

# **Financial Resources on ICT Performance in Inventory Management by Freight Forwarders in Nairobi, Kenya: A Case Study of Acceler Global Logistics**

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## **Abstract**

The research sought to determine financial resources on information communication and technology performance in inventory management by freight forwarders in Nairobi, Kenya. A descriptive survey design was adopted. A sample of 80 employees was used in the study. Stratified sampling was used in selecting the respondents from the various strata, upon which the respondent were selected randomly from each strata. The use of financial resources entailed investing in purchasing of the required software, investing in the required personnel, investing in training of the required personnel and other financial needs. Concerning the extent to which the organization invested on IT to streamline inventory management, majority (27, 48.2%) respondents disagreed that indeed the organization had invested in IT. The findings indicated that the organization had not invested very little on IT to streamline inventory management. The study recommended that more investment in special information systems should be made.

**Keywords:** Inventory management, Freight forwarders, information, Communication, Technology, Database management system

## 1.0 Introduction

For companies competing in highly dynamic markets like Freight Forwarders, the search for new sources of competitive advantage is essential. Rapid changes in technological development are forcing businesses to look continuously for innovative strategies to improve their competitiveness. As observed by (Sweeney 2013) this has revolutionized the way companies operate. According to (Sweedy et al, 2013) technology has traditionally been viewed as the key to productivity in manufacturing industries. However, in recent decades, technology has assumed greater importance in the services sector facilitating growth by offering service firms important competitive leverage and Electronic transmission has revolutionized the cost and speed of purchasing processes (Lyons, 2006).

As observed by (Lopez 2013) ICT resources impact on communication improvement, this includes internal and external communication and coordination of activities. ICT enables a faster and more efficient use of information both within the firm and with external agents, such as customers and suppliers. ICT facilitates interaction and better coordination among workers, departments and firms. The use of ICT has a positive relation with the overall performance of a company (Byrd and Davidson, 2003). Countries in the world are moving from an industrial economy to a knowledge economy in which economic growth is dependent on a country's ability to create, accumulate and disseminate knowledge. Computers and the internet have catalyzed the growth of the knowledge economy by enabling people to codify knowledge into a digital form easily transmitted to anywhere around the world. People who have access to this new wave of ICT – broadly defined as technology that can be used for transmitting and/or processing information – are part of an information society connected to a virtual network that constantly creates and disseminates new information. According to (Kogilah, N., Santhapparaj, A. & Eze, U, 2008) ICT has sped up the pace of globalization and increased the complexity of business practices because firms not only need to be familiar with their local context but also with global developments. Thus to compete in the knowledge economy, countries need a strong ICT - literate skills base that can innovate and adapt quickly to change. More value is placed on the knowledgeable worker than ever before. As cited by (Lin, 2009) knowledge, change and globalization are the driving forces of the new economy. Information and communication technologies (ICTs) are being adopted in different organizations to improve efficiency and to provide better services to their customers. There has been reported increase in the use of ICT in Kenya. The effects of ICT usage have been rated to be positive by many enterprises (Matambalya, 2001). Though ICT has many impacts on any given enterprise, It's been argued that ICTs are creating a new economy-information economy-in which information is the critical resource and basis for competition in all sectors (Aissaoui et al, 2007), however, according to (Namusonge, 2013) in the world over 200 million people run non profitable micro and small agro processing enterprise and have often singled out access to technology as the major hindrance to growth and competitiveness. Previous research on inventory management played an important role in the advancement and development of new technologies and processes. Today more research is needed because new technologies such as RFID (Radio-Frequency Identification) and new management methods (such as collaborative forecasting and planning) are emerging and evolving faster than ever before. As observed by (Daugherty 1998) Manual tracking of logistics data remains a common practice at many of the respondent firms. For example, seven (or more than 30 per cent) of the 23 logistics data elements examined have been automated by less than 50 per cent of the respondent firms. Total supply chain management requires high levels of

computer-based information support; thus, firms should dedicate more resources to automating logistics data in the future.

According to (Daugherty et al, 1998) increasing customer requirements result in the need for networked organizations, this in turn leads to the opportunity of networked inventory management. (Daugherty et al, 1998) also observed that networked inventory management requires a lot of information processing within and between the networked organizations. The transformation, storage and communication of information about the inventory in the stock points and in the intermediate processes across the network is highly complex. Therefore, automated information systems are essential to succeed in networked inventory management. As observed by (Ridgway 1995), Inventory is a large proportion of the assets of the company and plays an important role in its profitability. It is essential that sufficient time and effort is given to reducing the inventory investment while still meeting production schedules and satisfying customer demand.

### **1.1 Statement of the Problem**

Many enterprises in Kenya still use manual inventory systems. They use card records, inventory tags and accounting data to capture information necessary to establish economic order quantities, order points and other parameters for effective inventory control. Inaccuracies in an inventory creates a range of problems, including loss of productivity, the manufacturing of unwanted items, a reduction in the levels of customer commitment, the accumulation of costly physical inventories and frustration (Arend & Wisner, 2006). The costs of any of these inaccuracies can indeed be significant. Therefore, the cost savings that accrue from improved practices in inventory management are substantial (Meyer, 1991).

In their study (Loukis and Sapounas, 2004) based on data from Greek companies; found that there was high complimentary (about 72%) between IT investment in inventory management and a set of management factors with respect to firm output and labor productivity. (Hempell, 2005), based on firm-level panel data covering a five years' period, concluded that ICT investment is more productive in firms with experience in innovations (74%). Most of the previous research on the business value of ICT inventory management investment in freight forwarders and the factors affecting it has been conducted in a small number of highly developed countries (mainly in the US). Locally, research on ICT in inventory management has been carried out in sectors like health and water companies. Good examples include (Odeny, 1987) who did a study on ICT inventory management at Kenyatta National Hospital, and (Kariuki, 1993) who did a study on ICT drug inventory management at the University of Nairobi health services. In addition, (Githendu, 2008) did a study on ICT inventory management by simulation analysis at Davis and Shirliff water Company Limited. However, limited research in ICT inventory management has been conducted in the sector of freight forwarders in developing countries like Kenya.

This study Sought to look at financial resources in ICT performance in inventory management by freight forwarders in Kenya: a case study of Acceler global logistics in Nairobi.

#### **1.1.2 Objectives of Study**

The objective of the study was to determine the effects of financial resources on ICT performance in inventory management systems at Acceler Global Logistics, Nairobi.

**Literature Review****2.1 Financial Resources and ICT performance in Inventory Management**

Top management's ability to establish the appropriate priority to allocate scarce financial and people resources to the IS/IT investments. This implies knowing how much resource to invest and when, even when this might involve significant financial risk (often personal financial risk), or being the first firm in the industry to invest in 'leading edge' software or hardware.

Many Freight Forwarders in Kenya have to invest a lot on such technologies like Radio frequency identification that makes Inventory management a success.

RFID is the generic name for technologies that use radio waves to automatically identify individual items that carry such identification tags. Unlike barcodes, which need line of sight sensors, RFID tags do not. As the cost of this new technology falls, the take-up rate by the retail industry will be significant, revolutionizing retailers' control of the product supply chains and knowledge about the consumer. (Authors: Peter Jones, Colin Clarke-Hill, Peter Shears, Daphne Comfort, David Hillier). The revenue of ICT vendors were reported at \$20.7 billion in 2003 (AMR Research, 2005). The total installation cost is much higher than the software cost and were estimated to be nearly \$ 80 billion (Info Tech Trends, 2003). ICT systems normally have three components; a central database, a data collection and data management modules and user application modules. The purpose of ICT is to integrate information flow within a supply chain. However, the high cost of ICT software providers makes Companies like freight forwarders to rethink the balance between benefit and risk of implementing ICT (Deutsch, 1998). Implementation of ICT cannot be done over night; it includes adoption, adaptation, acceptance, reutilization, and infusion. While it is important for a firm to perceive the benefits of ICT adoption, the fact that the perceived benefits can be achieved within the allotted resources should not be ignored.

According to (Compton, 2007) procurement strategy is a tactic or a technique that is applied by organizations to source and purchase goods and services. (Findlay, 2009) suggested that for an organization to develop an effective procurement strategy or sourcing strategy, it is necessary first to sit down to assess the details to be worked with. These details will include the business' or project's objectives, the available and existing resources and supplies. (Chang, 2008) affirmed that the employed procurement strategies in many organizations greatly determines the effectiveness of the employed sourcing policies, purchasing methods, value of procurement costs and quality of procured goods and services. Companies implement Purchasing strategies in order to make cost effective purchasing decisions from a group of effective vendors who will deliver quality goods on time and at mutually agreeable terms. These purchasing strategies may include such choices as making procurement savings by using centralized purchasing which is concentrating the entire procurement activities within one principal location.

**2.2 Conceptual Framework**

(Bradley, 2008) defines conceptual framework as a visual or written product that explain either graphically or in a narrative, the main things to be studied, the key factors, concepts or variables and the presumed relationship among them. It is therefore a model used in research to outline possible courses of action or to present a preferred approach to an idea or thought. A conceptual framework is very important in any research study being undertaken. It shows the relationship between the dependent variables and the independent variable.

**3.0 Research Methodology**

To determine the inventory management and performance of ICT both quantitative and qualitative research approaches were employed. The research design used was a descriptive.

The target population of the study was 242 employees of Acceler Global Logistics, Nairobi. The sampling frame comprised of 242 staff working at Acceler Global Logistics, Nairobi as provided by human resource manager. Stratified random sampling was used to select the sample elements from the selected population elements. The study used well structured questionnaires for the purposes of gathering information from the employees and the top management of Acceler Global logistics. Data was collected using a well structured questionnaire. Data was analyzed by use of descriptive analysis through computer based statistical package for social sciences (SPSS). The findings were represented using frequency tables, graphs and pie charts.

#### **4.0 Research findings ad Discussion**

##### **4.1 Financial Support and Adoption on ICT on Inventory Management**

Top management has the ability to establish the appropriate priority to allocate scarce financial and human resources to the ICT inventory management. This implies then that knowing how much resource to invest and when, even when this might involve significant financial risk or being the first firm in the industry to invest in 'leading edge' software or hardware will determine the performance of ICT in inventory management. The use of financial resources will entail investing in purchasing of the required software, investing in the required personnel, investing in training of the required personnel and other financial needs. The availability of these financial resources therefore will affect the performance of ICT in inventory management by freight forwarders. The researcher sought to identify the extent to which respondents agreed or disagreed with the fact that the organization had invested a lot in training of IT staff. Table 4.1 had the results.

Results from table 4.1 indicated that 35 respondents who represented the majority response (62.5%) strongly disagreed that the Acceler Global Logistics had invested a lot in RFID. An equal response of 8(14.3%) respondents both disagreed and neutral. The remaining 5(8.9%) respondents agreed. From the response, it can be noted that Acceler did not invest a lot in RFID.

An organization that seeks to move hand in hand with the current technological inventions has to invest heavily on IT. This will help to streamline the inventory management process. The researcher went ahead also to identify the extent to which Acceler had invested in information technology in order to streamline the inventory management process. Table 4.2 summarized the results.

The company had invested very little on IT to streamline inventory management. This may had risen because the organization did not very well understood the effect of IT to the organization's inventory management. Results from table 4.2 indicated that majority (27, 48.2%) respondents disagreed that indeed the organization had invested in IT. This was followed by each 8 (14.3%) respondents who strongly disagreed, agreed and strongly agreed. The rest 5(8.9%) respondents were neutral. This indicated that the organization had not embraced IT in order to streamline the inventory management process.

#### **5.0 Discussion of Results**

Financial support and performance of ICT on inventory management was the objective of the study. Management had the ability to establish the appropriate priority to allocate financial and human resources to the ICT inventory management. The use of financial resources entailed investing in purchasing of the required software, investing in the required personnel, investing in training of the required personnel and other financial needs. Concerning the extent to which the organization invested on IT to streamline inventory management,

majority (27, 48.2%) respondents disagreed that indeed the organization had invested in IT. This was followed by each 8 (14.3%) respondents who strongly disagreed, agreed and strongly agreed. The rest 5(8.9%) respondents were neutral. The fact that the use of technology had made the company achieve its objectives was put to the respondents to determine their feelings. 8 respondents who represented 14% of the respondents strongly agreed. On the other hand, the same response agreed while 11 respondents representing 20% of the respondents were neutral. Majority (29, 52%) of the respondents disagreed. Similarly, the researcher went ahead to identify if the use of technology had boosted customer satisfaction levels. Majority (42, 75%) of the respondents were neutral to the statement. 7 respondents representing 12% of the response agreed while the other 7(12%) also strongly agreed.

### **5.1 Conclusions**

Regarding financial resources, the study concluded that the organization had not used enough of its financial resources in training of its IT staff. This was because majority of the respondents disagreed that that the organization had invested in training IT staff. The organization had also not invested a lot on RFID. The company had invested very little on IT to streamline inventory management. However, the little that the company has invested in ICT had made the company achieve its objectives but not to a large extent. It was also concluded that the use of technology had not boosted customer satisfaction levels because the organization had not invested in the use of technology. In General, financial support to ICT was minimal and therefore did not affect the performance of inventory management in the organization.

### **5.4 Recommendations**

The following recommendations were made in line with the findings of this study  
More investment in special information systems should be made. An ICT sourcing strategy should also be developed. Networked inventory management requires special information systems, hence the need of financial recourses to purchase these systems

### **5.5 Suggestions for Further Research**

There were many factors affecting the performance of information communication and technology in inventory management by freight forwarders in Kenya, this therefore made it difficult to identify all the factors. The study finding was narrowed into research objectives of the study. This factor cannot be fully relied upon to address future factors affecting the performance of information communication and technology in inventory management by freight forwarders in Kenya. Suggestion for further studies was therefore advisable to contribute towards identification of more other factors affecting the performance of information communication and technology in inventory management by freight forwarders in Kenya. Similar surveys to this can also be replicated in a few years to come to assess if the factors affecting the performance of information communication and technology in inventory management by freight forwarders in Kenya have changed.

### **Independent variables**



Figure 2.1 Conceptual framework

Table 4.1: Extent to which the organization had invested in RFID

Extent	Frequency	Percent	Cumulative Percent
Strongly disagree	35	62.5	
Disagree	8	14.3	62.5
Neutral	8	14.3	76.8
Agree	5	8.9	91.1
Total	56	100.0	100.0

Table 4.2: Extent to which the organization invested in IT to streamline inventory management

Extent	Frequency	Percent	Cumulative Percent
strongly disagree	8	14.3	
Disagree	27	48.2	14.3
Neutral	5	8.9	62.5
Agree	8	14.3	71.4
Strongly agree	8	14.3	85.7
Total	56	100.0	100.0

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