0.738</b>	-0.138	0.157	0.117
Lack of integrated IS systems	0.191	-0.116	0.22	<b>0.736</b>	-0.13	0.11	-0.071
Partial deliveries	0.149	-0.382	0.027	<b>0.514</b>	0.508	-0.133	-0.01
Organizational systems	0.191	0.283	0.12	<b>0.473</b>	0.112	0.25	0.317
Unforeseen demand variability	0.032	0.093	0.156	-0.168	<b>0.857</b>	-0.05	0.075
Disintegrated internal procedures	-0.058	0.046	0.135	0.255	-0.211	<b>0.811</b>	0.127
Technological intricacies	0.146	0.378	-0.491	0.207	0.393	<b>0.444</b>	-0.002
Obsolescence of stock	0.191	0.11	0.206	0.084	0.38	-0.081	<b>0.759</b>
Rigidity of policies	0.11	0.047	0.059	0.041	-0.114	0.425	<b>0.733</b>

Extraction Method: Principal Component Analysis.  
Rotational Method: Varimax with Kaiser Normalization.  
Rotational converged in 16 iterations.

The distribution of the various challenges amongst the seven identified factors, their extraction correlation coefficient, the factor loading (Eigen values) and the percentage of challenges accounted for the factors are summarized in Table 4.2.4.

**Table 4.2.4 Categories of Challenges**

Serial	Challenges	Extraction correlation coefficient	Eigen value	Percentage of variance experienced
	<b>Category one:</b>			
1	lack of guidelines for alliances	0.826	3.715	16.151
2	lack of measures	0.79		
3	narrow vision	0.64		
4	Language in use	0.662		
5	Laws & regulations	0.586		
6	Availability of skilled labour	0.73		
7	Lack of ownership of SCM	.512		
	<b>Category two</b>			
8	Lobbying for particular suppliers	0.856	3.155	13.717
9	Late deliveries for supplies	0.723		
10	High storage costs	0.623		
11	Organization resistance	0.526		
12	Fluctuating exchange rates	0.494		
	<b>Category three</b>			
13	Lack of trust	0.794	2.267	9.855
14	Erosion of domestic supplier base	0.738		
	<b>Category four</b>			
15	Poor quality of products	0.738	2.118	9.208
16	Lack of integrated IS system	0.736		
17	Partial deliveries	0.514		
18	Organizational systems	0.473		
	<b>Category five</b>			
19	Unforeseen demand variability	0.857	1.973	8.578
	<b>Category six</b>			
20	Disintegrated internal procedures	0.811	1.885	8.197
21	Technological intricacies	0.444		
	<b>Category seven</b>			
22	Obsolescence of stock	0.759	1.701	7.397
23	Rigidity of policies	0.733		

The results indicate the categories of the various challenges, and their respective contribution to overall factors. However, it is not easy to clearly outline the salient features of the identified factors as the component variables are diverse in nature and context. As such, further evaluation of the challenges needs be undertaken.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

This chapter presents the summary, discussions and conclusions for the research findings, in line with the objective of the study. In addition, suggestions for further research, limitations encountered and recommendations based on the findings are also outlined in this chapter.

#### **5.1 Conclusion**

The objectives of this study were to determine the status of the practice of Supply Chain Management at UNICEF KCO and secondly to determine the challenges facing UNICEF KCO in managing its supply chain.

It was noted from the research data analyzed that most staff have been in UNICEF KCO reasonably long, implying that they are well knowledgeable of the practice of SCM within UNICEF KCO, by virtue of their experience. Of these respondents, only 66% were satisfied with the overall practice and 3% were highly satisfied. It would be useful for management to research further, as to why the 31% were dissatisfied and then seek to improve any areas of concern.

Various aspects of inventory management varied in their rating, with 'orders exceed storage capacity' at a mean of 3.17 and a standard deviation of 1.562. This means that generally, the orders do exceed the storage capacity according to most of the respondents. However, some respondents were far from this mean implying that they do not consider this as an issue since there is ready warehousing at an added cost. The lower mean (1.52) on whether excess inventory is returned to supplier implies that this occurs less than the order exceeding storage capacity, a statement that more respondents agreed to, with a standard deviation of 1.064.

In relation to supplier relationships, the results indicated that only two aspects that had a mean of less than 3, these being the accurate surcharges and timely deliveries. These aspects need greatest improvement in the supplier relationships context.

The results also indicated that the end-user needs are usually met since the response had a mean of 3 and above for each of the aspects evaluated such as providing required quantities, quality and timely deliveries.

The use of ICT across the SCM was also very well scored with means to all the related aspects being above 3 and the standard deviations being below 1, except the user-friendliness of formats which had a standard deviation of 1.037. This implies that management should focus on this aspect more than any other aspect evaluated in this study, when seeking to improve ICT across the supply chain.

The correlation results indicated that each of the supply chain aspects evaluated are related in practice and actually have positive relationships amongst them. This means that some key basic activities can be improved and this would automatically cause an improvement in other factors, all other factors being constant.

The challenges that came out as most weighty from the study findings are high storage costs, lobbying for particular suppliers, obsolescence of stock, fluctuating exchange rates, late deliveries by suppliers, rigidity of policies and unforeseen demand variability. These issues require deeper review by the management.

## **5.2 Recommendations**

From the findings, there is need to improve the SCM practice at UNICEF KCO in regard to warehousing and inventory management. Systems should be enhanced to have optimal balances of stock in the warehouse. This would reduce warehousing costs and ensure that buffer stocks are maintained at all times. The challenges highlighted indicate that there are high storage costs which need to be controlled. The findings also highlighted that buffer stock is often issued out and there are cases where required items are not available.

The supplier relationships also need to be closely monitored to ensure that deliveries are done on time and quality issues are addressed. Suppliers should be surcharged for late deliveries and any excess stocks should be returned to them rather than keeping high stocks which in some cases

become obsolete. Controls need to be enhanced to ensure that lobbying of particular suppliers is discouraged as this contributes to the lack of surcharges and poor quality and late deliveries.

The ICT systems require to be checked further with an objective of making them more user-friendly. Some staff noted that although the computerized systems exist, some are not easy to use.

A higher level of planning across the country office would be useful in addressing the challenge that is faced relating to unforeseen demand variability. This challenge significantly contributes to other factors such as lack of required items, excessive storage while attempting to avoid stock-outs and hence high storage costs.

### **5.3 Limitations of the study**

A number of limitations were encountered during the study, some of which included time constraints, synchronizing the timing schedules of respondents and lack of understanding of study subject by some respondents.

The nature of work at UNICEF generally includes significant amount of traveling to various project sites, conducting and attending workshops to strengthen capacities of other stakeholders, dealing with various humanitarian emergencies, with the schedules for each staff differing based on their project locations and priorities. This causes some challenge in collecting data.

In addition, some of the respondents were not very conversant with the topic of study. In such cases, it was imperative to spend more time to first explain the purpose and the context of the study and then review each part of the questionnaire in relation to the actual work circumstances.

#### **5.4 Suggestions for further research**

This study has described the practice of supply chain management in UNICEF KCO and the challenges associated to the practice.

Other areas of study should include other country offices in the region as this would help to highlight the particular practices and challenges that cut across the offices and hence could be related to the overall structure of UNICEF globally rather than Kenya as a country office.

The other suggested area of study is similar UN agencies within Kenya such as World Food Programmed who have elaborate supply chains due to the nature of their work. This would serve as a good basis of comparing the findings and highlighting the areas that each agency is stronger at. This could be of great significance in the upcoming UN Reforms whose objective is to present a 'one UN' to the external parties and increase efficiency through having each agency specialize in what they are best at.

Another suggested area of study is a deeper analysis of each of the aspects of SCM such as planning, procurement, warehousing and distribution. This would enhance the level of knowledge obtained in each area and hence sharpen the recommendations made into more practical approaches.

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## APPENDIX: QUESTIONNAIRE

*Dear Respondent,*

This study seeks to explore the concept of Supply Chain Management in humanitarian organizations, and in particular, at UNICEF KCO. Your participation in facilitating the study is highly appreciated.

Data and any other information collected shall be used for academic purposes only, and will be treated with the utmost confidence it deserves.

### **PART A:**

Kindly respond to the following:

1. Respondent's Designation \_\_\_\_\_
2. Office/Section: \_\_\_\_\_
3. For how long have you served in the current organization? \_\_\_\_\_ Years
4. For how long have you served in the current position? \_\_\_\_\_ Years
5. Has your office/section embraced a focused approach towards Supply Chain Management?

Yes [ ] No [ ]

(a) If yes, to what extent are you satisfied with the various strategies used?

Highly satisfied [ ]

Satisfied [ ]

Unsatisfied [ ]

Highly unsatisfied [ ]

( b) If No, briefly comment \_\_\_\_\_

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## PART B

Please answer questions 6 to 10, by ticking (✓) appropriately in the space provided, using a scale of 1-5 (where 1=Not at all, 2= To a little extent, 3=To some extent, 4= To a large extent, and 5= To a great extent).

6. Indicate to what extent UNICEF KCO manages inventory investment in the chain.

O in

	5	4	3	2	1
6.1 Orders exceed storage capacity	( )	( )	( )	( )	( )
6.2 Releases safety/buffer stock	( )	( )	( )	( )	( )
6.3 Allows excess inventory back to the vendor	( )	( )	( )	( )	( )

7. Indicate the extent to which UNICEF KCO ensures the following in establishing supplier relationships in the supply chain

	5	4	3	2	1
7.1 Provides correct transaction codes	( )	( )	( )	( )	( )
7.2 Orders are picked correctly	( )	( )	( )	( )	( )
7.3 Documents are complete and accurate	( )	( )	( )	( )	( )
7.4 Timely delivery	( )	( )	( )	( )	( )
7.5 Shipment not damaged	( )	( )	( )	( )	( )
7.6 Accurate Invoices	( )	( )	( )	( )	( )
7.7 Accurate surcharges	( )	( )	( )	( )	( )
7.8 No errors in payment processing	( )	( )	( )	( )	( )

8. Indicate the extent to which UNICEF KCO strives to enhance the responsiveness of the respective beneficiaries of its actions.

	5	4	3	2	1
8.1 Ensures timely delivery of services	( )	( )	( )	( )	( )
8.2 Provides products in needed quantities	( )	( )	( )	( )	( )
8.3 Provides products in required quality	( )	( )	( )	( )	( )
8.4 Willingly shares technical information	( )	( )	( )	( )	( )
8.5 Avails all needed items	( )	( )	( )	( )	( )



9. Indicate the extent to which UNICEF KCO does the following.

	5	4	3	2	1
9.1 Avails data across the supply chain	( )	( )	( )	( )	( )
9.2 Uses technology in a usable format	( )	( )	( )	( )	( )
9.3 Synchronizes orders with final demand	( )	( )	( )	( )	( )

10. Please indicate the extent to which the following impact on the ability of UNICEF KCO in effectively implementing its supply chain strategies.

	5	4	3	2	1
10.1 Lack of guidelines for creating alliances	( )	( )	( )	( )	( )
10.2 Lack of measures to monitor alliances	( )	( )	( )	( )	( )
10.3 A narrow supply chain vision	( )	( )	( )	( )	( )
10.4 Disintegrated internal procedures	( )	( )	( )	( )	( )
10.5 Lack of trust in partners	( )	( )	( )	( )	( )
10.6 Organizational resistance	( )	( )	( )	( )	( )
10.7 Lack of ownership of SCM	( )	( )	( )	( )	( )
10.8 Lack of integrated information systems	( )	( )	( )	( )	( )
10.9 Language in use	( )	( )	( )	( )	( )
10.10 Laws and regulations	( )	( )	( )	( )	( )
10.11 Fluctuating exchange rates	( )	( )	( )	( )	( )
10.12 Organizational systems	( )	( )	( )	( )	( )
10.13 Erosion of domestic supplier base,	( )	( )	( )	( )	( )
10.14 Unforeseen demand variability	( )	( )	( )	( )	( )
10.15 Technological intricacies.	( )	( )	( )	( )	( )
10.16 Availability of skilled labour	( )	( )	( )	( )	( )
10.17 Late deliveries from suppliers	( )	( )	( )	( )	( )
10.18 Partial deliveries	( )	( )	( )	( )	( )
10.19 Poor quality of products	( )	( )	( )	( )	( )
10.20 Lobbying for particular suppliers	( )	( )	( )	( )	( )
10.21 High storage costs	( )	( )	( )	( )	( )
10.22 Obsolescence of stock	( )	( )	( )	( )	( )
10.23 Rigidity of policies	( )	( )	( )	( )	( )

Others (Kindly specify) \_\_\_\_\_