EFFECTS OF SINGLE WINDOW SYSTEM ON TRADE FACILITATION IN KENYA; A CASE OF CLEARING AND FORWARDING COMPANIES IN NAIROBI CBD

BY

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DECLARATION

Declaration by Candidate

I certify that all the material in this research project that is not my own work has been identified and that it has not been presented to any other examination body for an academic credit.

Signature ……..... Date: .....…

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Declaration by the Supervisors

This research project has been presented for examination with the approval of the undersigned university supervisors.

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DEDICATION

This research project is dedicated to my loving mother, siblings and grandfather who gave me all the support and encouragements throughout the period of my studies.

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This project is the result of support from my friends and I wish to acknowledge all of them. I am grateful to the Lord for the courage, strength and good health throughout my studies. I acknowledge the inputs, advice and insights of my supervisors; Dr. Marion Nekesa (KESRA) and Dr. Daniel Kirui (Moi University) throughout the process of my research. I would also like to express my deep gratitude to my parents for the financial and moral support in my studies, my siblings and colleagues for their endless support and prayers. Thank you.

ABSTRACT

In Kenya challenges continue to be experienced amidst the advancement in trade among clearing and forwarding companies due to high transaction costs, long lead times and too much bureaucracies as well as corruption. The concept of a Single Window System was thus developed to simplify the entire process and facilitate trade. Despite the clear benefits that SWS offers to both businesses and government agencies, the sovereign interests of the different individual agencies spark resistance to the new way of doing business. Further, the expected outcomes in trade facilitation among clearing and forwarding companies are yet to be realized with most firms reporting dismal performance. The study aimed to investigate the effect of SWS on trade facilitation in Kenya. The study was guided by the following specific objectives: to determine the effect of information sharing on trade facilitation in clearing and forwarding companies in Nairobi, to evaluate the effect of documentation on trade facilitation in clearing and forwarding companies in Nairobi and to determine the effect of electronic payment on trade facilitation in clearing and forwarding companies in Nairobi. The study was guided by The Theory of Customs Union, Behavioural Theory and Technology Acceptance Model. An explanatory research design was adopted in collecting data from employees of chosen clearing and forwarding companies in Nairobi area. The study target population was 161 registered companies operating in Nairobi. A sample size of 114 firms was arrived at using Slovin's formula which was chosen using purposeful sampling with one manager per firm being selected. All the independent variables were found to influence trade facilitation positively and significantly namely; Information Sharing ($\beta 1 = 0.275$, $P < 0.05$), Documentation ($\beta 2 = 0.227$, $P < 0.05$) and Electronic Payment ($\beta 3 = 0.213$, $P < 0.05$). This implies that an increase in these practices will result in improved trade facilitation. The findings from the regression analysis further obtained a coefficient of determination R square of 0.275 which implies that 27.5% of changes in the trade facilitation are explained by the studied factors. The study therefore concludes that Single Window system has a significant positive effect on trade facilitation in Kenya. The study recommends that appropriate mechanisms should be put in place in ensuring seamless flow of information. The study also recommends that the government needs to look at conflicting/ duplication roles of some regulatory agencies managing the clearance procedures during documentation. Further, the study recommends that the government of Kenya should continue developing regulations that enhance the legal and the development of electronic payment solutions. Proper awareness and marketing should also be done to the public to educate them on electronic payment systems benefits.

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OPERATIONAL DEFINITION OF TERMS

Documentation: This provides centralization of data hence it is expected that once a user submits data into the system, it will be made available for all government agencies and other users that will require the data in the preceding transactions related to the original submission as per data authorization policies defined.

Electronic Payment: Integration of the SWS to online banking facilities via a payment gateway hence making it more convenient and efficient to make payments virtually more transparent ultimately reducing corruption instances.

Information Sharing: SWS must be able to provide users with a platform that uses a single point of access to other community systems integrating the functions via technology. With this single window system, agencies or partner countries doing the transactions can easily pass any information if need be; for instance, red flagged goods, those sensitive goods which require security and questionable goods also.

Single Window System (SWS): Trade facilitation tool whose primary purpose is to simplify and harmonize processes associated with cross border movement of goods. (Ndonga, 2015)

Trade facilitation: The simplification and harmonization of international trade procedures involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade.

ABBREVIATIONS

APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
B2B	Business-to-Business
CBRAs	Cross Border Regulatory Agencies
EDI	Electronic Data Interchange
EDMS	Electronic Document Management Systems
ETA	Expected Time of Arrival
ETD	Expected Time of Departure
EU	European Union
FMA	Finnish Maritime Administration
KenTrade	Kenya Trade Network Agency
KESWS	Kenya (National) Electronic Single Window System
PAA	Pan Asian E-Commerce Alliance
SWEPRO	Swedish Trade Procedures Council
SWS	Single Window System
UN/CEFACT	United Nations Centre for Administration Commerce and Transport
UN/ESCWA	United Nations Economic and Social Commission for Western Asia
UNCTAD	United Nations Commission on Trade and Development
UNECE	United Nations Economic Commission for Europe
WTO	World Trade Organization

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter lays the background of the study as well as capturing the basis of what the study is all about.

1.1 Background of the Study

International trade faces obstacles in the form of capacity constraints given limited facilities, inefficient port operations, burdensome customs procedures, excessive documentation requirements, low quality of human capital, and corruption at the borders (Tavengerwei, 2018). All these factors serve to increase costs and delays in international trade which in turn influences the volume of trade across the border. To solve this problem, governments and businesses are continuingly adopting measures to modernize and simplify transaction procedures at national borders. Therefore, trade facilitation reform to reduce transaction costs associated with international trade has significant relevance in terms of policies.

For developing countries, trade facilitation increases the capacity of these countries to become integrated into the global supply chains (van der Marel, & Shepherd, 2020). Whereas in trade in the Middle East and North African Region, it is observed that trade facilitation measures undertaken so far seem to have a bigger impact on trade with inter regional- rather than intra-regional trade. However, inefficient border procedures result in goods being held longer at the borders hence increasing trade costs particularly due to delays, forcing traders to hold higher levels of inventory to cushion against delays in delivery. The trade costs also increase due to the fact that trucking companies have to transfer the costs accruing in terms of man hours as a

result of these inefficiencies to traders leading to impaired trade facilitation (Ancharaz, Mbekeani, & Brixiova, 2011).

A number of concepts and principle have been developed to promote and encourage trade facilitation across nations. One of these concepts is a Single Window System. It has been defined differently by various players in trade logistics. In Kenya, the Government established the Kenya Trade Network Agency (KENTRADE) in January 2011 to implement, operationalize and manage the Kenya National Electronic Single Window System also known as Kenya TradeNet System and to facilitate trade. Though the objective of the Kenya TradeNet System is to facilitate International trade by reducing delays and lowering costs associated with clearance of goods, the expected outcomes in trade facilitation among clearing and forwarding companies is yet to be realized with most firms reporting dismal performance.

1.1.1 Global Perspective

According to Mowerman, (2013) the ten ASEAN member States signed an "Agreement to establish and Implement the ASEAN Single Window" (ASW Agreement) in December 2005. The ASEAN Single Window (ASW) is defined in the agreement as the environment where National Single Windows of Member Countries operate and integrate. The National Single Window is a system which enables a single submission of data and information, a single and synchronous processing of data and information and a single decision-making for customs release and clearance. The ASW should also be seen as part of the global supply chain and of the logistics industry working for the effective realization of the ASEAN Economic Community. Customs modernization involves the simplification of procedures, which includes the removal of "red tape" at the border.

National Single Windows take this one step further by allowing traders to complete all of their regulatory requirements through a nationwide border control system (van der Marel, & Shepherd, 2020). The next logical step is to facilitate the exchange of cross-border information between both governments and the private sector which would be achieved by implementing the ASEAN Single Window. A National Single Window plays a vital role in meeting the trade facilitation objectives of governments which is to reduce clearance times at the border. Nevertheless, while the objectives of implementing a National Single Window are the same for each of the Member States, their regulatory requirements are very different. The objective of the ASEAN Single Window, therefore, is not to impose any regulatory requirements at the regional level. It simply provides an environment for National Single Windows to operate and integrate.

The Pan Asian E-Commerce Alliance (PAA) was created in 2000 amongst private sector representatives which provide the governments of Singapore, Taiwan and Honk Kong electronic customs systems. The main goal of the PAA is to reduce administrative, stationary, courier and purchasing costs traders have to pay in order to be able to trade. This is done by means of granting proper business to business (B2B) connection and communication in this platform. This platform allows traders to send cargo related documents across borders. Examples of exchanged documents include commercial invoices, purchase orders, advanced shipment notices, packing lists, bill of lading (BL), air way bill, sea way bill, digital certificates of origin etc.

1.1.2 Regional Perspective

At regional levels, member countries of RTAs undertake some joint projects to facilitate trade in all member states (Eberhard-Ruiz, & Calabrese, 2018). Trade facilitation also occurs at a national level as governments pursue increased trade

within and without their boundaries. An example of trade facilitation at a national level is the simplification of business registration procedures and providing numbers where exporters or importers can call in when their trade processes hit a snug. Despite the establishment of a FTA and Customs Union, non-tariff barriers have continued to act as an impediment to trade within the region. In addition to these barriers are the infrastructural failures within the region. The growth in trade volumes between member states has been attributed to dealing with these NTBs through trade facilitation and trade liberalization efforts undertaken by the COMESA.

Independently from its description as a platform, environment, or facility, a Single Window can best be understood by the service that it aims to provide to traders and government authorities alike. Adoption of Single Window System among African Countries facilitates the exchange of trade relevant information between traders and government agencies and amongst government agencies for obtaining permits, licenses, certificates and necessary approvals. It does so by allowing traders or their agents to submit trade documents and data, in electronic or paper form, through a single entry point. It is a practical application of trade facilitation concept intended to reduce non-tariff trade barriers and deliver immediate benefits to all members of the trading community.

At a High Level Seminar on the Future of Electronic Customs in Prague in March 2009, it was stressed that the Single Window initiative should be strongly supported and implemented for customs declarations and supporting documents. Within the EAC, development and integration work is still ongoing (Tavengerwei, 2018). According to Trade-Mark East Africa, Uganda and Rwanda already have an electronic system in place and Kenya very closely following suit. Efforts have been made by the tripartite agreement between Kenya, Uganda and Rwanda to form a

Single Customs Territory (SCT). This will, among others, enhance inter-regional trade mainly through the use of a Regional Single Window System. It entails, a single point of submitting Customs Declarations at first Point of Entry, paying taxes at the Country of Destination, verifying of goods is done once at the point of entry, eliminating customs bonds for good whose duty is paid, getting a single regional security bond for warehoused goods, electronic cargo monitoring and the elimination of Non-Tariff Barriers (NTBs).

1.1.3 Kenyan Perspective

According to Ndonga, (2015), SWS is essentially trade facilitation tool whose primary purpose is to simplify and harmonize processes associated with cross border movement of goods. The concept is recognized and promoted by several world organizations that are concerned with trade facilitation. Amongst these are the United Nations Economic Commission for Europe (UNECE) and its Centre for Trade Facilitation and Electronic Business (UN/CEFACT), World Customs Organization (WCO) and the Association of Southeast Asian Nations (ASEAN).

There are so many actors and procedures and the time and cost for trade international. The reason why trade international need that relatively more than domestic trade, is needs for the inevitable controls of cross border regulatory Agencies (CBRAs). This inevitable various controls can be carried out through Single Window supported by information technology and optimized process. With companies engaging in international trade regularly, they have to submit large volumes of information and documents to government authorities to be verified for compliance with trade requirements. This information and documentation has to go through several different agencies each with its own specific system and paper forms. These requirements with other associated compliance costs constitute a burden both to business community and

the Government and can be a major barrier to the development of international trade, particularly in developing countries. Single Window System therefore is a means of addressing this problem.

This Single Window System was launched in Kenya on July 2014 by the president with an aim to facilitate trade with other East African states. According to KenTrade, it was launched with an aim of removing impediments to trade between Kenya and other East African countries which have adversely impacted Kenya's business environment. Before the introduction of Single Window system, traders had to go through numerous government agencies to acquire the necessary permits and licenses. But with the system in place, East African traders will swiftly complete all the official procedures faster and easily.

1.1.4 Clearing and Forwarding Companies

Kenya's Clearing and Forwarding Agents Companies or Customs agents are logistics experts with a very good knowledge of the state of the import-export customs clearance and are well informed of Kenya's and east Africa common economy customs regulations governance. Clearing & Forwarding Agents knows and understands the major rules and regulations applicable in the international clearance and forwarding process in Kenya, East Africa and their international trade partners. It would be a wise step to hire a clearance and forwarding agent if you are planning to ship products from different country to Kenya or through Kenya. In some countries Kenya and East African states being an example, it is mandatory to use Clearing and Forwarding Agents for your import or export at the customs declarations.

They perform various logistics services that may expound to shipping but mainly their services may include creating an invoice for international shipping, making

arrangements for the shipment pickup and cargo delivery reports, arranging and coordinating customs for attaching warehousing, thoroughly completing all the documentation work required for your shipment and finally confirming the delivery of your shipment. Clearing and Forwarding Agents have established relationship with shipping lines, sea, air and land transportation system including rail services, trucking and shipping ocean liners. Once the shipment has been handed over to the Clearing & Forwarding Companies, the shipper (the cargo owners) can rely on clearing and forwarding agents for timely shipping and safe delivery of the cargo.

Clearing and Forwarding companies manages the trucking logistics for airfreight and ocean freight import and export. Apart from that they are also ready to even provide packaging, letters of credit and consular documentation. These agents act like an intermediary between a shipper (person shipping or cargo owners) and other logistics providers on chain supply logistics. These are people proved to be a vital part of chain supply logistics. To simply define clearing and forwarding companies we can say that they are actually the third party logistics services providers handling and managing the operations of cargo shipment, or other words they are a party in facilitating an international supply chain logistics.

According to World Bank (2012), the clearance of imports and exports by customs and other agencies are among the most problematic links in global supply chains. They are frequently blamed for undermining the capacity of developing countries to compete on global markets. As a result, the Bank and other development organizations have devoted a great deal of attention to supporting reform and modernization of border clearance processes. In spite of significant effort, border

management inefficiencies continue to impact heavily on the competitiveness of developing countries.

1.2 Statement of the Problem

With globalization and opening up of countries in the world, more and more potential is being discovered in terms of international trade (Tavengerwei, 2018). However, in Kenya challenges continue to be experienced amidst this advancement in trade facilitation. The concept of a Single Window System was thus developed to simplify the entire process and facilitate trade. Despite the clear benefits that SWS offers to both businesses and government agencies, the sovereign interests of the different individual agencies spark resistance to the new way of doing business. One of the most challenging experiences for businesses involved in cross border trade along Kenya's border points thus remains simplification of the clearance of imports and exports (Ndonga, 2015).

Implementing an electronic single-window system is complex situation involving the clearing and forwarding companies which involves many parties, processes and procedures, regulations hence the intended gains in trade facilitation are far from being achieved (Mesocho, 2018). Challenges remain prevalent in these firms including lack of cohesion in partner states trade facilitation mandates, lack of capacity, time consuming clearance procedures, insecurity, non-tariff barriers which lead to additional costs being incurred. The government also suffers from complex regulations put in place by the different agencies and bureaucracies that may exist, there is close to zero transparency, difficulty in monitoring various processes and huge loss of revenues due to heightened corruption.

There is thus a dilemma of meeting increasing needs for compliance and at the same time balancing the demands to improve trade facilitation which is facing the clearing and forwarding companies (Bifwoli, 2016). With all these requirements together with the associated compliance costs, constitutes a huge burden both to the clearing and forwarding companies which can also be a major barrier to the development of trade. This brings forth the need to determine the effects of this Single Window system on trade facilitation after its implementation in Kenya as supported by Koh and Mowerman (2013). And also, according to UN/CEFACT, (2005) case study of Mauritius, TradeNet single window system contributed significantly to this objective in Mauritius through the speedy processing of data and the maintaining of high levels of cost-effectiveness. According to KOH and Mowerman, (2013) implementation of this tool further facilitates trade transactions and benefits exporting countries greatly.

With the lack of fully integrated ICT environment in Kenya therefore, this brings lack of efficiency in the logistics department and the government is increasing the pressure on customs services. The government wants to see a minimum time and cost for clearing of goods and services hence the reason why this study on effect of SWS on trade facilitation is relevant in order to see if there is beneficial impact to the Kenyan economy. Understanding this is imperative for better trade facilitation hence improved efficiency, improved transparency of official controls and reduced costs of doing business for both the government and trading community. This is of heightened importance due to scarcity of literature conducted locally more so among the clearing and forwarding companies which continue to be threatened by the increased cost of operations and business transactions.

1.3 General Objective

To examine the effects of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area.

1.4 Specific Objectives

1. To determine the effects of information sharing on trade facilitation in clearing and forwarding companies in Nairobi.
2. To evaluate the effects of documentation on trade facilitation in clearing and forwarding companies in Nairobi.
3. To determine the effects of electronic payment on trade facilitation in clearing and forwarding companies in Nairobi.

1.5 Research Hypothesis

For the objectives to be addressed, this research focused on testing the following research hypothesis.

H_{01}: Information sharing has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

H_{02}: Documentation has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

H_{03}: Electronic payment has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

1.6 Significance of the Study

The findings of this study are significant to the government for it may enable the government to align operations with international best practices and improve the ease of doing business not only in Kenya but also in East African Community (EAC). To the traders it is expected to translate to easier and faster goods clearance procedures

which will be more predictable as a result of exception handling and dispute resolution mechanisms ultimately reducing inventory costs.

As a result of the enhanced goods release information to be provided by SWS, the logistics supply-chain will effectively predict the release of goods and efficiently plan for warehousing and transportation needs. The stakeholders in the clearance and forwarding sector may benefit a lot from this study. The main stakeholders are the clearing and forwarding firms and firms or companies that engage in international trade. They may be able to gauge the value of the new electronic lodgment system on their business operations.

With the case of compliance authorities; the centralizing of the information, collection and dissemination will bring about efficiency and productiveness of human resources. The findings may help in collection of fees, duties and penalties. SWS will provide an automated, comprehensive, streamlined portal for compliance with government legislative, regulatory requirements and international treaties. The issue of risk analysis and transparency is covered also.

This study may also benefit researchers who might use this information for a basis of reference when carrying out their own research or trying to improve or add information to this research. The study may also significantly contribute to generation of information that can be used as reference by future researchers who may be interested to carry out similar researches. Gaps identified by the study and questions raised by the research shall open avenues that can be explored by other scholars in future.

1.7 Scope of the Study

The study focused only on the clearing and forwarding companies in Nairobi area. This entailed a total of 161 firms operating in Nairobi region. The reason behind the development of single window systems which has attracted a big number of investors is due to market globalization. To address the objectives of the study; this study utilized primary data of which was collected from the clearing and forwarding companies' employees. This study covered the effect of single window system on trade facilitation in Kenya; case study of Clearing and Forwarding Companies in Nairobi area.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the theoretical and empirical literature review of the proposal. The theoretical review covers issues related to theory of Customs Unions, behavioral theory and Porter Diamond theory. The empirical review deals with issues related to information sharing, documentation and electronic payment as factors of Single window system.

2.1 Review of Concepts

2.1.1 Trade Facilitation

Trade facilitation is defined by the World Trade Organisation (WTO) as 'The simplification and harmonization of international trade procedures,' with trade procedures being 'the activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade' (WTO, 2013). There are various ways to measure trade facilitation since there are many different effects that can be observed by using different indicators. These indicators are also frequently updated due to the new challenges and issues associated with a changing and globalising world (Brown, 2009).

Trade facilitation potentially covers a multitude of issues that are relevant to the smooth and efficient flow of trade. The term has been used in the context of a broad range of potential Non-Tariff Barriers (NTBs) such as import licensing, product testing and overly-complex Customs clearance procedures. Increased facilitation of trade, by way of ensuring optimal use of IT, should result in improved economic growth for countries and improved competitiveness of their industries by reducing

unnecessary bureaucratic requirements. Trade facilitation is now recognized as a key driving factor in determining export competitiveness of a country.

According to Moïsé et al. (2011), wider definitions of trade facilitation may include issues of customs, transport and transit, banking and insurance, business practices, and telecommunications among others. Recently, the meaning of trade facilitation has been widened to include transparency, professionalism of customs authorities, synchronization of various standards, and conformity to international or regional regulations. It looks at reduction of costs and uncertainty of transporting goods across borders, including the documentation needed5

2.1.2 Single Window system

According to UN/CEFACT, (2012) a Single Window system is a trade facilitation tool which enables international traders to submit regulatory documents such as customs declarations and applications for import/export permits at a single location. This is the system which allows parties involve in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.

ESCWA, (2011) further posit that as a result of global trade liberalization, collaborative procurement, manufacturing, assembly and distribution are increasingly handled through outsourcing whereby the principles of comparative and competitive advantage influence the global supply chain supply and demand factors. Information flow in order to meet import and export compliance trade formalities comprising government approvals, customs clearance, inspections, permit and license approvals

are being processed electronically through integrated ICT-facilitated systems commonly known as the electronic single window systems.

A Single Window system should allow the sharing of all information in respect of international trade transactions which is supported by a legal framework that provides privacy and security in the exchange of information, the addition of facilities to provide trade related government information and receive payment of duties and other charges, such a single entry point to disseminate the relevant information to participating governmental authorities or authorized agencies and co-ordination of the controls and inspections of the various governmental authorities.

According to UN/CEFACT, (2005), a case of Finland; PortNet is a national maritime traffic database and not a port community system. The user logs on to the system using the given user's name and password and may provide the information using an Internet browser or file transfer using dedicated data communication. The access is restricted by the user management system into user profiles. Agents only have access to their own data relating to trading activities, port authorities have access only to data within their own port in relation to port control and governmental authorities have access to all information for easy assessments and clearing of traded goods. The Border Guard, however, only use read-only access. Hence all the data is available to everybody within the limits of his prescribed user profile.

The motivation behind its SW implementation was the urgent need to speed up the flow of information within the harbour of Hamburg. A group of liner agents, forwarders and quay operators set up a working group to discuss a possible solution. This group agreed that: efficient organization of transportation needs early and timely information, information exchange using Electronic Data Interchange (EDI); avoids

double typing; avoids errors due to double typing and saves time and money, flow of information within the harbour was too slow and too expensive. The system is interlinked with systems of customers and authorities by EDI.

With ESCWA, (2011), an example of this model is the U.S Custom's and Border Protection Automated Commercial System (ACS) where traders submit the data once and it is then distributed to agencies that require the data. Finally, it is transmitted to Automated Targeting System (ATS) for risk management functions before being reverted back for storage in the ACS. An inbuilt risk management system in a single window can significantly reduce the proportion of physical goods inspections resulting in time savings and efficiencies to traders and government agencies.

2.2 Theoretical Review

2.2.1 The Theory of Customs Unions

One of the major aspects of international trading relations during the post-war period has been the development of regional trade grouping or blocks, primarily in the form of customs unions. Customs unions are by definition discriminatory. They mean lowering of tariffs within the union and establishing of a joint outer tariff wall. They combine free trade with protection. Regional trade integration can take several forms representing different degrees of integration namely; free trade area, customs union, common market, economic union and complete economic integration.

A free trade area abolishes tariffs and other trade barriers within the constituent countries but each member country can impose its own tariffs on imports from non-members. When a free trade area agrees to have common tariffs on imports from non-members, then it is a customs union. When a customs union reaches agreement on removal of factor immobility within the union, then it is a common market. When a

common market reaches agreement on coordination of national economic policies of the members, then it is an economic union. Finally, the complete economic integration involves the unification of monetary, fiscal, social and counter cyclical policies and the setting up of a supra-national authority whose decisions are binding for the member countries.

The customs union theory thus deals with problems raised by the latter type of discrimination. The theory may be defined as that branch of tariff theory which deals with the effects of geographically discriminatory changes in trade barriers. The proposition of the theory to the study is that with the implementation of single window systems this discriminatory changes in trade barriers is dealt with and unification of trade documentations becomes way forward in improving trading activities hence its effects on trade facilitation in the country/economy.

2.2.2 Behavioral Theory

Technology makes virtual organizations more feasible, cheaper and easier to set up than before. By using technology, most of the collaboration and communication throughout the organization could be accomplished quicker and cheaper throughout. The behavioral theory of integration of information system in an organization says that the political structure of an organization changes through access to information. When a company introduces changes to the organizational structure because of a new information system, political changes will occur at the same time. Some people will gain and some will lose. Naturally people will resist changes that affect them negatively. It is human nature. In relation to the study, people resist the changes brought in by the technology due to fear of losing a job. Information technology if also well implemented may result in organizational changes such as business re-engineering and paradigm shift. Based on this theory, information system can help an

organization to recognize processes that need to be changed. And also, it can be used to automate some of those processes or determine those that are no longer needed.

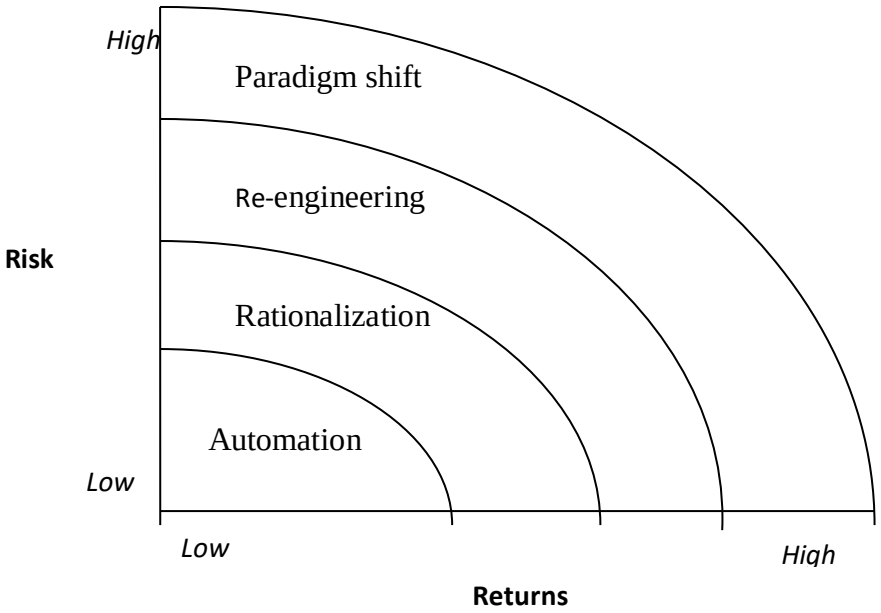

Figure 1.1: The Spectrum of Organizational Change
Source: Laudon and Laudon (2001) Management Information system

Automation–This is the computerization of organizational operations. It results to loss of jobs to many people.

Rationalization – It causes organization to examine its standard operating procedures, eliminate those no longer needed and make the organization more efficient.

Business engineering – This causes planners to completely rethink the flow of work, how the work will be accomplished, and how costs can be reduced by eliminating unnecessary work and workers. Organizations use it as a guide for downsizing the organizations and laying off workers.

Paradigm shifts – it is a term used to describe radical changes in the business organization. It involves changing the very nature of the business and the structure of the organization itself.

A lot of changes take place in the current business environment thus it's important to study the paradigm shifts to enable organizations keep up with the changing technology. Implementation of Single Window system is just but one of the paradigm shifts which has its effects on trade facilitation.

2.2.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) presents a theoretical model aiming to predict and explain ICT usage behavior, that is, what causes potential adopters to accept or reject the use of information technology. Theoretically, TAM is based on the Theory of Reasoned Action (TRA). In TAM, two theoretical constructs, perceived usefulness and perceived ease of use, are the fundamental determinants of system use, and predict attitudes toward the use of the system, that is, the user's willingness to use the system. Perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance his or her job performance", and perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989).

Empirically, TAM has been used in three different ways, namely to compare different adoption models, develop extensions of TAM, or replicate the model. The strengths of the Technology of Acceptance Model are that it provides a robust model that may be used in effectively understanding the acceptance of various users to information technological advancement. The theory adopts the simplest assumptions when formulating or interpreting data (Lee, 2009). It has also been used in many empirical

studies conducted to explain substantial proportions of variance in usage intentions and behaviours in technology usage. Thus it may be applied under different forms to explain technology adoption in a wide variety of contexts, ranging from individual to organisational technology acceptance.

The theory however has one weakness in that it does not explicitly include any social variables such as motivation, social norms and perceived behaviour control (Chuttur, 2009) hence cannot be used to explain how technology influences behaviour of publics in public relations. Additionally, it focuses entirely on the perceived usage of the technologies without taking into consideration of the actual usage which may be dissimilar. Hence, implying that the disadvantage of the approach is that its reference point may not apply to all individuals. According to the TAM theory, due to the perceived ease of use, perceived value and phenomena of Single Window System will determine the extent of use in trade facilitation.

2.3 Empirical Review

2.3.1 Information Sharing and Trade Facilitation

To the greatest extent possible, relevant information submitted by the trading community relating to shipments crossing the border should be shared between cross-border regulatory agencies concerned so that risk management and collective decision making can take place to either control high-risk shipments, or facilitate low-risk ones. In relation to Dawes (1996), information sharing between departments can be conducted under the following conditions; the establishment of a legal framework and a formal policy to guide the decision and activity of information sharing and the development of an effective tool to manage information sharing which in this study is Single Window system.

According to UN/CEFACT, (2005), the Single window system is used in information sharing whereby one authority receives information, either on paper or electronically and disseminates this to the other involved authorities. In some cases, this authority also coordinates the physical inspection of the goods at the border. In the case of Kenya, KenTrade is the government agency in charge of setting up the KNESWS and transmitting the trade documents to the Kenya Revenue Authority, Kenya Ports Authority and other government agencies for requisite approvals.

According to a study done by Abeywickrama and Wickramaarachchi, (2015), single window system is an entity that coordinates between all relevant agencies and enforces all border related controls with an example based on Sweden and the Netherlands where customs officers perform many tasks based on assignments from other governmental authorities hence the importance of information sharing on trade facilitation.

Furthermore, the platform allows for traders to have a data repository within it, thus allowing them to have access to older information and not have to fill all applications and information as new on a transaction basis, (Mowerman, 2013). The system serves as transaction hub and is integrated to all authorities. Declarations and permits are received electronically in a single application. It allows traders to submit standard data only once and the system distributes the data to the agencies that have an interest in the transaction. The approvals will then be transmitted electronically from the government authorities to the trader's computer with attachment of functionality permitting fees and duties to be calculated and drawn from the trader's bank account.

2.3.2 Documentation and Trade Facilitation

According to Ndonga, (2015), a key feature of single window system is that it provides an interface for the collection, storage, use and dissemination of trade-related data. Such a system will permit the traders to submit data only once and the system processes and distributes the data to the authorities concerned. According to UN/CEFACT recommendation, with this approach a trader can submit electronic trade declarations to the various authorities for processing and approval in a single application.

With ESCWA, (2011), an example of this model is the U.S Custom's and Border Protection Automated Commercial System (ACS) where traders submit the data once and it is then distributed to agencies that require the data. Finally, it is transmitted to Automated Targeting System (ATS) for risk management functions before being reverted back for storage in the ACS. An inbuilt risk management system in a single window can significantly reduce the proportion of physical goods inspections resulting in time savings and efficiencies to traders and government agencies.

As described in the recommendation, this model exists in two versions. In the Integrated System, the data is processed through the system and in the interfaced system; data is sent to the agency for processing. It is also conceivable to have combinations of the two systems. With this in place, documentation becomes an easy process for traders.

2.3.3 Electronic Payment and Trade Facilitation

According to Scholnick et al.., (2008), electronic payment consists of a network of interrelated entities that accelerate data exchange between systems to initiate sanction and expedite cash transfer between two parties. According to Abeywickrama and

Wickramaarachchi, (2015), the system serves as transaction hub and is integrated to all authorities. Declarations and permits are received electronically in a single application. It allows traders to submit standard data only once and the system distributes the data to the agencies that have an interest in the transaction. The approvals will then be transmitted electronically from the government authorities to the trader's computer with attachment of functionality permitting fees and duties to be calculated and drawn from the trader's bank account.

According to Chiemeke (2009), successful use of technologies such as e-banking depends on how the technologies are used together with other technologies. When it comes to Africa, the most critical barrier is limited information and communication infrastructure availability.

2.4 Critics of the Study

For SWS to be of relevance, the information should be input at its origin via SWS for effective coordination between the two trading countries. Systems have to be established in the originating countries and then interconnected with destination countries. According to Mahadi and Hashim, (2015), Electronic document Management Systems (EDMS) implementation is a complex issue that involves organizational, technological and user-related divisions. Organizational factors are in regards with processes, procedures and rules. For instance, clarified that the implementation of EDMS can be negatively influenced by the lack of basic legislative regulations on the state level and unadjusted rules and regulations inside the organization. When it comes to technical factors it is stated that poor electronic records management could lead to costly legal liabilities while maintaining the security of digital records over time is a big challenge to many governments.

According to UN/CEFACT, (2005), a case study of Finland. Without the co-operation between authorities and real commitment the idea does not work, no matter how good the system is technically. Some of the authorities are not used to or do not like to share information with other authorities which become great obstacles to efficiency of SWS. There are also matters of authority (who will take the lead?), how will financing be shared and what about federal borders. The authorities may also be located under different ministries. This makes the Single window system a complicated change which many developing countries may shy away from implementing.

2.5 Research Gap

As discussed in the literature review, studies on single window system which has been carried out in relation to trade facilitation in those countries which have implemented the Single Window System shows how the SWS have been of essential effect to trade facilitation. However, in Kenya not much have been researched on in relation to this topic but just on how implementation of SWS acts as a trading tool but not based on the clearing and forwarding companies. This is the reason it was relevant to study the effects of SWS on trade facilitation in Kenya based on clearing and forwarding companies in Nairobi area. This therefor calls for further research in near future to affirm the development brought about by this single window system.

2.6 Summary

According to UN/CEFACT, a Single Window system is a trade facilitation tool which enables international traders to submit regulatory documents such as customs declarations and applications for import/export permits at a single location. This is the system which allows parties involve in trade and transport to lodge standardized information and documents with a single -entry point to fulfill all import, export, and transit-related regulatory requirements. “If information is electronic, then individual

data elements should only be submitted once". Independently from its description as a platform, environment, or facility, a Single Window can best be understood by the service that it aims to provide to traders and government authorities alike. Such service is that it facilitates the exchange of trade relevant information between traders and government agencies and amongst government agencies for obtaining permits, licenses, certificates and necessary approvals. It does so by allowing traders, or their agents, to submit trade documents and data, in electronic or paper form, through a single- entry point. It is a practical application of trade facilitation concept intended to reduce non-tariff trade barriers and deliver immediate benefits to all members of the trading community.

2.7 Conceptual Framework

Independent variable is the variable presumed to affect a dependent variable. It can be changed as required; its values do not represent a problem which needs explanation in an analysis, but are taken simply as given (Florian, 2006). The independent variables in this study were information sharing, documentation and electronic payment. A dependent variable is the variable measured in the experiment and what is affected during the experiment. This variable responds to the independent variable. The dependent variable in this study was trade facilitation. The diagrammatic form below shows the relationship between these independent and dependent variables.

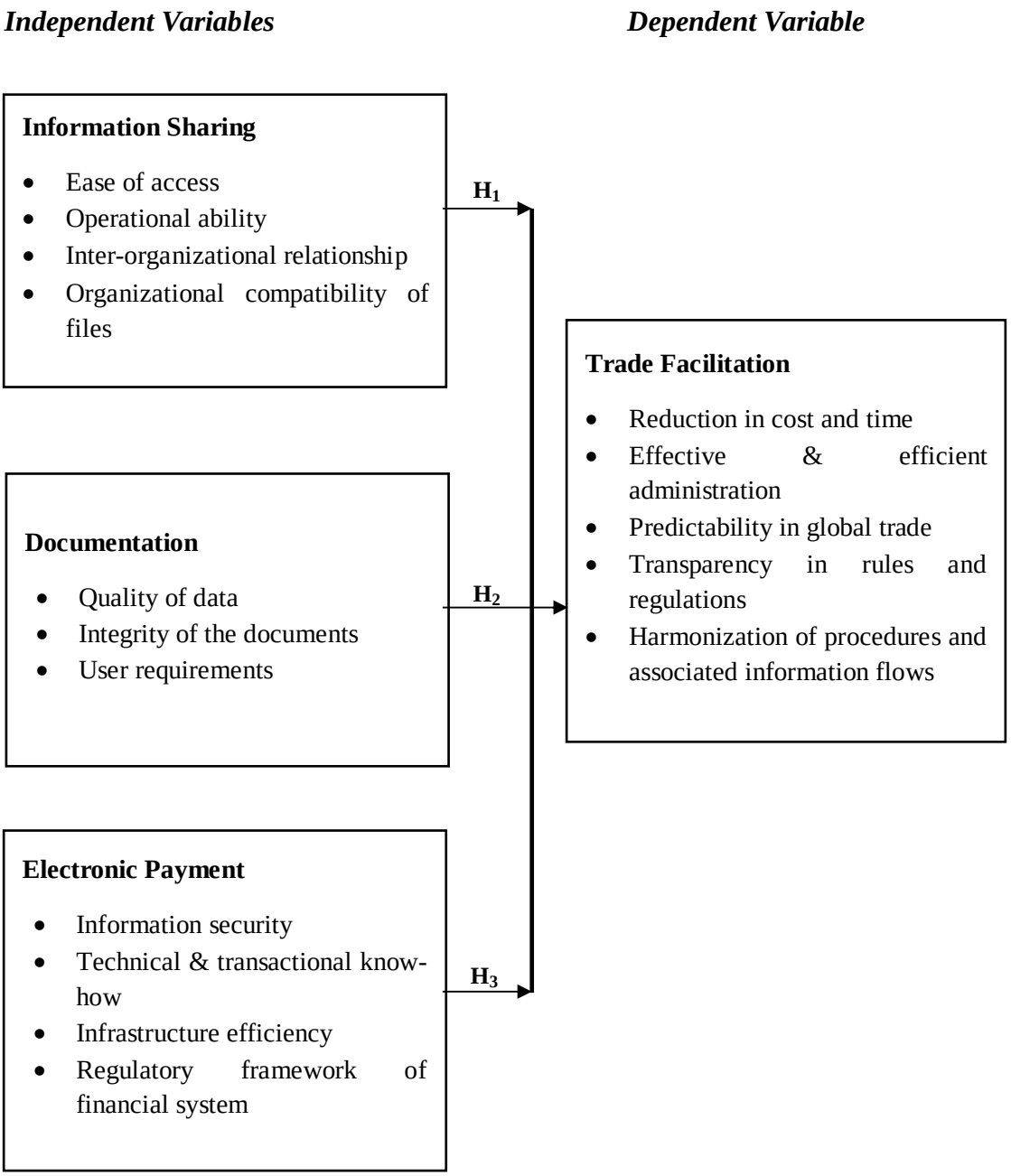

Figure 2.1: Conceptual Framework

Source: Author, (2020)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter deals with research methodology that was used to conduct the study. It covers research design, population of interest, the sample and sampling technique, data collection instrument, data collection procedure and data analysis technique.

3.1 Research Design

Research design is described as a plan that shows how, when and where data is to be collected and analyzed. An exploratory research design was employed. Kothari, (2014) asserts that an exploratory research design is a flexible design that allows the researcher to consider many different aspects of a problem hence helping the researcher to gain new insights and ideas about a problem. Saunder et al (2013) further posits that an exploratory research is used principally to gain a deeper understanding of something. The survey involved application of the questionnaires to employees of picked clearing and forwarding companies in Nairobi area for the purpose of describing and explaining the impact of Single Window system on trade facilitation in Kenya. A survey was used because it is self- administering, relatively cheaper, many questions can be asked and can be used to describe the characteristics of a large population.

3.2 Population

The target population under study was clearing and forwarding companies in Nairobi county. This included a total of 161 registered and licensed clearing and forwarding companies in Nairobi CBD as at 31st October 2020 as per appendix III. This is because they are the most users of the single window system while dealing with

clearing and forwarding of imports and exports hence well aware of the effect this system has on trade facilitation. The unit of analysis was these clearing and forwarding firms with the respondents being the top managers of each firm.

3.3 Sampling and Sample Size

To identify the study population, Slovin's formula (1960) was adopted.

Slovin's formula is:

$$n = \frac{N}{1 + (N(e^2)}$$

Where n is the sample size

N is the population size

e is the margin of error which is 5%

The sample size of 114 respondents was determined as shown below;

$$114 = \frac{161}{1 + (161(0.05^2)}$$

The respondents for the study were selected using purposeful sampling whereby one manager was chosen as a representative for their respective firms.

3.4 Data Collection

The study used primary data which was collected by use of questionnaires administered to the respondents. This data collection instrument was considered ideal because it is cost effective, enables fast and reliable data collection tool since it gave the respondents adequate time to evaluate the information being sought. Questions were formulated in accordance with the variables and their indicators. A formal closed structured questionnaire was obtained and all items were measured on a five-point Likert scale that is; from strongly disagree to strongly agree. The researcher

employed a research assistant who administered the questionnaires individually to all respondents at each firm. There was a lot of care and control. The research assistant made sure that the all the respondents received the questionnaires which were issued. In order for him to get good results, a register was maintained of all the set and received questionnaires. A drop and pick later method was employed in the distribution of questionnaires whereby the questionnaires were picked after two weeks. Follow ups were made through calls and emails to ensure a high response rate.

3.5 Pilot study

The research instruments were pre-tested on 10% (11 respondents) of the sample population to ensure and make appropriate modifications if need be prior to conducting the main research study. In this study, the pilot study was undertaken in clearing and forwarding companies which are outside Nairobi CBD; involving the mangers of the randomly selected companies. The organizations randomly selected was those considered to be among the well performing clearing and forwarding company in Nairobi. The results of the pilot study were used in improving the accuracy and efficiency of the data collection instrument before they are administered to the respondents. This enabled the researcher to revise improper and complicated statements in the questionnaire and to determine the validity of the instrument and level of reliability of the data collected.

3.5.1 Reliability of Data Collection Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results (Mugenda & Mugenda, 2003). Cronbach's alpha was used to determine the internal consistency or average correlation of items in the survey instrument to gauge its reliability to assess and improve upon the reliability of variables derived from summated scales. Cronbach’s alpha coefficient ranges between 0 and 1. The

Cronbach alpha values obtained for all the variables was ensured they are higher than 0.7. This was achieved through rephrasing the questions with low alpha or dropping them. The findings for the reliability analysis based on the pilot study are as per Table 3.1.

Table 3. 1 Reliability Analysis

Variable	No of items	Cronbach's Alpha
Information Sharing	5	0.7889
Documentation	6	0.8148
Electronic Payment	7	0.7607
Trade Facilitation	6	0.7792

Source; Research Findings 2020

As shown, information sharing had a Cronbach Alpha of 0.7889, documentation had a Cronbach Alpha of 0.8148, electronic payment had a Cronbach Alpha of 0.7607 while trade facilitation had a Cronbach Alpha of 0.7792. This thus shows that all the variables had Cronbach Alpha greater than 0.7 and hence the research instrument was reliable and valid.

3.5.2 Validity of Data Collection Instruments

Validity is termed as the level of the accuracy of a claim (Polit, & Beck, 2012). The instrument will be evaluated for content validity that is the extent to which the questionnaire contents which included the use of appropriate vocabulary, sentence structure and whether the questions are suitable for the intended respondents. To achieve this, a draft questionnaire was developed in close coordination with the study supervisors. The final questionnaire was also pre-tested and necessary adjustments made before the actual study conducted. Coherence and accuracy of data collection tools and daily cleaning of data was then ensured. To ensure the validity of the

secondary data results, the researcher tripled check the data collection and calculation processes.

3.6 Data Analysis and Presentation

The data collected was checked for completeness, tabulated and then analyzed by descriptive statistics and inferential statistics to answer the research questions. The data was analyzed using percentages and measures of central tendency. All these procedures enabled the researcher to make comparison and draw valid conclusions. Regression analysis was used to estimate a model that explains the dependent variable in terms of independent variables.

3.6.1 Regression Model

Multiple regression model was used as shown below;

$$\mathbf{Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where;

Y= Trade facilitation

βo= Constant

X_1= Information Sharing

β_1-3= Regression coefficients

X_2= Documentation

ε= Error Term

X_3= Electronic Payment

3.6.2 Regression Assumptions

Diagnostic tests were done in testing regression assumptions and included normality, auto-correlation, multi-collinearity and heteroscedasticity. To test heteroscedasticity, Breusch-Pagan/ Cook-Weisberg test of detecting heteroscedasticity in linear models were used. Heteroscedasticity is a situation in which the variance of the dependent variable varies across the data. Multicollinearity tests was conducted on the regression

model so that incorrect conclusions about the relationship between dependent variable and predictor variables were avoided. Variance Inflation Factor (VIF) and tolerance degree was used to indicate presence of multicollinearity test. Multicollinearity was corrected by removing highly correlated variables. Normality on the other hand was tested using degree of skewness and kurtosis of the variables.

3.7 Measurements of the variables

Table 3.2 shows how the variables for the study were measured and operationalized.

Table 3. 2 Measurement of Research Variables

Variables	Indicators	Likert scale	Analysis
Information Sharing	Ease of access Operational ability Inter-organizational relationship Organizational compatibility of files	5 points	Descriptive statistics Correlation analysis Regression analysis
Documentation	Quality of data Integrity of the documents User requirements	5 points	Descriptive statistics Correlation analysis Regression analysis
Electronic Payment	Information security Technical & transaction know-how Infrastructure efficiency Regulatory framework of financial system	5 points	Descriptive statistics Correlation analysis Regression analysis
Trade Facilitation	Reduction in cost and time Effective and efficient administration Predictability in global trade Transparency in rules and regulations Harmonization of procedures and associated information flows	5 points	Descriptive statistics Correlation analysis Regression analysis

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

This chapter represented the results of the data collected from the field, presented, analyzed and interpreted by the researcher. The research was based at determining the impact of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area. Particularly, the chapter constitutes the study response rate, reliability analysis, background information, descriptive analysis and inferential analysis. The chapter finalizes with the discussion of the key findings.

4.1 Response Rate

The study's target population entailed managers and owners in clearing and forwarding companies in Nairobi. As such, a total of 114 questionnaires were issued out of which 88 were duly filled and returned. This translates to a response rate of 77% as shown by Table 4.1. The response rate is considered to be appropriate as it in line with Mugenda and Mugenda's (2008) assertion that a response rate of 75% and above is very good and enables generalization of findings.

Table 4. 1 Response Rate

Status	Frequency	Percent
Responded	88	77%
Not Respond	26	23%
Total	114	100%

Source; Research Findings 2020

4.2 Background Information

This section contains background information pertaining the research respondents. Particularly, it contains the gender and experience of the respondents, awareness of the single window system and duration of implementation of Single Window System.

4.2.1 Gender of the Respondents

On the gender of the respondents, the study found out that 53% were male while 47% were female as per Figure 4.1. This implies that there was equal representation of both gender hence no biasness in the responses obtained.

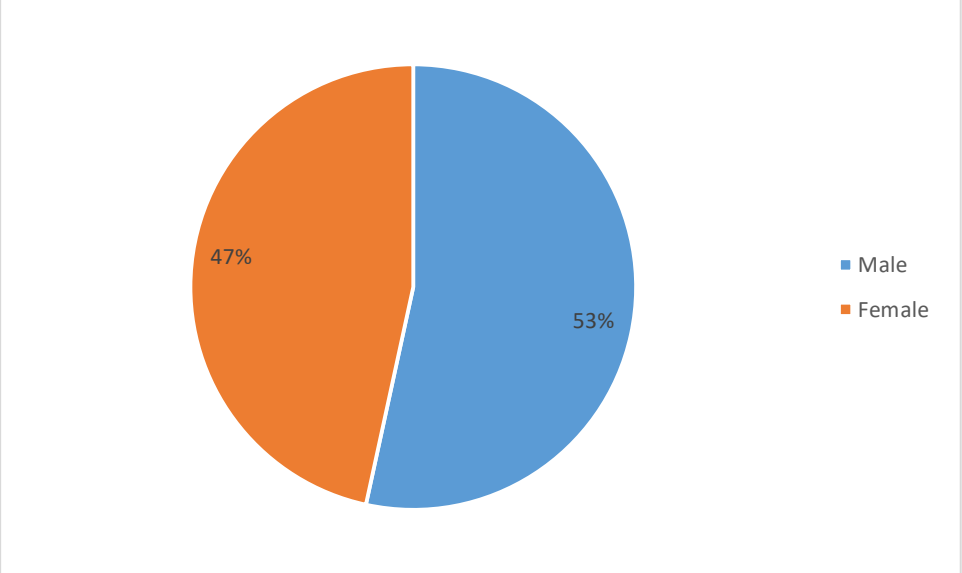

Figure 4. 1 Gender of the Respondents

Source; Research Findings 2020

4.2.2 Experience in the clearing and forwarding sector

This section aimed at determining the experience of the respondents in the clearing and forwarding sector based on the duration which they had worked there. The results obtained as per Table 4.2 revealed that 36% had worked for a duration of more than 15 years, 32% a duration of 10-15 years, 20% a duration of 5-10 years while 11% for less than 5 years. This is an indication that majority of the respondents (68%) had worked for a duration of more than 10 years hence well experienced with Single Window System in the clearing and forwarding firms.

Table 4. 2 Experience in the clearing and forwarding sector

Duration	Percentage	Frequency
Below 5 years	10	**11%**
5 - 10 years	18	**20%**
10- 15 years	28	**32%**
Above 15 years	32	**36%**
Total	**88**	**100%**

Source; Research Findings 2020

4.2.3 Awareness of the Single Window System

The study sought to find out as to whether the respondents were aware of the Single Window System. The results were that all the respondents (100%) were fully conversant with Single Window System. They were therefore knowledgeable and appropriate for the information sought after the study.

4.2.4 Duration of implementation of Single Window System

On the duration of implementation of Single Window System, the results showed that 45% of the firms had implemented SWS for over 10 years, 39% for a duration of 6-10 years while 16% for less than 5 years. This shows that SWS had been implemented for a considerable length of time of over 5 years in majority of the firms (84%).

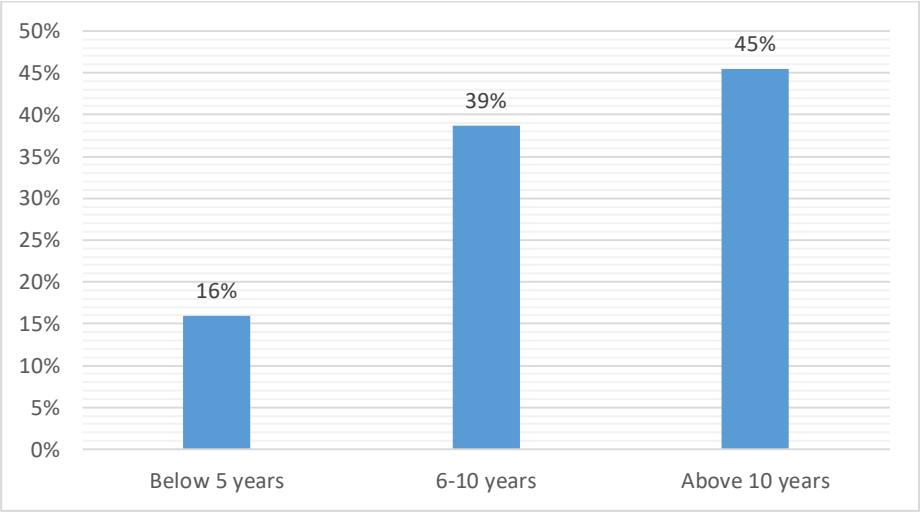

Figure 4. 2 Duration of implementation of Single Window System

Source; Research Findings 2020

4.3 Descriptive Statistics

The objective of the study was determination of the effect of Single Window system on trade facilitation in Kenya on clearing and forwarding companies in Nairobi area. This section contains descriptive statistics of the research variables namely information sharing, documentation, electronic payment and trade facilitation.

4.3.1 Information sharing towards trade facilitation

The study aimed at determining the effect of information sharing on trade facilitation among clearing and forwarding companies in Nairobi. To achieve this, a 5 point Likert Scale was used where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree. The results are shown by Table 4.3.

Table 4. 3: Information sharing towards trade facilitation

Statement	SD	D	N	A	SA	Mean	Std Dev
Information sharing between relevant stakeholders using SWS positively affects trade facilitation	1%	8%	13%	39%	40%	4.08	0.8917
Ease of access to trade information in SWS enhances trade facilitation	1%	10%	30%	35%	24%	3.70	0.6108
Operation ability of SWS when it comes to information sharing affects trade facilitation	2%	6%	24%	56%	13%	3.70	0.8850
Good inter-organizational relationship in information sharing and integration enhances trade facilitation	1%	6%	18%	30%	45%	4.13	0.9313
Organizational compatibility of files fastens information sharing hence efficiency in trade facilitation	1%	6%	18%	27%	48%	4.15	0.9688
Average Mean Score						**3.95**	**0.8575**

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Source; Research Findings 2020

As per Table 4.3, most of respondents strongly agreed on good inter-organizational relationship in information sharing and integration enhances trade facilitation,

organizational compatibility of files fastens information sharing hence efficiency in trade facilitation and information sharing between relevant stakeholders using SWS positively affects trade facilitation having means of 4.13, 4.15 and 4.08 respectively. The respondents also agreed on Ease of access to trade information in SWS enhances trade facilitation and operation ability of SWS when it comes to information sharing affects trade facilitation with means of 3.70 each. On average, information sharing had a mean score of 3.95 and standard deviation of 0.8575 which indicates a large extent of effect (mean>3.5) on trade facilitation among clearing and forwarding companies in Nairobi.

4.3.2 Documentation towards trade facilitation

The study aimed at establishing the role of documentation on trade facilitation among clearing and forwarding companies in Nairobi. To achieve this, a 5 point Likert Scale was used where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree. The results are shown by Table 4.4.

Table 4. 4: Documentation towards trade facilitation

Statement	SD	D	N	A	SA	Mean	Std Dev
Documentation of trade processes affects trade facilitation	6%	17%	9%	41%	27%	3.67	0.7135
With good quality data available for trade stakeholders, trade facilitation is enhanced	2%	5%	15%	19%	59%	4.28	1.2105
The integrity of the documents to the last step of executing trade process affects trade facilitation	1%	10%	16%	23%	50%	4.10	0.9976
Single Window system effectively provide user requirements necessary for enhancing efficiency in trade facilitation	0%	3%	30%	44%	23%	3.86	0.7481
Average MeanScore						**3.98**	**0.9174**

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Source; Research Findings 2020

As shown by Table 4.4, most of the respondents strongly agreed on with good quality data available for trade stakeholders, trade facilitation is enhanced and the integrity of the documents to the last step of executing trade process affects trade facilitation having means of 4.28 and 4.10 respectively. The respondents also agreed on Single Window system effectively provide user requirements necessary for enhancing efficiency in trade facilitation and Documentation of trade processes affects trade facilitation with means of 3.67 and 3.86 respectively. Overall, documentation had an average mean score of 3.98 and standard deviation of 0.9174 which indicates a large extent of effect (mean>3.5) on trade facilitation among clearing and forwarding companies in Nairobi.

4.3.3 Electronic Payment towards trade facilitation

The study sought to find out the impact of electronic payment on trade facilitation among clearing and forwarding companies in Nairobi. To achieve this, a 5 point Likert Scale was used where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree. The results are shown by Table 4.5.

Table 4. 5: Electronic Payment towards trade facilitation

Statement	SD	D	N	A	SA	Mean	Std Dev
Information security in regards to E-payment affects trade facilitation	3%	13%	22%	28%	34%	3.77	0.6770
Technical and transactional know-how of SWS affects trade facilitation	5%	9%	23%	23%	41%	3.86	0.7945
With information and communication infrastructure efficiency, trade facilitation through E-payment is accomplished	1%	5%	11%	39%	44%	4.20	0.9859
With better understanding of regulatory framework of financial system, use of E-payment enhances trade facilitation	1%	9%	17%	34%	39%	4.00	0.8195
Average Mean Score						**3.96**	**0.8192**

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Source; Research Findings 2020

The findings obtained as per Table 4.6 indicate that the respondents strongly agreed on with information and communication infrastructure efficiency, trade facilitation through E-payment is accomplished and with better understanding of regulatory framework of financial system, use of E-payment enhances trade facilitation with means of 4.20 and 4.00 respectively. The respondents also agreed on Information security in regards to E-payment affects trade facilitation and Technical and transactional know-how of SWS affects trade facilitation having means of 3.77 and 3.86 respectively. On average, electronic payment had a mean score of 3.96 and standard deviation of 0.8192 which indicates a large extent of effect (mean>3.5) on trade facilitation among clearing and forwarding companies in Nairobi.

4.3.4 Trade Facilitation

The study sought to determine the extent of trade facilitation of clearing and forwarding companies in Nairobi. To achieve this, a 5 point Likert Scale was used where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree. The results are shown by Table 4.6.

Table 4. 6 Trade Facilitation

Statement	SD	D	N	A	SA	Mean	Std Dev
Reduction in costs and time to markets by use of SWS enhances trade facilitation	8%	24%	35%	24%	9%	3.02	0.4004
Effective and efficient administration enhances trade facilitation	7%	9%	18%	25%	41%	3.84	0.8013
With increase predictability in global trade, there is maximum achievement in trade facilitation	14%	11%	27%	32%	16%	3.25	0.4690
With transparency in rules and regulations on trade, there is improved trade facilitation	3%	3%	27%	41%	25%	3.81	0.7101
Harmonization of procedures and associated information flows in moving goods from exporters to importers improves trade facilitation	0%	8%	17%	30%	45%	4.13	0.9281
Average MeanScore						**3.61**	**0.6618**

SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Source; Research Findings 2020

As shown, the respondents agreed on harmonization of procedures and associated information flows in moving goods from exporters to importers improves trade facilitation, with transparency in rules and regulations on trade, there is improved trade facilitation and effective and efficient administration enhances trade facilitation having means of 4.13, 3.81 and 3.84 respectively. The respondents were however neutral on reduction in costs and time to markets by use of SWS enhances trade facilitation and with increase predictability in global trade, there is maximum achievement in trade facilitation with means of 3.02 and 3.25 respectively. Overall, trade facilitation had an average meanscore of 3.61 and standard deviation of 0.6618 which implies a large extent (mean>3.5). This shows that trade facilitation among these firms was above average and positive.

4.4 Diagnostic Tests

Diagnostic tests on the assumptions of regression analysis were done to ensure that the quality of quantitative assessment is valid. These included the normality test, multicollinearity test, correlation test and heteroscedasticity.

4.4.1 Test for Normality

The test for normality was undertaken so as to ensure that the study variables are normally distributed. This was through accessing the skewness and kurtosis of the variables whereby; Skewness is the extent to which a distribution of values deviates from symmetry around the mean and Kurtosis which is a measure of the "peakedness" or "flatness" of a distribution. The results obtained are shown by Table 4.7.

Table 4. 7 Test for Normality

	N	Skewness	Kurtosis
Information Sharing	88	0.882	0.782
Documentation	88	0.646	1.389
Electronic Payment	88	0.235	0.984
Trade Facilitation	88	0.691	-1.002
Valid N (listwise)	88		

Source: Research Data, 2020

The findings as shown by Table 4.7 reveal that Information Sharing had a Skewness of 0.822 and a Kurtosis of 0.782, Documentation had a Skewness of 0.646 and a Kurtosis of 1.389, Electronic Payment had a Skewness of 0.235 and a Kurtosis of 0.984, while Trade Facilitation had a Skewness of 0.691 and a Kurtosis of -1.002. Hence all the dependent and predictor variables were well distributed as their Skewness values were falling between +/-1 to +/-1 and their kurtosis values were around to 0, +2 or -2.

4.4.2 Test for Multicollinearity

To test for multicollinearity, degree of Tolerance and Variance inflation factor (VIF) were used. The findings obtained are presented in Table 4.8.

Table 4. 8 Test for Multicollinearity

Variable	Tolerance	VIF
Information Sharing	0.687	1.456
Documentation	0.609	1.642
Electronic Payment	0.597	1.676
Trade Facilitation	0.534	1.872

Source: Research Findings (2020)

The results in Table 4.8 indicates that Information Sharing had a tolerance of 0.687 and VIF of 1.456, Documentation had a tolerance of 0.609 and VIF of 1.642, Electronic Payment had a tolerance of 0.597 and VIF of 1.676 while Trade Facilitation had a tolerance of 0.534 and VIF of 1.872. This shows that all the research variables had tolerance of greater than 0.1 and VIF less than 10. The findings implied that there was no multicollinearity problem as proposed by Alin, (2010). Therefore, it indicated that the obtained relationship was not as a result of independent variables being related and there was no need of dropping any of the variables.

4.4.3 Test for Serial Correlation

The study tested for autocorrelation using Durbin-Watson with the findings obtained being presented in Table 4.9.

Table 4. 9 Test for Serial Correlation

Variables	Durbin-Watson
a. Predictors: (Constant), Information Sharing, Documentation, Electronic Payment b. Dependent Variable: Trade Facilitation at Clearing and Forwarding firms	1.684

Source: Research Findings (2019)

The study obtained a Durbin-Watson of 1.684 as shown by Table 4.9. The Durbin Watson obtained is within the critical 1.5<d<2.5. This implies that there was no linear serial correlation in the multiple regression model.

4.4.4 Test for Heteroscedasticity

Heteroscedasticity occurs when the variance of the errors varies across the observations. If the error terms do not have constant variance, they are said to be heteroscedastic. This study used Breusch-Pagan/ Cook-Weisberg to test for heteroscedasticity. The null hypothesis is that the error variances are all equal while the alternative hypothesis is that the error variances are a multiplicative function of one or more variables. The findings obtained as presented by Table 4.10 indicate that the constant variance (Chi^2 = 54.02) is insignificant (P = 0.325). A greater chisquare value larger than 9.21 would show that heteroscedasticity was present. Thus, the study failed to reject the null hypothesis and conclude that the error variance is equal thus heteroscedasticity is not a problem in the study data. Hence, the study accepted the null hypothesis that there is no difference in residual variance of independent to dependent variables tested.

Table 4. 10 Test for Heteroscedasticity

Model	H_0	Variables	Chi^2 (4)	Prop>Chi^2
1	Constant variance	Trade Facilitation, Information Sharing, Documentation, Electronic Payment	54.02	0.325

4.5 Inferential Statistics

To determine the relationship that existed between the research variables inferential analysis including correlation and regression analysis was undertaken.

4.5.1 Correlation Analysis

In this study, Karl Pearson's coefficient of correlation was employed in establishing the association that existed between the research variables. The results of the correlation analysis are presented by Table 4.11.

Table 4. 11: Correlation Analysis

		Trade Facilitation	Information Sharing	Documentation	Electronic Payment
Information Sharing	Pearson Correlation	.0377**	1		
	Sig. (2-tailed)	0			
Documentation	Pearson Correlation	.1835**	0.0241*	1	
	Sig. (2-tailed)	0.002	0.0471		
Electronic Payment	Pearson Correlation	.4672**	0.256*	.535	1
	Sig. (2-tailed)	0.001	0.01205	0.5880	
N		88	88	88	88

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

Source; Research Findings 2020

As shown by Table 4.11, Information Sharing had Pearson Correlation of 0.0377 and a p-value of 0.000, Documentation had Pearson Correlation of 0.1835 and a p-value of 0.002 while Electronic Payment had Pearson Correlation of 0.4672 and a p-value of 0.001. The correlation matrix therefore implies all the variables have a strong positive influence on trade facilitation among the clearing and forwarding firms. The p-value indicated that all the variables had significant relationships at 99% confidence level ($p<0.01$). This indicates that these factors are able to predict changes in the trade facilitation.

4.5.2 Regression analysis

The regression analysis was used to establish the strength of the relationship that exists between the research variables. The independent variables of the study was the various constructs of Single Window System including Information Sharing, Documentation and Electronic Payment while the dependent variable was trade facilitation of the clearing and forwarding companies in Nairobi. The regression model summary results obtained are shown by Table 4.12.

Table 4. 12 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.524[a]	0.275	0.218	0.1505

a. Predictors: (Constant), Information Sharing, Documentation, Electronic Payment

As shown by Table 4.13, the coefficient of determination R square is 0.275 which implies that 27.5% of changes in the trade facilitation are explained by the studied factors. Analysis of Variance was conducted to check on the significance of the Model as per Table 4.13.

Table 4. 13: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.3263	3	0.1088	10.563	0.006
Residual	0.8611	84	0.0103		
Total	1.1874	87			

a. Predictors: (Constant) Information Sharing, Documentation, Electronic Payment
b. Dependent Variable: Trade Facilitation

According to Table 4.13, the significance of the model is 0.006 less than both 0.01 and 0.05 showing that the model was significant in explaining influence of SWS on trade facilitation. The model coefficients obtained by the study are shown in Table 4.14.

Table 4. 14: Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	0.563	0.236		2.392	0.018
Information Sharing	0.251	0.066	0.275	3.826	0.000
Documentation	0.211	0.071	0.227	2.978	0.003
Electronic Payment	0.186	0.067	0.213	2.764	0.007

a. Dependent Variable: Trade Facilitation

The value of the constant in Table 4.14 shows that trade facilitation will always exist at a certain minimum (β_0 =0.563, $P < 0.05$). All the independent variables were found to influence trade facilitation positively and significantly namely; Information Sharing

($\beta 1 = 0.275$, $P < 0.05$), Documentation ($\beta_2 = 0.227$, $P < 0.05$) and Electronic Payment ($\beta_3 = 0.213$, $P < 0.05$). This implies that an increase in these practices will result in improved trade facilitation. All the variables, have a p-value less than 5% ($P < 0.05$) meaning that, when all variables in this study are combined, they are significant in explaining the variations in trade facilitation.

4.6 Test of Hypothesis

4.6.1 Test of Hypothesis One

H_{O1}: Information sharing has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

This hypothesis intended to test whether information sharing positively translate to better trade facilitation among clearing and forwarding companies in Nairobi. The hypothesis H01: $\beta 1 = 0$ versus H1: $\beta 1 \neq 0$ was tested. The findings from the bivariate correlations in Table 4.11, Information Sharing (X_1) has a positive and significant influence on trade facilitation (r=0.0377**, P=0.000). On the other hand, the univariate regression results in Table 4.12 shows that Information sharing influence trade facilitation positively and significantly ($\beta 1 = 0.275$, $P < .001$). This leads to the rejection of the null hypothesis (H01) and acceptance of (H1). This study, therefore, concludes that Information sharing has a significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

4.6.2 Test of Hypothesis Two

H_{O2}: Documentation has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

This hypothesis intended to test whether documentation positively translate to better trade facilitation among clearing and forwarding companies in Nairobi. The

hypothesis H02: $\beta 2 = 0$ versus H2: $\beta 2 \neq 0$ was tested. The findings from the bivariate correlations in Table 4.11, documentation (X2) has a positive and significant influence on trade facilitation (r=0.1835**, P=0.002). On the other hand, the univariate regression results in Table 4.12 shows that documentation influence trade facilitation positively and significantly ($\beta_2 = 0.227$, $P < 0.05$). This leads to the rejection of the null hypothesis (H02) and acceptance of (H2). This study, therefore, concludes that documentation has a significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

4.6.3 Test of Hypothesis Three

H_{O3}: Electronic payment has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

This hypothesis intended to test whether electronic payment positively translate to better trade facilitation among clearing and forwarding companies in Nairobi. The hypothesis H03: $\beta 3 = 0$ versus H3: $\beta 3 \neq 0$ was tested. The findings from the bivariate correlations in Table 4.11, Electronic payment (X3) has a positive and significant influence on trade facilitation (r=0.4672**, P=0.001). On the other hand, the univariate regression results in Table 4.12 shows that Electronic payment influence trade facilitation positively and significantly ($\beta 3 = 0.213$, $P < 0.05$). This leads to the rejection of the null hypothesis (H03) and acceptance of (H3). This study, therefore, concludes that Electronic payment has a significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

The summary of the study hypothesis that were tested is presented by Table 4.15.

Table 4.15: Hypothesis Testing Results

Hypothesis	Test	Criteria	Findings	Conclusion
$H0_1$: Information sharing has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.	Simple and Multiple Regression	P-values (P<0.05)	(P= 0.000, <0.05).	Reject the hypothesis
$H0_2$: Documentation has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.	Stepwise Regression Analysis	P-values (P<0.05)	(P= 0.003, <0.05).	Reject the hypothesis
$H0_3$: Electronic payment has no significant effect on trade facilitation in clearing and forwarding companies in Nairobi.	Stepwise Regression Analysis	P-values (P<0.05)	(P=0.007, <0.05).	Reject the hypothesis

4.7 Discussion of Findings

Specific Objective One: To determine effects of information sharing on trade facilitation in clearing and forwarding companies in Nairobi.

The study aimed at determining effects of information sharing on trade facilitation in clearing and forwarding companies in Nairobi, the correlation analysis revealed that Information Sharing has a strong positive influence on trade facilitation among the clearing and forwarding firms. This is supported by the regression model coefficient of 0.275 obtained. This is attributed to the fact that Single window system is used in information sharing whereby one authority receives information, either on paper or electronically and disseminates this to the other involved authorities. Furthermore the platform allows for traders to have a data repository within it, thus allowing them to have access to older information and not have to fill all applications and information as new on a transaction basis, (Mowerman, 2013).

Specific Objective Two: To evaluate the effects of documentation on trade facilitation in clearing and forwarding companies in Nairobi.

The study sought out to evaluate the effects of documentation on trade facilitation in clearing and forwarding companies in Nairobi. Based on the findings of the correlation matrix therefore implies documentation had a strong positive influence on trade facilitation among the clearing and forwarding firms. In a similar manner, the regression analysis revealed a model coefficient of 0.227. According to Ndonga, (2015), a key feature of single window system is that it provides an interface for the collection, storage, use and dissemination of trade-related data.

Specific Objective Three: To find out the effects of electronic payment on trade facilitation in clearing and forwarding companies in Nairobi.

The study aimed at finding out the effects of electronic payment on trade facilitation in clearing and forwarding companies in Nairobi. The correlation results revealed a strong positive influence on trade facilitation among the clearing and forwarding firms. This compares to the regression model coefficient of 0.213 obtained. According to Scholnick et al.., (2008), electronic payment consists of a network of interrelated entities that accelerate data exchange between systems to initiate sanction and expedite cash transfer between two parties. Similarly, Chiemeke (2009), found out that successful use of technologies such as e-banking depends on how the technologies are used together with other technologies.

General Objective: To examine the effects of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area.

The main objective of the study was determining the effects of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area.

The findings from the regression analysis obtained a coefficient of determination R square of 0.275 which implies that 27.5% of changes in the trade facilitation are explained by the studied factors. Therefore, Single Window system had a significant positive effect on trade facilitation in Kenya.

Theoretically, this positive effect is supported by The Theory of Customs Unions which postulates that with the implementation of single window systems this discriminatory changes in trade barriers is dealt with and unification of trade documentations becomes way forward in improving trading activities hence its effects on trade facilitation in the country/economy. Similarly, Behavioral Theory argues that information system can help an organization to recognize processes that need to be changed. Also it can be used to automate some of those processes or determine those that are no longer needed. Whereas Technology Acceptance Model posits that due to the perceived ease of use, perceived value and phenomena of Single Window System it will increase the extent of use in trade facilitation. Empirically, Ndonga, (2015) established that SWS is essentially trade facilitation tool whose primary purpose is to simplify and harmonize processes associated with cross border movement of goods. In addition, according to KOH and Mowerman, (2013) implementation of this tool further facilitates trade transactions and benefits exporting countries greatly.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary findings on impact of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area. The chapter also presents the conclusions reached after by the study as well as recommendations made. The suggestions on areas of further research are discussed at the end of the chapter.

5.1 Summary of Findings

The overall purpose of this study was to investigate the effect of SWS on trade facilitation in Kenya. The study adopted explanatory research design in collecting data from employees of chosen clearing and forwarding companies in Nairobi area. The study target population was 161 registered companies operating in Nairobi. A sample size of 114 firms was arrived at using Solvin's formula who were chosen using purposeful sampling. The study adopted closed ended structured questionnaire as research instrument. The study analyzed data by use of inferential and descriptive statistics by use of SPSS version 3.0. The findings of the study are summarized as below.

5.1.1 Effect of information sharing on trade facilitation in clearing and forwarding companies in Nairobi

This first objective of the study was to investigate whether information sharing positively translate to better trade facilitation among clearing and forwarding companies in Nairobi. The findings from the bivariate correlations showed that Information Sharing has a positive and significant influence on trade facilitation. This

was supported by the univariate regression results which also showed that Information sharing influences trade facilitation positively and significantly.

5.1.2 Effect of documentation on trade facilitation in clearing and forwarding companies in Nairobi

The second objective of the study investigated the effect of documentation on trade facilitation among clearing and forwarding companies in Nairobi. The findings from the bivariate correlations, documentation has a positive and significant influence on trade facilitation. In a similar manner, the univariate regression results also showed that documentation influence trade facilitation positively and significantly.

5.1.3 Effect of information sharing on trade facilitation in clearing and forwarding companies in Nairobi

The third objective was on the effect of information sharing on trade facilitation among clearing and forwarding companies in Nairobi. The findings from the bivariate correlations, electronic payment has a positive and significant influence on trade facilitation. This is supported by the univariate regression results which also showed that Electronic payment influence trade facilitation positively and significantly. In this regard, the study concludes that Electronic payment has a significant effect on trade facilitation in clearing and forwarding companies in Nairobi.

5.1.4 Relationship between information sharing and trade facilitation

The main objective of the study was determining the effects of Single Window system on trade facilitation in Kenya, focusing on clearing and forwarding companies in Nairobi area. The findings from the regression analysis obtained a coefficient of determination R square of 0.275 which implies that 27.5% of changes in the trade

facilitation are explained by the studied factors. Therefore, Single Window system had a significant positive effect on trade facilitation in Kenya.

5.2 Conclusions

From the study's findings, the study makes several conclusions. To begin with, the study found out that information sharing, documentation and electronic payment had a large extent of effect on trade facilitation of the clearing firms. The study makes the conclusion that information sharing, documentation and electronic payment greatly determine how the clearing and forwarding companies based in Nairobi grow and perform. The study also found out that despite significant improvement of trade facilitation of these firms, the expected levels are yet to be achieved. The study thus concludes that implementation of SWS could be the solution to the challenges impending realization of trade facilitation. The study further established that SWS had a significant and positive relationship on trade facilitation. Single Window System is thus concluded to not only enhance trade but also reduce the costs of trade while increasing the levels of international trade. Additionally, the study also concludes that ultimate result of SWS is a trade facilitation environment that makes room for business to thrive and the government to benefit from the increase in revenue collection.

5.3 Recommendations

5.3.1 Recommendation for Practice

Based on the identified gaps it was recommended that all SWS stakeholders and managers in the firms are involved in the all the stages of the SWS processes. Internal and external stakeholders should be identified to brainstorm on the action plans to be adopted to ensure inefficiencies in the SWS operations are tackled and thereby leading to an improvement in service quality. There should be transparency and

sensitization of the actionable plans and the role of key actors or stakeholders in the implementation plans to address trade competitiveness issues. The management should also ensure that implementation of the SWS is considered as a key organizational strategic tool in achievement of the required objectives.

5.3.2 Recommendation for Policy

The study recommends that the government needs to look at conflicting/ duplication roles of some regulatory agencies managing the clearance procedures during documentation. The government may also need change some laws which requires input of manual operation such stamping of clearance documents. The government needs also to improve port infrastructure such internet, road way which will improve flow of trucks and also faster processing of documents. There is also need to train of the various agencies staff at the port on the dynamics of business or emerging trends to enable them change with time.

The study recommends that appropriate mechanisms should be put in place in ensuring seamless flow of information. The government through the Custom and Border Department are recommended to develop electronic data interchange systems for filing, transferring, processing and exchanging customs information for managing flows of information. These systems should allow traders to submit relevant documents and pay duties online. When implemented effectively, such systems provide long-term benefits: they save time and money while streamlining procedures, limiting direct interactions with government officials and reducing opportunities for bribery. Furthermore, the economies can benefit from customs electronic data interchange systems as they can help governments promote cross-border trade, combat fraud and track statistical information on foreign trade transactions. They

should further ensure that there is organizational compatibility of files required during the clearing processes.

The study recommends that the government of Kenya should continue developing regulations that enhance the legal the development of electronic payment solutions. The regulations would provide the required transaction features like security non-repudiation, anonymity, divisibility among others, which will encourage banks to develop electronic payment solutions with the hope that they will be embraced by the market. Proper awareness and marketing should also be done to the public to educate them on electronic payment systems benefits.

5.3.3 Recommendation for Theory

The study suggests further research should be done on the other measures other than those covered by the study. This will ensure comprehensive determination of the phenomenon that exists. In addition, the study was concentrated only on clearing and forwarding firms in Nairobi, which may not be an actual representation of trade facilitation of other firms in other organizations or in different regions. Further studies should be conducted on other organizations and different regions so as the findings may be compared. Additionally, a similar study is suggested to be conducted a different time frame so as to establish whether the status of SWS implementation and trade facilitation would be have improved or not. Further research is also recommended on a more exhaustive impact analysis on interoperability, in which new technologies like blockchain are beginning to play a fundamental role.

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APPENDICES

Appendix I: Introduction Letter

Dear Sir / Madam,

I am a student at Kenya School of Revenue Administration pursuing a degree of Master in Tax and Customs Administration. I am currently carrying out a research on **"EFFECT OF SINGLE WINDOW SYSTEM ON TRADE FACILITATION IN KENYA".** I would like to collect data from you based on your views in regard to Single Window System affecting trade facilitation through clearing and forwarding practices. Information given here will be treated with confidentiality and will be used for academic purpose only.

Thank you in advance.

Osmond Kipkurui Koros

Student

Appendix II: Questionnaire

The information given on this questionnaire is strictly meant for academic purpose and will remain confidential. You are kindly requested to fill in the questionnaire in the spaces provided.

Section A: Background information of the respondents

1. Male ( ) Female ( )
2. How long have you worked in clearing and forwarding sector?

   a) Below 5 years ( ) b) 5-10 years ( )

   c) 10-15 years ( ) d) above 15 years ( )
3. Are you conversant with the Single Window System? Yes ( ) No ( )
4. How many years has your organization implemented Single Window System for trade facilitation?

   Below 1year ( ) 1-5 years ( ) 6-10 years ( ) Over 10 years ( )

   Not at all ( )

Section B: Information sharing towards trade facilitation

Kindly indicate your views on Information sharing towards trade facilitation by ticking in the likert scale whereby; 5-Strongly Agree, 4-Agree, 3-Indifferent, 2-Disagree, 1-Strongly Disagree.

Statement	**Strongly Agree**	**Agree**	**Indifferent**	**Disagree**	**Strongly Disagree**
	5	**4**	**3**	**2**	**1**
a) Information sharing between relevant stakeholders using SWS positively affects trade facilitation					
b) Ease of access to trade information in SWS enhances trade facilitation					
c) Operation ability of SWS when it comes to information sharing affects trade facilitation					
d) Good inter-organizational relationship in information sharing and integration enhances trade facilitation					
e) Organizational compatibility of files fastens information sharing hence efficiency in trade facilitation					

Section C: Documentation towards trade facilitation

Kindly indicate your views on documentation towards trade facilitation by ticking in the likert scale whereby; 5-Strongly Agree, 4-Agree, 3-Indifferent, 2-Disagree, 1-Strongly Disagree.

Statement	**Strongly Agree**	**Agree**	**Indifferent**	**Disagree**	**Strongly Disagree**
	5	**4**	**3**	**2**	**1**
a) Documentation of trade processes affects trade facilitation					
b) With good quality data available for trade stakeholders, trade facilitation is enhanced					
c) The integrity of the documents to the last step of executing trade process affects trade facilitation					
d) Single Window system effectively provide user requirements necessary for enhancing efficiency in trade facilitation					

Section D: Electronic Payment towards trade facilitation

Kindly indicate your views on electronic payment towards trade facilitation by ticking where appropriate; 5-Strongly Agree, 4-Agree, 3-Indifferent, 2-Disagree, 1-Strongly Disagree.

Statement	**Strong Agree**	**Agree**	**Indifferent**	**Disagree**	**Strongly Disagree**
	5	**4**	**3**	**2**	**1**
a) Information security in regards to E-payment affects trade facilitation					
b) Technical and transactional know-how of SWS affects trade facilitation					
c) With information and communication infrastructure efficiency, trade facilitation through E-payment is accomplished					
d) With better understanding of regulatory framework of financial system, use of E-payment enhances trade facilitation					

Section E: Trade Facilitation

Kindly indicate your views on trade facilitation by ticking where appropriate; 5-Strongly Agree, 2-Agree, 3-Indifferent, 4-Disagree, 1-Strongly Disagree.

Statement	**Strongly Agree**	**Agree**	**Indifferent**	**Disagree**	**Strongly Disagree**
	5	**4**	**3**	**2**	**1**
a)Reduction in costs and time to markets by use of SWS enhances trade facilitation					
b) Effective and efficient administration enhances trade facilitation					
c)With increase predictability in global trade, there is maximum achievement in trade facilitation					
d) With transparency in rules and regulations on trade, there is improved trade facilitation					
e) Harmonization of procedures and associated information flows in moving goods from exporters to importers improves trade facilitation					

Thank you for your time and cooperation

Appendix III: List of Licensed Clearing and Forwarding Agents for the Year 2020

1. Acme Containers Ltd
2. Active Line Limited
3. Adair Freight Services Ltd
4. Aela Company Ltd
5. Aero Cargo Express Ltd
6. Aeropath K. Ltd
7. Affaires Afrique Ltd
8. Africair Management & Logistics
9. Afrifresh Conveyors Ltd
10. Afriq Freight Services Ltd
11. Afro Renaissance Ltd
12. Agriquip Agencies (E.A.) Ltd
13. Agro Traders Company Ltd
14. Ags Worldwide Movers Ltd
15. Ahero Freight Forwarders Company
16. Air Care Charterers & Brokers Ltd
17. Air Connection Limited
18. Air Maritime Kenya Ltd
19. Air World Handlers Ltd
20. Airband Cargo Forwarders Ltd
21. Airflo Ltd
22. Air-Go Consultants Ltd
23. Akarim Agencies C. Ltd
24. Al-Ashraf Trading Co. Ltd
25. Albayan Logistics C & F Ltd
26. Alexandria Freight Forwarders Ltd
27. Alis Freight Limited
28. All Marine Services Ltd
29. All Ports Logistics Kenya Ltd
30. Bemm Importers & Exporters Ltd
31. Benafrica Kenya Limited
32. Beneli Freighters Ltd
33. Benmacy Freighters Ltd
34. Best Edge Holdings Co. Ltd
35. Best Fast Cargo Kenya Ltd
36. Best Wing Cargo Limited
37. Bestfreight Conveyors Ltd
38. Blue Hill Investments Ltd
39. Blue Seal Freighter
40. Borderless Logistics Company Ltd
41. Bosmar C & Fowarding Enterprises
42. Bridge Freighters & Forwarders
43. Bridge Ways Merchants
44. Bridgeco International Ltd
45. Bright Morning Star & General Merchants
46. Brightfield Cargo Ltd

47. Bringel Enterprises Ltd
48. British American Tobacco
49. Brits Freighters Ltd
50. Cargo Nest Kenya Ltd
51. Cargo Point International Ltd
52. Cargo Rollers Ltd
53. Cargo Stars Kenya Ltd
54. Cargo World Conveyors Ltd
55. Cargodeck East Africa Ltd
56. Carjet (K) Ltd
57. Carramore International Ltd
58. Catesam Enterprises
59. Chiro Heights Investments
60. Contemporary Financial
61. Continental Cargo Services (K) Ltd
62. Continental Freighters Ltd
63. Continental Logistics Networks Ltd
64. Conto-Logic Forwarders Ltd
65. Conventional Cargo Conveyors Ltd
66. Cornerstone Limited
67. Coronet Cargo Limited
68. Corporate Aviation Ltd
69. Corporate Business Forms Ltd
70. East Africa Chains Ltd
71. East African Courier
72. East African Express Ltd
73. Empire Logistic Services Ltd
74. Enco Global
75. Eremo Stores Ltd
76. Eri Kenya Ltd
77. Esro Freighters Ltd
78. Forester Forwarders
79. Fra Alex Top Freighters
80. Framic Cargo Agencies
81. Frank & Geoffrey Cargo Ltd
82. Grace Removers Limited
83. Happy World Freighters Ltd
84. Hashi Empex Ltd
85. Hass Petroleum Kenya Ltd
86. Hebatullah Brothers Ltd
87. Hi Speed Freight Services Ltd
88. High Tech Freight Movers
89. Highland Forwarders Ltd
90. Hollywood Freight Agencies
91. Homeland Freight Ltd
92. Mastuli Freighters Ltd
93. Matsingberg C & Forwarding Co. Ltd
94. Maya Duty Free Ltd
95. Maya Freight Ltd
96. Mayoojn Enterprises Ltd

97. Removals Freight International Ltd
98. Renaissance Limited
99. Rescue Technical Enterprises
100. Rige Limited
101. Salimond Freight Services
102. Salmir Clearing Forwearding Ltd
103. Samachi Cargo Forwarders
104. Sameday Cargo Forwarders
105. Samsy International Agency
106. Samsy International Agency Ltd
107. Sky And Sea Cargo Track
108. Skyland Logistics Ltd
109. Skylark Conveyors Kenya Ltd
110. Skylift Cargo Limited
111. Skyline Global Services
112. Steel Structures Limited
113. Stefrah Consultancy Agencies
114. Sterac Consultants Ltd
115. Straight Line Cargo Forwarders
116. Super First Forwarders Ltd
117. Superfreight Ltd
118. Superior Cargo Conveyors Ltd
119. Supersonic Clearing & Forw. Services
120. Supersonic Freighters
121. Syka Logistics Ltd
122. Synergy Freight & Logistics Ltd
123. System Intergration Ltd Symphony T/A
124. Tabaki Freight Services Intl Ltd
125. Tasara Forwarders Ltd
126. Tastic Enterprises Ltd
127. Tazama Development Company Ltd
128. Techno Relief Services Ltd
129. Tedice Expess Agencies
130. Thaka Limited
131. The Nairobi Clearing House
132. Tho Services Ltd
133. Thomsam Investment
134. Tiba Freight Forwarders
135. Time Fast Freight Forwarders Ltd
136. Timsales Limited
137. Top Speed Freight Forwarders
138. Topen Industries Ltd
139. Upana Wasana (Epz)Ltd
140. Uplift Express Agencies
141. Urgent Cargo Handling Limited
142. Uzuri Exporters Ltd
143. Verity Cargo Services Limited
144. Victoria International Logistics
145. Victoria Nile Freight Ltd
146. Vinep Forwarders Limited

147. Vision Enterprises Ltd
148. Waki Clearing & Forwarding Agencies
149. Wansar Kenya Ltd
150. Warton Agencies
151. Wasikwa General Agency
152. World Cargo Logistics Ltd
153. World Class Freight Logistics Ltd
154. World Leather Freighters
155. World Net Freight Ltd
156. World Wide Cargo Services Ltd
157. Worldrich Services
158. Wrap And Pack Cargo Kenya
159. Year Freighters
160. Youngline Cargo Services
161. Zeth Freighers

Source: KRA, (2020)

Appendix IV: Research Authorization Permit

Kenya School of Revenue Administration

KENYA REVENUE AUTHORITY
ISO 9001:2015 CERTIFIED

REF: KESRA/NBI/036

14th September, 2020

TO WHOM IT MAY CONCERN

RE: REQUEST FOR RESEARCH PERMIT:

NAME ; OSMOND K. KOROS
REG. NO.; KESRA/105/0038/2017

This is to confirm that the above named is a student at Kenya School of Revenue Administration (KESRA) Nairobi Campus pursuing Masters in Tax & Customs Administration.

The named student is undertaking Research on **"Effect of Single Window System on Trade Facilitation In Kenya."**

The purpose of this letter is to request your good office to assist the above student with the information to enable him work on his project.

Thank you.

14 SEP 2020

Dr. Marion Nekesa PHD,
Head Academic Research
KESRA

P. O. Box 48240 – 00100, Nairobi Email: kesratraining@kra.go.ke Tel: +254715877535/9

Tulipe Ushuru Tujitegemee !

2030

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 759228

Date of Issue: 09/December/2020

RESEARCH LICENSE

This is to Certify that Mr:. Osmond Kipkurui of Moi University, has been licensed to conduct research in Nairobi on the topic: EFFECTS OF SINGLE WINDOW SYSTEM ON TRADE FACILITATION IN KENYA: A CASE STUDY OF CLEARING AND FORWARDING COMPANIES IN NAIROBI AREA for the period ending : 09/December/2021.

License No: NACOSTI/P/20/8122

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