ASSESSMENT OF USERS' PERCEPTIONS ON THE USE OF AUTOMATED SYSTEM OF CUSTOMS DATA (ASYCUDA) AS AN INFORMATION MANAGEMENT SYSTEM IN THE NIGERIA CUSTOMS SERVICE

BY

ABUBAKAR DALHATU ZURMI
SPS/08/EDU/00471

A THESIS SUBMITTED TO THE DEPARTMENT OF LIBRARY AND INFORMATION SCIENCES, BAYERO UNIVERSITY, KANO IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY (PHD) IN LIBRARY SCIENCE

Supervisors:

Dr. Halil Ibrahim Sa'id

DR. Shehu Onipe Bello

JANUARY, 2016

DECLARATION

I, Abubakar Dalhatu Zurmi hereby declared that this research was carried out by me in the Department of Library and Information Sciences, Bayero University, Kano under the supervision of Dr. Halil Ibrahim Sa'id and Dr. Shehu Onipe Bello and has not been previously published or presented in any form for the award of academic degree or diploma elsewhere. All sources have been duly acknowledged.

ABUBAKAR DALHATU ZURMI
SPS/08/EDU/00471

CERTIFICATION

This is to certify that this research work for this thesis was carried out by Abubakar Dalhatu Zurmi in the Department of Library and Information Sciences under the supervision of:

Signature:----------

Dr. Halil Ibrahim Sa'id

Major Supervisor

Signature:----------

Dr. Shehu Onipe Bello

(Co-Supervisor)

Signature:----------

Dr. Shehu Onipe Bello

(H.O.D)

APPROVAL PAGE

This is to certify that this work has been examined and approved as meeting the requirements of the School of Postgraduate Studies, Bayero University, Kano, for the award of Doctor of Philosophy Degree (Library and Information Sciences).

Signature:----------
Dr. Halil Ibrahim Sa'id
Major Supervisor

Signature:----------
Dr. Shehu Onipe Bello
(Co-Supervisor)

Signature:----------
Dr. Shehu Onipe Bello
(H.O.D)

Signature:----------
Dr. Bappah M. Abubakar
Internal Examiner

Signature:----------
External Examiner

Signature:----------
Representative of Faculty of Education

Signature:----------
Dean, School of Postgraduate Studies

ACKNOWLEDGEMENTS

The journey has been long and tedious but the destination is the fulfillment of a lifelong ambition. I cannot pretend to be the sole driver in this journey; neither would I be the sole beneficiary of the fruits that will accrue from it. I am first and foremost indebted to the Almighty Allah for His grace, guidance and support throughout the duration of this programme. During the course of this work, many people played significant roles to see to its actualization. I will begin by acknowledging my indebtedness to my supervisors: Dr. Halil Ibrahim Sa'id and Dr. Shehu Onipe Bello for their professional and unparalleled support, guidance and constructive criticism throughout the whole project. They were unusually patient with me and, as such, they remained special to me. I am grateful to all the lecturers of the Department of Library and Information Sciences (B.U.K). Worthy of mention are Prof. Lukman Ibrahim Diso, Prof. Ghaji Abubakar Badawi, Dr. Umar Garba Gama, Dr. Yahya Ibrahim Harande, Dr. Abashe Atiku Maidabino, Dr. Manir Abdullahi Kamba, Dr. Bappah Magaji Abubakar, Dr. Binta Ladan Faruk, Dr. Sani Muhammed Gwarzo, Mal. Musa Abdu Auyo, Mal. Ahmed Muhammed Kwaru, Mal. Abdulkadir Ahmed Idris, Mal. Kabir Garba Bichi, and Mal. Dauda Mohammed Yakasai, and Prof. Michael Gabriel Ochogwu of Benue State University for their advice motivation and contribution towards the successful completion of this work.

Special appreciation to my organization, the Nigeria Customs Service, for giving me the permission and encouragement to undertake this study; and all the Comptrollers, colleagues and subordinates I worked with while on this study, for helping me to balance my work responsibilities and my studies. Comptroller Babani, Deputy Comptroller Bashar, Yusuf Assistant Comptroller Oluwale of the ICT unit at NCS Headquarters; Comptroller Abu Bawa Gusau; Comptroller Dakin Gari S. M.; Comptroller Sanusi A. U.; Comptroller Aminu Abba; Comptroller Bala Gidado; Comptroller Azarema A.A; Comptroller Aminu Dahiru, Comptroller Bawa M.S; Comptroller Yarima A.G and Comptroller Kura M.I are also acknowledged. I thank all my research assistants for their efforts in distributing and collecting my research instruments. I wish to express appreciation to Prof. A. A. Balarabe University Librarian, Usmanu Danfodiyo University, Sokoto, Kabiru Shehu, Deputy Supretendant of Customs Ado Idris Abdulkarim, Deputy Comptroller General Garba Makarfi (RTD), Deputy Comptroller General M. D. Jatau (RTD) Deputy Comptroller General Ahmed M. M. (RTD) and Mal. Shehu Umar Mabera,

currently a PhD student in the same department, for his selfless sharing of materials and expertise throughout this work.

I also want to acknowledge the contributions of my friends and relations like Mohammed, Maryam Abdullahi, Umaru, Aminu, Ahmed, Aishatu, Muazu, Hadiza, Ibrahim, Saratu, Saudatu, Aminatu, Asma'u, Saadiya, Suleman, Hassana, Hussaina, Junaidu and Hafsatu all sons and daughters of late Dalhatu Zurmi of blessed memory. Equally worthy of mention are

Alh. Hamisu Abba Sumaila, Danmaliki, Mal. Aminu, Abdullahi Tijjani, Ubale Garba Gusau, Labaran Dandikko, Nasiru Wara, Kabir Madawaki (Barr.) Maigwandu Ladan, Sule Saiti Aminu Naghari Dutsin ma, Abu Zurmi (Small boy), Kabiru Shehu Kakale (Labka), Sani Ambursa Mainasara Jaja, Mainasara Gasket, Mainasara Zurmi, Alh. Uba Jogana, Abu Gombe, Hafiz Barde, Habibu Ya'u, Oga Mala, Oga Deputy Comptroller Ahmed (TOKAS) Assistant Comptroller Rabe Sale, Assistant Inspector of Custom Nura, Hajia Lami Gusau, Abdullahi Kyafe, and Malami NDA.

I am specifically, and especially indebted to my wives: Hajia Sadiya and Raliya Abubakar Zurmi for standing by me throughout the period of my studies. My children Abduljalal, Anwar, Mubarak, Musa, Asma'u, Fatima and Maimunatu. I wish to acknowledge their prayers and patience during the long period of my studies. Last, but by no means the least, is my dear mother, Hajiya Nana Dalhatu Zurmi, who is so dear to me for raising raised me to become what I am today. I am deeply appreciative of you, dear mother, for the confidence you have in me and for your continued encouragement in my academic career as well as in my life generally.

DEDICATION

This piece of work is dedicated to my late Father, Alhaji Dalhatu Zurmi, his entire family and those people who, in one way or another, contribute to training, moulding, guiding and directing my moral, social and educational life to reach this level in my academic career.

TABLE OF CONTENTS

LIST OF FIGURE OR ILLUSTRATIONS

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

AIS – Accounting Information Systems

ASUWDA – Automatic System for Custom Data

CD – Custom Division

CEMA – Customs and Excise Management Act

CGC – Comptroller General of Customs

CPC – Customs Processing Centre

DTI – Direct Trader Input

ECOWAS – Economic Community of West Africa States

EPZ – Export Promotion Zone

ERCA – Ethiopian Revenue and Customs Authority

ERP - Enterprise Resource Planning

EUCS – End User Computing Support

FIRS – Federal Inland Revenue Service

GNC - Global Network Customs

GRA – Ghana Revenue Authority

HND – Higher National Diploma

ICT – Information Communication Technologies

IMF – International Monitory Fund

IMS – Information Management Systems

IR – Information Retrieval

IS – Information Systems

KLT – Kiri Kiri Lighter Terminal

LIS – Library Information Science

MIS – Management Information Systems

NAFDAC – National Food Drugs Administration and Control

NCE – National Certificate in Education

NCS – Nigeria Customs Service

ND – National Diploma

NDLEA – National Drug Law Enforcement Agency

NII – Non Intrusive Inspection

PCA – Post Clearance Audit

PTML – Port and Terminal Multi-service Limited

SGD – Single Goods Declaration

SMS – Short Message Service

SON – Standard Organization of Nigeria

SPSS – Statistical Package for Social Sciences

TAM – Technology Acceptance Model

UAC - United African Company

UIS – User Information Satisfaction

UNCTAD – United Conference Trade and Development

UNDP – United Nation Development Programs

URA – Uganda Revenue Authority

VAT – Value Added Tax

WTO – World Trade Organization

ABSTRACT

The Nigeria Customs Service (NCS) adopted the Automated System for Customs Data (ASYCUDA) in 1996. The system aims at compilation of Foreign Trade Statistics among customs administrations globally as well as automation of the operations of Customs procedures. Despite these laudable efforts, the NCS still has to contain with the perennial problems which hinder its effort in promoting trade notwithstanding the services attainment of certain level of automation. It is against this background that this study was undertaken in order to assess user perception in the attainment of ASYCUDA objectives. Quantitative research methodology was adopted for the study using survey research design. A cross - sectional survey that evaluates a program or system was adopted. Using simple random sampling technique, the researcher selected 2 zones in the NCS formation to represent secondary sample. This study has 3 respondents groups: management of NCS, officers and men and clearing agents. Two instruments were used questionnaire and interviews. Management staffs were interviewed, while officers and men as well as clearing agents were administered with questionnaires. A total 534 questionnaires were administered, 452 usable responses were received achieving a response rate of 84.6%. The findings of the study show that, ASYCUDA in NCS has achieved the objectives for which it was provided. It stimulates efficiency, effectiveness and satisfaction of its users in their service delivery. The implication of these is that there will be control in revenue generation, accurate statistics and facilitation of trade. The study also revealed some challenges affecting the smooth operation of the ASYCUDA in NCS and some recommendations were advanced. The contribution of this study is that it will inform the decision of the management of the NCS to enhance the performance of the system and add to the growing body of literature in information system evaluation.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The development in Information and Communication Technology (ICT), particularly the introduction of Information System (IS) in modern organizations, has necessitated institutions, organizations and companies to drastically change from the conventional to modern ways of using information systems for their service delivery. The Nigeria Customs Service (NCS), by virtue of the powers granted under Customs and Excise Management Act (CEMA), has designated points of entry and exits of goods in and out of the country. Thus, all importers and exporters are obliged to bring their consignments to designated sea ports, airport or border stations for clearance (Luckey, 2005). To carry out this clearance, NCS has, within its departments a place called; a "Long Room" which is an approved part of Customs House where the enabling papers that help importers and exporters to process and clear their goods.

This process includes the assessment and collection of Customs and Excise duties on prescribed goods, which are often done manually and at different seats. Each seat has a number of officers through whom the clearing documents must pass before being dispatched to the next seat, thereby causing delays in clearance/documentation. The activities carried out in the "Long Room" are not only laborious but also susceptible to human error and sometimes manipulation of documents and documentation thereby causing delays and loss of revenue accrued to the government. This necessitated the introduction of Customs Processing Centre (CPC) in 1996 with a view to addressing the

problems associated with clearance in the "Long Room" as part of NCS modernization efforts (Luckey, 2005).

Across the world, innovation and modernization are complex and continuous processes in modern organizations, and NCS was not an exception to the trend. The NCS needs to embrace these initiatives in order to compete with its international counterparts and maintain its role in revenue generation for the Federal government as well as curb smuggling. The necessity and or desirability for this are captured in a paper presented on the Nigeria International Port Fair by Lucky in 2005 thus:

> Customs reforms and modernization initiative together with improvement in port and trade related organizations will lead to significant benefits in reducing trading cost and enhancing the competitiveness of a country, particularly if the initiative focus [sic] on policy reform, technical assistance and modernization of infrastructure.

This is only achievable if the current reforms in the NCS are sustained with vigour and sincerity at the same time. And more importantly, if the NCS personnel are given the opportunity to possess and master the requisite skills in implementing the modernization process. In his contribution, Amdii (1991) supported the assertion where he stressed that "one of the cardinal objectives of any organization is the promotion of efficiency and effectiveness of the staff that is involved in the process of change." (p. 121). He further advanced that:

> The efficacy of the contribution of Custom Administration to the economic development of a country depends very largely

> on the efficiency of its staff. The finest custom legislation and most modern tariff or valuation system can be in jeopardy if the officials do not have the necessary capacity for applying them; the result being that the country's economy suffers.

The NCS reforms should therefore involve more than the introduction of new techniques for processing cargo, the reform calls for new awareness of the development in the need for generation, storage and dissemination of trade related information. This requires political will and commitment of the government, customs officials, trading community as well as the general public to push through sometimes difficult but attainable measures. Thus, reforms in organizations do take place from time to time, in response to technological advancement and other situational demands of an individual organization.

In the light of above, the International Chamber of Commerce and the World Business Organization urged governments and in particular Trade and Finance Ministries to recognize that modernization of Customs administration both of their own countries and of their trading partners is an important catalyst to economic development (Luckey, 2005). In his contribution, Person (2001) in a paper presented at the Royal Institute of Technology, Stockholm, gave three reasons for modernizing customs procedures:

1. Dramatic increases in the volume of trade, number of international travelers and movement of illicit goods.
2. Greater demand from trade and transport for improved consultation, simplified and harmonized customs procedures,

3. The need to obtain cost efficiencies by streamlining customs activities.

Consequent upon these modernizations of Custom procedures, the NCS modernize its operations and services. The modernization and reform measures, as well as the desire to keep in line with global trends, the NCS adopted an information system called Automated System for Customs Data (ASYCUDA) in 1996. The essence is to remove the unnecessary manual operation, which was characteristically tedious, time consuming and repetitive from the old clearance procedure in the Long Room (Luckey, 2005).

The ASYCUDA system has the capability of ensuring information generation, storage, dissemination, use, preservation and proper collection of government revenue. In addition, the core activities carried out in the Long Room are now automated and accompanying documents are streamlined and handled by fewer and more qualified staff. However, as in the case of any information system, the implementation process came in stages as follows:

1. The NCS started with the automation of its operations with ASYCUDA 2.7 version in 1996, the system used individual servers for each clearance office, without any interface with other stakeholders
2. Having appreciated the benefits of 2.7 version, the NCS migrated to ASYCUDA ++ in 2006 now with central server at the Customs Headquarters. All customs formations across the country, Federal Ministry of Finance (FMF), Central Bank of Nigeria (CBN), Direct Trader Imputes (DTIs), Banks, were connected.
3. The development and deployment of a platform that integrates customs operations and other stakeholders through a portal named Nigerian Integrated Customs

Information Systems (NICIS) was implemented in 2009 (Nigeria Customs Service, 2011)

Chibbabbuka (2007) describes the benefits of using automation in custom organizations. According to him, "one of the main reasons for automating customs processes is to enhance transparency through predictable and simplified procedures and proper documentation, thereby reducing the chances of fraud, corruption and leakage of tax revenue" (p. xii). This statement is in line with reassessment of trade facilitation issues by World Trade Organization (WTO) (1999) that includes:

1. Simplification
2. Greater transparency in official documentation
3. Increased transparency
4. Predictability, streamlining of official control and procedures
5. Increased use of information technology
6. Harmonization and simplification of regulations relating to handling transports and transit of goods (Agbolluaje, 2004).

From the above submission by WTO (1999), Agbolluaje (2004) and Chibbabbuka (2007) it is obvious that the adoption of information system, particularly ASYCUDA to NCS, is a welcome development, as it has the tendency to increase efficiency and effectiveness in the clearing process by users. It is in line with this that Sanusi (2004) states that ASYCUDA system is the best practice for NCS clearance procedure because it helps greatly in strengthening as well as speeding up processes and procedures in the Custom Processing Centre (CPC). The system aims at compilation of Foreign Trade Statistics among customs administrations globally as well as automation of the operations

of Customs procedures (ASYCUDA Information Sheet – AW-IS/BG). ASYCUDA, as the name implies is a computerized Customs Information Management System (CIMS) that covers Foreign Trade Procedures; handles manifest, Customs declaration, and accounting procedures (NCS, 2007). On the other hand, it is an available solution to the ever increasing demand of simplicity of trade documentation vis-a-viz trade facilitation between import dependent economies and export oriented nations (Bashar, 2011).

It is obvious to note that, ASYCUDA as an information system has numerous opportunities that are maximized by NCS. In his contribution, Kubie (2010) stresses that the effects of implementing ASYCUDA are to improve clearance conditions for trade and provides timely external trade statistics. It is in line with this that NCS subscribed to this type of information system in order to facilitate and monitor its activities in clearance process. Isaac and Lilian (2010) observe that "automation of customs administration is the processing of customs documents by the computer-assisted treatment of electronically transmitted information" (p. 2242). Booze et al (2007) see the main functions of automation of customs administration to include:

a. Controlling cross-border flow of goods

b. Ensuring compliance with government rules and regulations

c. Collecting of the duties and taxes due according to the national customs tariff and tax code

d. Protecting a country against the importation of goods and materials intended for illegal purpose.

In his contribution, Swindly (2007) adds that ASYCUDA functions include payment and accounting; to register and account for payments by importers and exporters; risk management, to select those consignments bearing higher risk; concealment; duty and tax non-compliance; illegal importation of drugs or materials aimed for terrorist activities. Graham and Wendy (2003) also added statistics and reporting, to extract data for dissemination of foreign trade statistics and to generate management reports for customs for efficient communication between customs, traders, and other government agencies. According to Sori (2009), "the ultimate aim of information system is to improve organizational efficiency and effectiveness through proper utilization by the management, employee and other stake holders" (p. 36). He further state that the purpose for which the system may be used by the different user community may differ. For example, the system may be used to support decision making, for taking action and or fulfilling legal obligation. It is believed that organizations as well as their employees can reap many benefits from the use of the information systems. However, before the benefit could be reaped, the system 'must be accepted and use' (Venkatesh et al, 2003). Among the studies that reported the adoption and implementation of ASYCUDA include Nannyonjo, Abuka & Okot (2010) who reported that the adoption and use of ASYCUDA has improved technical efficiency of Uganda Revenue Authority (URA).

Evaluating the success of information systems cannot be over stated. It has been identified as one of the most critical issues in IS field (Al-adaileh, 2009).When a project is developed and implemented, it is always good to assess it either at implementation stage or at the end to assess the viability, success, challenges or benefit of the project. It is

important to note that the primary purpose or objective of evaluation research is not to explore new knowledge as other forms of research do (Clarke, 1992 as cited in Chen et al., 2011). Rather, it aims at using current knowledge to assess and study the effects, effectiveness and outcomes of "some innovation, interventions, policy, practice or service" (Robson, 2002, p. 202 as cited in Chen et al , 2011), and then to inform decision making to guide practical actions (Clark, 1992, Lagsten & Goldkuhl 2008 as cited in Chen et al, 2011). In the light of above, it has also been reported that countries of the world not only embraced the new technologies (ASYCUDA) to enhance their operations but also evaluate the system to determine its success and user satisfaction which is a very important means of measuring users' opinion. For example Jordan, Iran and Romania embraced the technology (UNCTAD, 2012). Literature review indicates varying degrees of challenges affecting IS.

However, since the inception of the ASYCUDA project in Nigeria, there is no empirical research indicating whether the ASYCUDA has been evaluated to find out whether its objectives are achieved or not. It is against this background that the present study sought to assess whether ASYCUDA has met the objectives it was set to achieve as perceived by users. Quantitative research methodology was adopted for the study using survey research as the design, and a cross - sectional survey that evaluates a program or system was adopted.

1.2 Statement of the Problem

The current trend in Information and Communication Technologies (ICTs) which brought about delineation of economic boundaries among nations is making organizations to become more global and knowledge driven. It has provided windows of

opportunities for modern organizations to continue to innovate and improve in this competitive age. Realizing the importance of ICT, modern organizations are today developing and implementing information system which becomes an inevitable concern that can deliver valuable benefits (Al-Adaileh, 2009).

Information systems are vital to all organizations, NCS inclusive and perhaps every organization private or public, profit or non-profit oriented need to maintain an information system that will facilitate easy flow of information generation, organization, storage and utilization. Recognizing the importance of IS in modern organizations, the Federal Government of Nigeria in 1996 instituted Reforms Program for the Nigeria Custom Service (NCS). Part of the program include, Automated System for Customs Data (ASYCUDA), which is an online data-base designed to facilitate effective and efficient information storage and retrieval through computerization of all information relating to import, export and excise in Nigeria. ASYCUDA covers foreign trade procedures; it handles manifest, custom declaration and accounting procedures (NCS, 2007).

Despite these laudable efforts, the NCS still has to contain with the perennial problems which affect its efforts in promoting trade despite attaining certain level of automation which according to Sanusi (2004), can be found in both documentary and examination/releasing seat. Chibbabbuka (2007) supports this assertion where he states that "ironically, despite attaining varying levels of automation, most customs organizations, particularly in the developing world are still unable to provide satisfactory services in line with the strategic objectives of their organizations" (p. xii). Since the introduction of ASYCUDA in the NCS, the level of compliance with the clearance

procedures among the operators is still very low (Mustapha, 2002). Similarly, Okolo (2002) reports that, over the years most of the clearance procedures have been simplified and harmonized through ASYCUDA in order to meet the aspirations of importers, yet importers are still not satisfied due to delay in clearing their imported goods. The project is characterized by lack of adequate and trained personnel which presents a bleak future for the scheme (Taiwo, 2007).

It is pertinent to stress that for information systems objectives to be achieved; there ought to be use and user satisfaction of that system. In the case of NCS, there is little or no study empirically indicating the level at which officers and men and clearing agents use and derive satisfaction and adjudged ASYCUDA as meeting its objectives. It has been reported that there is no system without problems and challenges hence NCS ASYCUDA is not an exception. It has also been reported that the primary objective of evaluation research is not to explore new knowledge as other forms of research do, rather, it aims at using current knowledge to assess and study the effects, effectiveness and outcomes of some innovation, interventions, policy, practice or service and then to inform decision making to guide practical actions. It is against this background that, this study was conducted to assess ASYCUDA and to find out how it has achieved its stated objectives as perceived by its users.

1.3 Research Questions

The study is guided by the following research questions:

1. What is the level of use of ASYCUDA by Officers and Men and Clearing Agents?

2. What is the perception of users on the attainment of ASYCUDA objectives in the NCS in terms of:

   A) Facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of Customs clearance procedures to accelerate the clearance of goods

   B) Strengthening Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling Customs operations; and

   C) Strengthening Customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

   3. What is the level of users' satisfaction with ASYCUDA in NCS?

   4. What are the problems / challenges associated with ASYCUDA in NCS?

   5. What are the possible measures to address the identified challenges?

1.4 Research Objectives

The objective of the study is to assess the user satisfaction with the use of ASYCUDA in NCS. While the specific objectives are to:

1. Determine out the extent at which ASYCUDA was used in NCS by its users;
2. Find out the perception of users on the attainment of ASYCUDA objectives in terms of:

a) Facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of Customs clearance procedures to accelerate the clearance of goods;

b) Strengthening Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations; and

c) Strengthening customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

3. Examine the extent of users satisfaction with the use of ASYCUDA in NCS;
4. Identify the challenges associated with the use of ASYCUDA on the attainment of its objective in NCS; and
5. Suggest possible measure to address the challenges with the use of ASYCUDA.

1.5 Research Hypotheses

In order to find answers to the research questions, the following hypotheses are postulated for testing in this study.

H_1. There is statistically significant relationship between ASYCUDA objectives and ASYCUDA use.

H_2. There is statistically significant relationship between ASYCUDA use and demographic characteristics of respondents.

H_3. There is statistically significant relationship between ASYCUDA and educational qualification of respondents.

H_4.There is statistically significant relationship between ASYCUDA user satisfaction and demographic characteristics of users.

1.6 Significance of the Study

The essence of this study was to assess user's perception on the attainment of ASYCUDA objectives in NCS. Thus, the study would contribute to the knowledge base of NCS. It is hoped that the findings of the study would highlight the perception of the users of ASYCUDA on the attainment of its objectives. The findings of the study would reveal to the management of NCS the challenges facing ASYCUDA as perceived by its users.

Assessing the ASYCUDA would assist the NCS Management to appreciate the challenges identified in the study and address them. This would further improve the work of the NCS in providing services that will accelerate Custom clearance, thereby facilitating trade, provide adequate control mechanism in clearing process and enhance revenue generation. Additionally, it is hoped that the findings would open the doors for further research in the area of information system evaluation. The study will also provides a practical tool for assessing/evaluating ASYCUDA objectives. In addition, the proposed framework developed by the researcher can serve as the base or foundation for assessing ASYCUDA since the framework together with the tool are considered as unique and can be used to assess information system in the country.

1.7 Justification of the Study

ASYCUDA was developed by UNCTAD in 1981 and was adopted by over 90 countries of the world. Years after the introduction of the system, some countries evaluated ASYCUDA and reported its objectives being fully met. But, since the

introduction of ASYCUDA in NCS in 1996, there was no empirical research, as far as the researcher is aware, that is targeted at evaluating users' perception on the attainment of ASYCUDA objectives. Thus, this study presents an empirical study that assesses users' perception on the attainment of the ASYCUDA objectives in NCS and that explains and justifies the study.

1.8 The Scope of the Study

This study assesses the Automated System for Custom Data (ASYCUDA) vis-a-viz its objectives. Therefore, the study covers all the officers and men of the NCS, as well as Clearing Agents. The study further covers all the 26 Command of the NCS which include four (4) zones in the NCS. The zones are '**A' LAGOS** which comprises of eleven Area Commands); '**B' KADUNA** (comprising of five Area Commands); '**C' P/Harcourt** (comprising six Commands) and '**D' Bauchi** (comprising four Area Commands). In terms of subject matter, the study covers the assessment of information system (ASYCUDA) use in NCS.

1.9 Limitations of the Study

As part of its limitation, the study is to the assess users' perception on the attainment of ASYCUDA objectives and also limited to the study of only two (2) zones out of the four (4) that constitute NCS formation. From the selected zones, Lagos Industrial and Ondo/Ekiti Commands have been excluded because they have neither ASYCUDA officers nor Clearing Agents. Similarly, Lilypond Command was also excluded because of its proximity with Apapa command and that almost all its consignments are derived from Apapa. Based on this therefore, only 13 commands were

selected for the study. The justification for choosing the 13 commands was informed by the fact that the activities carried out in the selected commands are one and the same in the remaining 10 commands excluded as it relates to ASYCUDA clearance of imported goods in Nigeria.

1.10 Operational Definitions of Basic Concepts

The following concepts are defined as used in the context of this study:

Assessment/Evaluation - Refers to the judgment about something based on evaluation, appraisal, measurement, review, opinion and the understanding of a situation based on some generally accepted criteria.

Automation System for Customs Data (ASYCUDA) - Refers to online database in NCS that handles import and export activities at the seaports, airports and border stations in Nigeria Customs Service

Information Management System – Refers to application of information technology to support the management of information resources of NCS and clearance process.

Information System – Refers to a system that is designed to capture, process, store, and distribute information within the organization.

Nigeria Customs Service – This is a government agency established with the responsibilities of enhancing international trade, generation of revenue for the government and combating smuggling.

Users of ASYCUDA - Refers to Customs Officers working in ICT/ ASYCUDA Unit of NCS and those agents registered and licensed by the NCS to operate in customs clearance at seaports, airports and border stations in Nigeria and management staff.

Users' Perception: represent the ideas, opinions, feelings and the thinking of users regarding ASYCUDA and the success it recorded in respect of its objectives.

Users' Satisfaction – Attitude of users towards the attainment of ASYCUDA objectives.

References

Agbolluaje, S. A. (2004). *Nigeria free zones, Customs service and micro service development.* Paper presented at the 2004 Comptroller-General Conference, Calabar, December 14

Al-adaileh, R. M. (2009) An evaluation of information systems success: User perspective –the case of Jordan Telecom Group. *European Journal of Scientific Research*, *37* (2), 226- 239.

Amdii, I.E. S. (ed.) (1991). *100 Years of Nigeria Custom and Excise 1891 – 1991*. Zaria: Ahmadu Bello University Press

ASYCUDA Information Sheet – AW-IS/BG

Bashar, Y. U. (2011). ASYCUDA and new clearance procedure (import, export, transit and transshipment) Being a Lecture Delivered at Customs Training College, Ikeja-Lagos for CIU 2011 Training Programme, 14th- 28th March, 2011.

Chen, S., Osman, N. M., Nunes, M. B. & Peng, G. C. (2011). *Information system evaluation methodologies*. In: Proceedings of the IADIS international workshop on information systems research trends. Approaches and methodologies (ISRTAM), 20th July, 2011, Rome, Italy

Chibbabbuka, S. (2007). The Interface between ICT and service delivery in public sector organizations: An analysis of the Customs Service in Zambia (Unpublished master's thesis). International Development Department, School of Public Policy, University of Birmingham.

Customs and Excise Management Act (CEMA) No. 55 of 1958.

Graham, S. & Wendy, L. P. (2003). Harmonization of international taxation: The case of inter- listed stocks. *Management Finance*, 29 (1), 779 – 799

Isaac, N. N. & Lilian, L. (2010) Automation and Customs tax administration: Empirical evidence from Uganda. *African Journal of Business Management*, 4 (11), 2241 – 2246

Kubie, K. (2010). Efficiency of electronic service delivery: A case study in Automated Systems For Customs Data (ASYCUDA) In: Ethiopian Revenue And Customs Authority (ERCA) (Unpublished master's thesis). Addis Ababa University

Luckey, E. A. (2005). *Nigeria Custom Service reform: The new challenges for stakeholders.* Being paper presented on the Nigeria international Ports fair 2005 roundtable. Organized by Marine Business International at Lagos Sheraton Hotel and Tower, Ikeja on Friday 18th November 2005

Mustapha, A. A. (2002). *Integrity and optimal performance in the Nigeria Custom Service*. Address delivered at the opening ceremony of the 2002 Comptroller General– Annual conference. Held at Ibadan, Monday 28th October – 1st November 2002

Nigeria Custom Service Quarterly Order No 1 – 3 January – March 2007

Nigeria Custom Service (2011). *Nigeria Custom Service modernization from 2006 to date*. Presentation to the House of Representatives Ad-Hoc Committee on Concession Agreement between the Federal Ministry of Finance and Single Window Systems & Technology Limited September, 2011

Nannyonjo, J., Abuka, C. A. & Okot, N. (2010) Customs automation initiatives and their impacts on efficiency and production: Case study on Uganda – A final report

Okolo, A. A. (2002). *Best practices in international trade: Customs perspective* – Paper presented at 2002 Comptroller General of Customs Annual Conference Held at Premier Hotel Ibadan on 27th October – 2nd November, 2002.

Person, P. (2001). *On rationality, technology and action in the modern organization.* A paper presented at seminar 2001 – 12- 04 at the Royal Institute of Technology, Stockholm.

Sanusi, A. U. (2004). *Promoting trade facilitation: The many obstacles of Nigeria Customs Service*. Paper presented at 2004 Comptroller General of Customs Annual Conference held in Calabar, Cross River State on 13th – 17th December, 2004.

Sori, Z. M. (2009) Accounting Information System (AIS) and knowledge management: A case study. *American Journal of Scientific Research.* Issue 4, 36 – 44 Retrieve from http://www.eurojournal.com/ajsr.htm

Swindly, D. G. (2007). Computerization of tax administration. *International Journal Fish Management*, 21 (3), 199 - 233

Taiwo, R. O. (2007). "An overview of Nigeria Destination Scheme: Practical experience of implementation at Apapa Area 1 Command". NCS Quarterly Order No 4 – 6 April – June: 2 – 13

UNCTAD (2012), UNCTAD technical assistance in trade facilitation. Retrieved from: http://www.asycuda.org/pdf%20docs/UNCTADTechnAssi.pdf

Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. D. (2003). USER acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27 (3), 425 - 478

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The development of Information and Communication Technologies (ICTs) and their impact on individuals, organizations and the society has produced an extensive body of literature in varying formats at national and international levels such as reports, books, theses/ dissertations and journal articles etc. This section reviews relevant and related literature to the subject of this research. The literature review is organized under the following sub-headings:

2.1 Introduction

2.2 Theoretical Framework

2.3 Conceptual Framework

2.4 Historical Development of Nigeria Customs Service

2.5 Development of ASYCUDA as an Information Management Systems (IMS)

2.6 Utilization of Information Systems

2.7 Assessment of Information Systems in Modern Organizations

2.8 Information System User Satisfaction

2.9 Challenges facing ASYCUDA towards the Attainment of its Objectives in NCS

2.10 Summary of the Review and Uniqueness of the Study

2.2 Theoretical Framework

The automated system of information generation, storage, dissemination and retrieval otherwise referred to as information system (IS) play an important, often strategic role in modern organizations. Information system provides managers with

decision making support for planning, organizing, and controlling purposes. Many scholars described the importance of IS projects in modern organizations. For example, Brynjolfsson (1993) and Melville et al (2004) in their separate contributions indicate that, given the prominent role of IS, managers of modern organizations have vested interest in assessing the real value that IS provide. Sun & Kantor (2006) supports this assertion by pointing out that "scientific progress in the development of information systems requires measurement and evaluation of those systems" (p. 641). They further state that "evaluation plays a role not only in assessing the final result of the development, but also in guiding development" of any information system.

There are many models and frameworks that are developed to guide in the development, evaluation and assessment of information systems. These include the following: Technology Acceptance Model (TAM) developed by Davis (1989) as an information system theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Tropos framework (Castro, Kolp & Mylopoulos, 2002), on the other hand is an agent-oriented software development framework that uses knowledge level concepts, such as actor, goal, plan and dependency between actors, along the whole software development process. The process covers five development phases: early requirement analysis, late requirements analysis, architectural design, detailed design and implementation.

EVOLIS framework developed by Metrailler & Estier (2012), which sets to assess the impact of change from either the user or the business/IS perspective, IS success Model (DeLone & McLean, 2003) consists of six interrelated dimensions that can be

used for the development, evaluation and assessment of any IS project, goal-based framework (Cronholm & Goldkuhl, 2003) which identifies goal-free evaluation, goal-based and criteria-based evaluation as its major theoretical submission, among many other related theories of IS evaluation. For the purpose of this research therefore, IS success model and goal-based framework were found relevant by the researcher.

2.2.1 Information Success Model

The DeLone and McLean (D & M) model was developed in 1992 and since then the model has been widely used, evaluated, validated and extended in various studies (Petter, DeLone & McLean, 2008). The model consists of six interrelated dimensions that can be used for the development, evaluation and assessment of any IS project. The six interrelated dimensions identified by the model include system quality, information quality, system use, user satisfaction, individual impacts and organizational impact as depicted in figure 2.1.

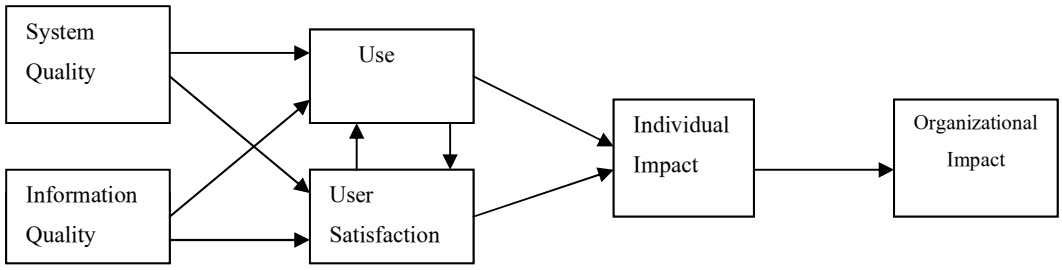


Figure 2.1: DeLone & McLen IS success model (1992)

This model clearly shows some specific dimensions of IS success as well as effectiveness and the relationships between the factors. Delone & McLen (2003), report that the adoption of their model has exceeded their expectations as their citation search in the summer of 2002 yielded 285 referred papers in journal proceedings that have

referenced the D & M Model between 1993 and 2002. Although the model have been subjected to heated debate and criticisms from a number of scholars such as Seddon & Keiw (1996), who canvassed for modification of the construct of "use" because they believed that the underlying success construct that researchers have been trying to tap is "usefulness" and not "use". Other scholars that called for the review and modification of the model include Pitt et al (1995) who observed that "commonly used measuring of IS effectiveness focused on the products rather than the services of the IS function. Thus, there is a danger that IS researchers will miss measure IS effectiveness if they do not include in their assessment package a measures of IS service quality" (p.173). In addition, Tsiknaikis & Kouroubali (2008), criticize the model that it cannot provide explanation as to why the same IT system can be adopted in different ways, with different effects in various settings.

After reviewing and evaluating these debates and criticisms, DeLone & McLean decided to update their model in 2003 (ten years after its introduction). This updated IS success model accepted the Pitt, et al (1995) recommendation to include service quality as a construct. Another update to the model addressed the criticism that an IS can affect levels other than individuals and organizational levels. Because IS success affects work groups, industries and even societies (Myes, et al, 1997 and Seddon, et al., 1999), DeLone & McLean replaced the variables, individual impact and organizational impact with net benefit, thereby accounting for benefits at multiple levels of analysis. They made a final enhancement to the updated version of their model with further clarification of the use construct. They explained the construct as follows: "Use must precede "user satisfaction" in a process sense, but positive experience with "use" will lead to greater

"user satisfaction" in a causal sense". They went on to state that increased user satisfaction will lead to a higher intention to use, which will subsequently affect use. Figure 2.2 shows the updated IS success model below.

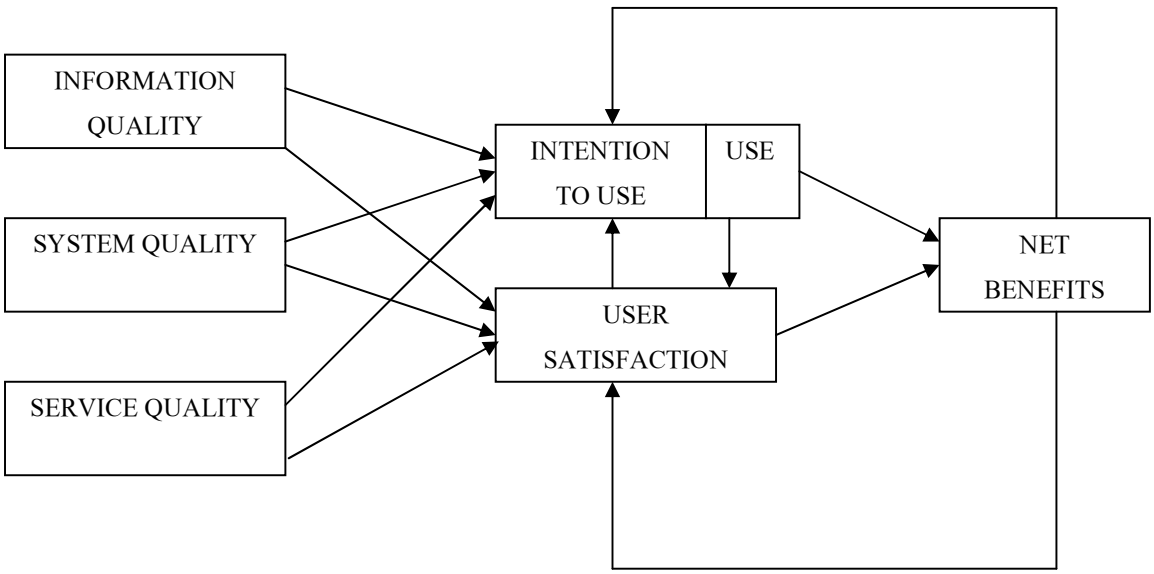


Figure 2. 2: The Updated IS-Success model (DeLone & McLean, 2003)

The relevance of IS success model to this research focuses on the "use" and "user satisfaction" aspect of the model. The adoption of D & M model is because of the relevance of the theorization that goes behind it to IS and its potential to allow systematic organization of the various criteria of success in a meaningful way (Molla & Licker, 2001).

Almutairi & Subramnian (2005) conduct an empirical study on the application of D & M model in private sector organizations in Kuwait. Their study identifies certain direct association between the variables in the original D & M model and they reveal that

information quality and system quality impact user satisfaction significantly and system usage has significant influence on individual impact.

2.2.2 Six Generic Types of Information Systems Evaluation

Cronholm & Goldkuhl (2003), model, on the other hand, proposed three general strategies on how to perform evaluation of information system. The model identified goal-free evaluation, goal-based and criteria-based evaluation as its major theoretical submission. In addition, they identified two general strategies of what to evaluate to include IT – systems as such and IT – systems in use. From the three "how strategies" and the two "what – strategies", Cronholm & Goldkuhl developed a matrix consisting of six generic types of evaluation with the aim of supporting different choices of how to perform IS evaluation depending on the circumstances. The six matrix of generic type of information system evaluation developed by Cronholm & Goldkuhl (2003) are presented in table 2.1.

Table 2. 1: The Matrix of the Six Generic Types of Information Systems Evaluation

	IT – systems as such	IT – systems in use
Goal – free evaluation	Type 1	Type 4
Goal – based evaluation	Type 2	Type 5
Criteria – based evaluation	Type 3	Type 6

1. Type 1 – Goal-free evaluation of IT system as such
2. Type 2 – Goal-based evaluation of IT system as such
3. Type 3 – Criteria-based evaluation of IT system as such

4. Type 4 – Goal-free evaluation of IT system in use
5. Type 5 – Goal-based evaluation of IT system in use
6. Type 6 – Criteria-based evaluation of IT system in use

Goal-based framework has been subjected to criticism by scholars such as Whiteside & Wixon (1987) who claim that "usability becomes a purely subjective property of the interaction between a specific user and computer at a specific moment in time". Similarly, the framework was also criticized by the developers for not being dependent on any particular perspective (Cronholm & Goldkuhl, 2003). The methodology used in goal-based evaluation is quantitative and has been extensively criticized. Some of the criticism, leveled against it has been on even before the development of the Strategies for Information Systems Evaluation - Six Generic Type by Crolhom & Goldkuhl (2003), which the developers acknowledged and the criticism is that it often mainly focuses on technical and economical aspects, rather than on human and social dimension. As a consequence, the result of the evaluation may over emphasize on the quantitative value of the innovation (e.g. a newly implemented IS, but neglect the important social, organizational and human effects (Hirschheim & Smithson, 1988).

However, Cronholm & Goldkuhl still contend that, when analyzing goal-based evaluation in an ideal typical way, there is no imperative relation between a focus on technical and economic aspect, and goal-based evaluation because the stated goals can be of human or organizational character. It is based on this conviction that the research adopted the goal-based evaluation of IT system in use to measure the objective of ASYCUDA system in NCS.

On the other hand, the criteria-based was also criticized by the developers (Cronholm & Goldkuhl, 2003) since the focus is on criteria that aim at evaluating a specific perspective, it is conceivable that some important factors about the IS and its exploitation may be ignored. In the same vein, Jiang & Klein (1996), states that evaluators with different backgrounds, specialization or even knowledge may differ in opinion on the criteria. This makes the acceptance of the result of criteria-based evaluation more difficult. In contrast, Patton (1990), observes that, with the traditional goal-based approach, some researchers argued that evaluators may come up with more interesting and unbiased result by "undertaking field work in a programme without knowing the goals of the progrmame or at least without designing (evaluation) study with goals attainment as the primary focus. Highlighting a number of reasons and advantages for doing goal-free evaluation, such as avoiding the risk, narrowly studying the free-specified goals and thus missing unanticipated aspects; eliminating evaluation biases introduced potentially by knowledge of goals and maintaining evaluator objectivity and independence through goal-free condition.

In the context of this study, therefore, the "use" and "user satisfaction" aspect of IS success model of D & M and the type 5 – goal-based evaluation of the IT system in use propounded by Cronholm & Goldkuhl are used or adopted in order to evaluate the objectives of ASYCUDA in NCS. Hence, this study has found this composition useful for assessment and evaluation of modern day information systems because of their holistic approach and was therefore used as a theoretical base for assessing and evaluating ASYCUDA objectives as an information system in the NCS. The two components are systematically combined, conceptualized and depicted in a proposed

Framework for assessing the objectives of ASYCUDA in the NCS (Figure 2.3) and detailed in the proceeding section.

2.3 Conceptual Framework /Research Framework for assessing the ASYCUDA objectives

The framework for assessing the ASYCUDA objective consists of three components. The first component is the theoretical base, which is derived from the D & M model developed in 2003 and the Cronholm & Goldkuhl (2003). The theoretical base is the foundation upon which the major variables of the study were framed. The component provides the basis for evaluation of the ASYCUDA objectives based on certain criterion as depicted and explained in the theoretical submission of the two adopted frameworks.

Drawing from the theoretical framework and literature review, the first model (D & M) has six components: system quality, information quality, service quality, use, user satisfaction, and net benefits. However, the researcher found the component of use and user satisfaction very relevant to the study and therefore adopted the two components for the study. While other aspects of D & M were found to be less relevant because the perception of the ASYCUDA users is limited to measuring only, the objectives of ASYCUDA and the construct of use and user satisfaction were found to be relevant.

With regard to the second model, the Cronholm & Goldkuhl (2003), the components used for this study was derived from the three major components of how to evaluate which include goal free evaluation, criteria based evaluation and goal based evaluation; these are further divided into two specific sub components of What to Evaluate in terms of IT System as such and IT System in Use. For the purpose of this

study, the researcher used goal based evaluation, because it is more appropriate and relevant to measure the objectives of ASYCUDA. The second component of the model is dealing with what to evaluate which is further divided into two sub components of IT system as such and IT system in use. In the context of this study however, the researcher considered IT system in use sub component because system utilization will show whether the IS is successful or not, hence IT system in use is considered very important component in evaluating any information systems like ASYCUDA as depicted in the proposed Conceptual framework developed and described in the study (Figure 3).

The adoption and depiction of the various components of the two models was done in line with the submission of Vasilecas et al (2006) and Platisa & Balaban (2009). For example Vasilecas et al (2006) emphasizes on the importance of goal-driven and task-driven evaluation approaches. According to them, the approaches are recognized as the most universal, and enable us to set evaluation criteria logically and to receive well-founded results. In addition, Platisa & Balaban (2009) were of the view that user perspective approach presents another standard for evaluating IS success. They argued that information system user's satisfaction is often used for the assessment of information system functionality performance.

The second component of the framework depicts and describes the issue of utilization, user satisfaction, and challenges as they relates to ASYCUDA and its objectives. This study emphasized the need for evaluating ASYCUDA objectives from these dimensions. This will ensure that managers of the NCS and stakeholders assess whether ASYCUDA has attained its objectives from a holistic perspective. This is because utilization of ASYCUDA as an important information system tool cannot be over

emphasized. It can help NCS to achieve growth advantage (Masrek, 2009). The component that describes the user satisfaction aspect of the D & M framework is considered useful for this study. Chen et al (2000) stresses that assessing users' perception of information system performance can lead to system success. In this study, satisfaction aspect was used to measure respondents' perception of satisfaction derived by using ASYCUDA. Van House (1995) as quoted by Kebede (1999) also shared similar view when he reports that it can identify what is yet to be accomplished, and how well to accomplish it. Cullen (1998) as cited in Kebede (1999) emphasizes on the need for managers to view evaluating information systems in line with organizational objectives and to provide evidence of the expectations of a variety of stakeholders and for justification of continuance of a service (Bawden, 1990) as cited in Kebede (1999).

Furthermore, assessing ASYCUDA objectives from the demographics of the individual users of the system was also considered as a necessary criterion for determining the attainment of the ASYCUDA objectives. Demographics in this context refer to the information of the respondents such as gender, educational qualifications and years of service. Terpsiadou & Econmides (2009), notes that demographics or users' characteristics are important determinants of an information system use and user satisfaction of such system. They reported that gender differences of their respondent were located in their daily usage, problems; awareness, feelings and considerations about the security of TAXIS. It is on this premise that this study proposes the inclusion of the demographics of the respondents in the proposed framework.

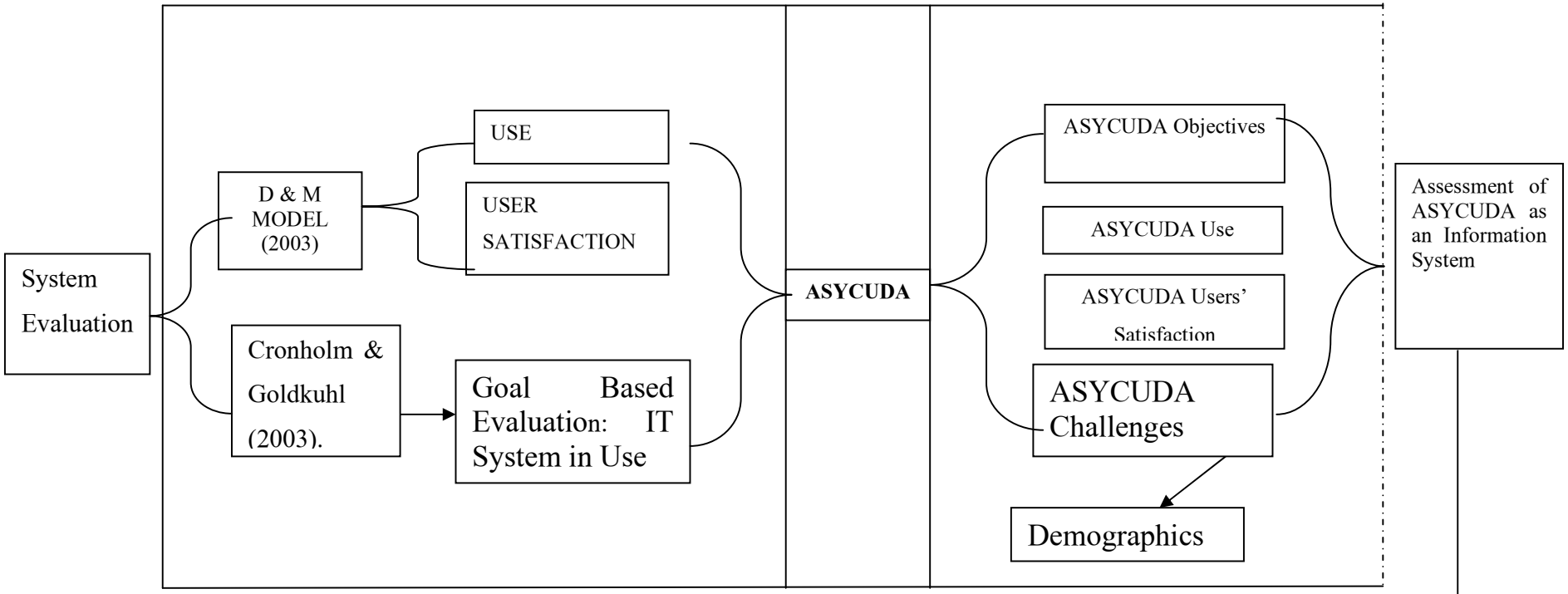
The aspect of ASYCUDA challenges was also captured in the framework in order to explore the problems facing the mounting of ASYCUDA as an information system.

Isaac & Lilian (2010), Cantens, Raballand & Bilangna (2011) and Gebeyehu (2012) have reported different number of challenges facing the implementation of ASYCUDA as an information system. Major challenges identified and discussed by the literature focused on very low level of computer literacy by staff and traders, lack of trained customs personnel in IT. This study therefore considered such analysis as critical factor of consideration for effective assessment of ASYCUDA objectives hence the inclusion and depiction of it as a sub component in the proposed conceptual framework.

The last component of the framework is the expected output of assessing ASYCUDA from the combination of these dimensions. One of the important expected outputs of this study is determination of the status of ASYCUDA objectives: knowing whether ASYCUDA as an information system in the NCS has achieved its objectives or not. Determining this is important for the management of the NCS and stakeholders to make relevant decision on the management of information system in the NCS for effective service delivery and to serve as important yardstick for organizational performance in the NCS in line with the submission of Platisa & Balaban (2009), Plardo & Scholl (2002) as cited in Mohammed, Hussain & Hussein (2009). Plardo & Scholl (2002) for example, observes that understanding the value of information technology investment in organizations is important in that an incomplete or non-existent value assessment can lead to information technology failure. This means the proposed framework can be used by the management staff and stake holders in assessing the specific objectives of ASYCUDA In terms of Justifying financial / monetary investment in the application or adoption of the ASYCUDA as an information system and the

appropriateness of the ASYCUDA as an information system in the NCS from a holistic or global objectives.

FIGURE 2.3: The Proposed Framework for Assessing ASYCUDA Objectives



Evaluation of ASYCUDA Objectives to ensure

1. Proper solution to identified challenges or issues raised
2. Justified application or adoption of the ASYCUDA as an information system
3. To justify monetary investment
4. Worthiness or appropriateness of the ASYCUDA as an information system

2.4 Historical Development of Nigeria Customs Service

The exact date of the establishment of the Nigeria Custom Service has been a subject of debate among scholars. Many writers such as Ajayi (1988), Amdii (1991), Ikhilae (2001) and official quarters of the service offers that it was established in 1891, while other scholars like Ango (1998) and Jatau (2001) states that the date of the establishment of the Nigerian Customs Service was 1886. In spite of all the discrepancies, the development of the Nigeria Customs Service is no doubt linked to the British Colonial activities in Nigeria.

Nigeria Customs Service started as His Majesty's Custom and Excise Department (Amdii, 1991 and Ikhilae, 2001). It took its roots from the activities of a wealthy British trader, Sir Tubman Goldie, who was invited by the British trade interest to bring his trading venture to the Niger area around 1866. In spite of the rivalry that existed among some mushroom British traders resulting in instability in the region, Sir Tubman Goldie succeeded in uniting all the small companies under one name, the United African Company (UAC). He was also able to sign many treaties with the Nigerian Kings and Chiefs, thus creating a monopoly for his new company.

Having achieved this, Sir Goldie further negotiated with the British Government for the creation of a charter for the company which was granted in 1885 (Amdii, 1991). As a result, the name of the company was changed from UAC to Royal Niger Company. The charter gave the company the powers to govern both sides of the River Niger and to impose and collect Custom Duty for revenue so as to run the colonial administration, maintain a police force, establish law court, as well as other offices necessary for the governance of the territory (Amdii, 1991). Since its inception, over 100 years ago, the

Nigeria Customs Service has witnessed tremendous changes in its administration and service delivery. Its functions became multi-faceted and multi-dimensional (Ango, 1997). In 1891, the Colonial Administration appointed Mr. T. A. Wall as the first Director of Custom for the collection of Inland Revenue in Niger Coast Protectorate (Amdii, 1991). The name Department of Customs and Excise emerged in 1922 and towards the end of 1945, the Customs and Excise Preventive Service was established. Thus, the Department was structured into two divisions viz Maritime and Preventive. In 1956, the affairs of the Department were brought under the management of a board namely the Board of Custom and Excise which was constituted under the Customs and Excise Management Act (CEMA) No. 55 of 1958.

Sequel to the promulgation of the Customs and Excise Management Act (CEMA) No. 55 of 1958, the affairs of the department was brought under the management of a board Mr. E.P.C. London, a Briton as the chairman, in 1959. Mr. S.G. Quinton succeeded him. With the attainment of Nigeria's Independence in 1960, Mr. Ayodele Diyan emerged as the first Indigenous chairman and chief executive in 1964. He died and was succeeded by Mr. Henry Duke in 1968. Alhaji Shehu Musa was in 1975 appointed as the first Director of Customs and Excise. The year 1977 saw the coming together of two parallel services revenue (Technical) and preventive (enforcement).

The first major reorganization of the department took place in 1977. The present unified service of the Department of Customs and Excise was as the result of unifying technical and preventive services into one integrated service where officers and men are to serve in any two without hindrance. The year 1985 witnessed yet another major structural change as the department was removed from the Finance Ministry to Internal

Affairs Ministry. Thus, Customs, Immigration and Prison Board was created with the promulgation of decree No. 14 of 11th January 1986. In 1988, the functions of the department were decentralized through Zonal Commands to facilitate decision making process. Those in charge of states are to be known as Area Controllers. Dr. Bello Haliru Mohammed was the first Comptroller General under this arrangement. In 1992, the Department of Customs and Excise was transferred back to the Federal Ministry of Finance and its status as a para-military organization was recognized. It has since been known as Nigeria Customs Service. There was an appropriate alignment of salary grade levels and a re-structuring with what is obtained in the Nigeria Police Force.

In 1993, a sole administrator in the person of Brigadier General (later Major-General) S.O.G. Ango was appointed up till 4th February 1999 when Ahmed Aliyu Mustapha (OFR), the first career customs officer was appointed as the substantive Comptroller-General. Following the retirement of Ahmed Aliyu Mustapha in December 2003, D.A Ogunbemile, a Deputy Comptroller-General acted. Consequent upon sweeping reforms, Jacob Gyang Buba emerged as Comptroller-General. The reforms also saw to the restructuring of the service into 3 departments; 'Cooperate Service and Economic Relations, Tariff and Trade, and Enforcement, Investigation and Inspection, and the six zonal offices were reduced to four zones and 25 Area commands (source: https://www/customs.gov.ng/About/organization_structure.php 26/2013). On May 27, 2008, Ahmed Hamman Bello emerged and the Federal Government approved the re-structuring of the NCS into four departments following the acceptance of a recommendation of the World Customs Organization (WCO) strategic plans to review the structure put in place in 2004. The departments are; Corporate Support Services,

Strategic Research and Policy, Tariff and Trade, Enforcement, Investigation and Inspection'.

Nwadialo who took over from Ahmed Hamman Bello as new comptroller-General was replaced by Abdullahi Dikko Inde. Currently the departments in the NCS were restructured to meet the changing trend as follows:

1. Finance and Technical Services
2. Human Resources Development
3. Tariff and Trade
4. Enforcement, Investigation and Inspection/Strategic Research and policy
5. Excise, Free Zone and Industrial Incentives (source: https://www.customs.gov.ng/About/function.php)

2.5 Development of ASYCUDA as an Information Management System (IMS)

Information system is vital to all organizations NCS inclusive. Every organization, either public or private, profit or nonprofit oriented, needs to maintain an information system which will facilitate easy flow of information generation, organization, storage and utilization. For a better understanding of the term 'information system' the two words that constitute IS where elaborated separately by Sori (2009). Firstly, he describes information as valuable data processed to provide a basis for making decisions, taking action and fulfilling legal obligation. Secondly, he describes system as an integrated entity, where the framework is focused on a set of obligations.

The term information system can be equated with computer system and other related information technologies that are used in the generation, management, processing, transportation and distribution of information within an organization. This is in line with

Ramage (1995) who postulates that information system (IS) has been associated with organizationally-based computing. Similarly Oz (2002) stated that IS has now become synonymous with computer-based information system, a system with a computer at its center to which peripheral equipment is connected. Information technology has greatly enhanced the development of a robust information system. Until the development of information technologies, the methods used in information generation and or transmission were both cumbersome and inefficient. These methods included the telephone, the postal system, brochures, directories and face-to-face interactions (Kiplangat, Kwake & Kariuki, 2005).

The concept of information system may differ from one organization to another depending on the nature, type, and functions of the organization; it may be database system, integrated management software, and network infrastructure. Whatever name it is called the system is aimed at capturing, transmitting, storing, retrieving, and utilization of relevant and timely information in an organization. Al-adileh (2008) defines IS as a set of interrelated and interacted elements or components that collect, store, process, and report data and information that can be used to enhance the process of decision making in organizations. Earlier on, Adeoti-Adekeye (1997) defines an information system as a "system for accepting data/information as a raw material and through one or more transmutation processes, generating information as a product". He further explains that the process comprises the following functional elements which relate to the organization and its environments:

1. *Perception* – initial entry of data whether captured or generated, into the organization;
2. *Recording* – physical capture of data;

3. *Processing* – transformation according to the "specific" needs of the organization;
4. *Transmission* – the flows which occur in an information system;
5. *Storage* – presupposes some expected future use;
6. *Retrieval* – search for recorded data;
7. *Presentation* – reporting, communication; and
8. *Decision making* – a controversial inclusion, except to the extent that the information system engages in decision making that concerns itself.

The importance of IS in an organization cannot be over stated as it help the organization to achieve valuable benefits such as gaining competitive advantage, increase productivity, efficiency, effectiveness, shorter product cycle, automation of operational decision and supporting strategic and tactical decisions in addition to the overall impact on organizational form and management paradigms (Al-adaileh, 2008). Laudon & Loudon (2006) explain that there are a number of factors that can further increase the importance of IS and these include, the intense use of Internet and communication technologies, transformation of business enterprises due to technology forces, globalization of business and huge opportunities on initial level, rise of information and knowledge economy and the emergence of digital firm where almost all business relationships are digitally enabled.

According to Irani (2001) information systems will make it possible to improve organizational efficiency and effectiveness, which can provide competitive advantage. It will also enhance cooperation among organizations. Chung & Snyder (2000) identifies the attempt being made by many organizations to expand their IS infrastructure beyond their organizational boundaries through developing inter-organizational business systems.

Organizations recognized the importance of managing resources such as labour, capital, and raw materials in the past. Today, the story is different. It is also acknowledged that managing information resources is equally important by individual and organizations. This could be as a result of rapid development and impact of information system. Similarly, efforts were being made by modern organizations to develop systems that will enhance their information generation, storage and use to support their organizational activities, functions and decision. One of such system that was developed over time is the information management system (IMS). The system is generally thought of as integrated user-machine providing information to support operations, management and decision making to effectively function in an organization (Adeoti-Adekeye, 1997). It is indeed a "conveyor belt for appropriate high quality information from generation to its users" (Modupe et al. 2010, p. 64). Simply put, "the objectives of an MIS is to provide information for decision making on planning, imitating, organizing, and controlling the operations of the subsystems of the firm and to provide a synergistic organization in the process" (Murdick, Ross & Claggett, 2006, p. 6).

In his study, Obi (2003) suggests that MIS is indispensible in the area of decision-making as it can monitor, by itself, the instability in a system; verify a course of action and takes action to keep the system in control. Adeoti-Adekeye (1997) defines "information management system as a database management system tailored to the needs of managers or decision makers in an organization" (p.322). In his contribution, Lucey (2005) defines an IMS as a system to convert data from internal and external sources into information and to communicate that information, in an appropriate form, to managers at all levels in all functions to enable them to make timely and effective decisions for

planning, directing and controlling the activities for which they are responsible. Ajayi, Omirin, & Fadekemi (2007) sees MIS as basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations. According to Heidarkhani et al. (2013) management information system is kind of organizational information computer systems, that take internal information from operating processing system and summaries them to Meaningful and useful forms as management reports to use in performing management duties

The combination of the two words information management and system indicates an integrated framework within an organization that employs the use of information technologies to support their major functions and activities. It also provides information concerning the organization to a variety of interested users (Bhattacherjee, 2001 and Thomas & Kleiner, 1995). Therefore it can be viewed that information system supports the process of collection, manipulation, storage, distribution and utilization of an organization's information resources. According to Morse (2002), information system "…address the traditional, and still vexing challenge of getting critical information to those who need it in a sufficiently timely fashion that it can contribute to the decisions they make".

The current trend affecting the management of information resources is as result of recent development and adoption of modern information and communication technologies. These technologies allow managers to handle more functions and expand their span of control through the availability of timely and accurate information in a presentable form in order to facilitate effective decision making and implementation. This

is with a view to carrying out organizational operations for the purpose of achieving the organizational goals.

Because of the importance of MIS in modern organizations, enormous investment has gone into computerization of Customs organizations world over, to bring about better management of government revenue, simplification, harmonization and standardization of international trade through an institutional strengthening of Customs administration. Attempt at the computerization of customs organizations dates back to 1981 when United Conference on Trade and Development (UNCTAD) received a request from the secretariat of Economic Community of West African States (ECOWAS) to assist in the compilation of foreign trade statistics in their member states.

Taking advantage of innovation in computer hardware, programming language and software technology, UNCTAD responded by developing a customs soft ware system referred to as Automated System for Customs Data (ASYCUDA) (Salehi, Alipour & Yahayvi, 2010, p. 69) which also aimed at meeting the challenges of the growing volume and complexity of international trade (UNCTAD, 2012). UNCTAD developed and implemented the first version of ASYCUDA in three West African countries between 1981 and 1984. Since then, it has gone through 3 major upgrades with the latest one being a web based version called ASYCUDA World (UNCTAD, 2012). The version that followed the maiden releases (ASYCUDA 2.7) is called ASYCUDA ++. As one of the leading Customs Information Management Systems (CIMS) in the world, it is now in use in over 90 countries globally with over 30 coming from African sub region (see Appendix I) (UNCTAD, 2007). According to Kubie (2010), the effects of implementing ASYCUDA are to improve clearance conditions for trade and provide timely external

trade statistics. The overall objectives of ASYCUDA as developed by UNCTAD (2012) are to:

1. facilitate trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedures to accelerate the clearance of goods;
2. strengthen Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations; and
3. strengthen customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

In his contributions, Bashar (2011) identified the following ASYCUDA objectives/functions in NCS:

1. Trade facilitation through normalization of form and documentation, data standardization in customs clearance.
2. Simplifying and computerization of clearance process by streamlining procedure and documentation.
3. Strengthen customs operational efficiency, techniques and institutional capacity.
4. Strengthening customs management by providing Government with accurate and timely statistics on foreign trade for policy and decision making purposes.
5. Enhances accurate and collectable revenue.
6. Ensures cooperation among cross-border control agencies and between customs and traders.
7. Automation of all customs procedures and regimes (cargo control, clearance processes, transit monitoring) through e-manifest, risk assessment and automated calculation of duties and taxes.

8. Ensuring that National trade documents are in line with world best practices through the use of e-SGD.
9. Harmonization of commodity description and coding system (HS) with corresponding National laws and regulations.
10. Electronic lodging of SGD's by traders and other declarants using electronic interface through Direct Trader Input (DTI) or Wi-Fi.
11. Automatic processing and information sharing with all participants in the clearing process.
12. Transparency in all customs procedure and processes by minimizing human contact thereby reducing opportunity for fraud and corrupt tendency.
13. Advance information about cargo both at sea and air through transmission of e-manifest thereby allowing security readiness among all government agencies
14. Prompt and timely e-remittances and e- reconciliation of all collectable revenue to the CBN pool account

Despite these enormous objectives as identified above, there is no empirical evidence to establish whether ASYCUDA in the NCS has achieved these objectives or not. In this regards, for the ASYCUDA to achieve its objectives there must be adequate funding, infrastructural facilities, training and re-training of both customs personnel and the trading community. In line with this, Salehi, Alipour & Yahyavi (2010), URA (2012) and UNCTAD (2012) indicates that for ASYCUDA to achieve its objectives, there is the need to provide awareness and necessary skills for the users of the ASYCUDA database in order to achieve effective utilization. Report from Jordan shows more than 160 rounds of ASYCUDA training were provided to more than 130 participants (Wapa, 2001) so as to develop their capacity.

In the context of NCS similar opportunities were also provided to support training opportunities in the NCS. However, there is no empirical research to show whether this training is adequately effective and efficient in meeting the ASYCUDA objectives in the

NCS. In the same vein, studies have shown that in other part of the world, ASYCUDA has met its objective. This can be seen in the study by Droper (2004) who found that ASYCUDA ++ improved clearance from an average of 72 hours in 1999 to 3 hours in 2002 in Bangladesh. Similarly, improvement in clearance time was also reported in Chile, Netherland, Philippines and Thailand (OECD, 2005). This shows that ASYCUDA has increased the efficiency of customs elsewhere.

On the other hand, it is an available solution to the ever increasing demand of simplicity of trade documentation vis-a-viz trade facilitation between import dependent economies and export oriented nations (Bashar, 2011). It should be noted that the database covers most foreign trade procedures; it also handles manifest, customs declaration, and accounting procedures (Nigerian Custom Service, 2007). The system is described by Greenwood et al (2008), as cargo control mechanism, to monitor all movements of importation, transit and exportation, and ensure, that all goods are duly cleared before release; and declaration processing, to capture and process data for duty and revenue collection.

Isaac & Lilian (2010), inferred that "automation of customs administration is the processing of customs documents by the computer-assisted treatment of electronically transmitted information" (p. 2242). Booze et al (2007), considers the main functions of automation of customs administration to include:

1. controlling cross-border flow of goods;
2. ensuring compliance with government rules and regulations;
3. collecting of the duties and taxes due according to the national customs tariff and tax code; and

4. protecting a country against the importation of goods and materials intended for illegal purpose.

In his contribution, Swindly (2007), also adds that ASYCUDA function includes payment and accounting, to register and account for payments by importers and exporters; and risk management, to select those consignments bearing higher risk, concealment, duty and tax non-compliance, illegal importation of drugs or materials aimed for terrorist activities. Graham & Wendy (2003) also added statistics and reporting, to extract data for dissemination of foreign trade statistics and to generate management reports for customs for efficient communication between customs, traders, and other government agencies. These assertions are evident in the key objectives of ASYCUDA as developed by UNCTAD.

From the above discussion on the objectives and functions of ASYCUDA, it is pertinent to note that in the other parts of the World these ASYCUDA objectives were evaluated and have become reality, e.g. in Romania the report indicates that, the customs automation project with ASYCUDA ++ as its core, have been very successful with the objectives of the project being fully met. However, in the Nigerian context both the objectives highlighted by UNTAD (2012) and Bashar (2011), no empirical study has shown that ASYCUDA has achieved its objectives. It is based on this premise that this study subjected ASYCUDA to assessment/evaluation in order to find out whether it has met the overall objectives or not as perceived by users.

2.6 Utilization of Information Systems (ASYCUDA)

The development and deployment of Information systems into today's business environment has given birth to an increasing effect on many governmental and organizational operations and services. They are also widely used in support of

management decision making. This is evident in Terpsiadou & Economides (2009) submission where they opine that modern organizations all around the world have profited from the use of information technology in many ways including the development of IS. They further states that it is important that senior management participate in the design, development and use of the IS.

There is no precise definition of system usage at any level (DeLone & McLean, 2003). However, Seddon (1997) attempts to define system use as using the system for everyday work and tasks purposes. In other words, it is the degree and manner in which staff and customers utilized the capabilities of an information system (Petter, et al, 2008). In any case, DeLone & McLean (2002) believes that it is a suitable construct for measuring IS success. DeLone & McLean (2003) observes that *use* measures everything from visiting a web site to navigation within the site, to information retrieval, to execution of transaction within an electronic system. They further states that system use has been measured in terms of frequency of use, time of use, number of access, dependency and usage pattern. Similarly, Seddon (1997) suggests that the items to measure *use* are: the time spent in using the system, frequency of use, number of users.

The use of information system is a necessary step toward its success. This assertion was supported by Bhattacherjee (2001) who argues that, the long term viability of an IS depends highly on its continued use rather than its initial use. As a result of which it is important to study IS continued usage behavior overtime in order to gain a better understanding of this phenomenon as users gain experience in using the system (Kim & Malhorta, 2005). However, for any information system to be effectively used, it

must be user driven. This will allow end-users to be in control of the system and to create the reports that they need freely (Inmon et al, 1997).

Attempt at the development of IS to support the managerial functions of modern organizations has received worldwide recognition. For example the Canadian government developed an online database called Netfile, an electronic tax filing system through which millions of Canadians use in paying their taxes electronically with great success (Terpsiadou & Economides, 2009). They further quoted Hahamis et al (2005), Terzis & Economides (2006) and Pant, et al (2004) where they reported that in Greece an IS was developed called TAXIS NET which support various electronic tax transactions, tax payers can use a computer or another electronic device over public switched or via the Internet to fill their tax obligations. To this end many models were developed over time to explain IS utilization and impact on individuals and organizations. For example, Lucas (1973, 1975) proposes a model which predicts system utilization and job performance, the model used seven groups of variables which includes quality of system, attitude and perception, situational and personal factors, decision style, use of IS, action analysis and performance. The model describes how user performance affects utilization of IS.

The ultimate aim of information system is to improve organizational efficiency and effectiveness through proper utilization by the management, employee and other stake holders. However, the purpose for which the system may be use by the different user community may differ for example, the system may be use to support decision making, for taking action and or fulfilling legal obligation" (Sori, 2009). Burton-Jones & Grange (2008) quoted Benbasat & Berki (2007) reporting that a great deal of research has been done over the last twenty years explaining why people adopt information system. It

was believed that organizations as well as their employees can reap many benefits from the use of the information systems. However, before the benefit could be reaped, the system 'must be accepted and used' (Venkatesh et al, 2003). The available literature shows that researches conducted over time have generally focused on indentifying:

1. Types of use that increase user's task performance, or
2. Contexts in which systems usage increase user's task performance (e.g. when an IS fits the task and when user's are competent) (Burton-Jones & Grange, 2008, p. 1)

In their separate submissions, DeSanctis & Poole (1994) and Chin et al. (1997) states that users' task performance will increase when they employ an IS faithfully, i.e., consistent with its original intent. Similarly, Barki et al. (2007) infers that users' task performance will increase when they apply IS in their tasks and when they adopt the IS and adapt themselves (through learning). System usage will increase users' task performance if the IS fits the task and the user is sufficiently competent to use it (Marcolin et al. (2001). Accordingly, Nannyonjo, Abuka & Okot (2010) reports adoption and use of ASYCUDA has improved technical efficiency of Uganda Revenue Authority (URA). In a study by Chen et al (2000) on data warehousing usage among managerial end-user, reported these people have been using the data warehousing for a year, thus considered as experienced users. They further reported that they used the data on daily basis for risk analysis, forecasting, performance analysis and fraud detection.

In a nutshell therefore, deployment of IS in any organization is not enough, it is expected that users must be ready and willing to learn to use the system effectively in their daily task to improve their competencies, and that organizations deploying IS must

ensure that the task fit the individual users. This will in no small measure lead to attainment of the aims of IS deployed in an organization. From the reviewed literature, it was established that utilization of IS is synonymous with user's experience and that the frequency and purpose of usage varies. On the final analysis, the use may only result in productivity and organizational efficiency.

2.7 Evaluation /Assessment of Information Systems in Modern Organizations

Information System such as ASYCUDA has been subjected to assessment/evaluation in various context and time as will be discussed below. In the context of this research work, assessment and evaluation are used interchangeably to mean one and the same thing. There seems to be a generally agreed standpoint that definition of evaluation must cover a broad range of systematic thinking (Goran & Jenny, 2012). For example, Guba & Lincoln (2001) consider evaluation as one form of disciplined inquiry which focuses on some evaluation objects and result in "merit" or "worth" construction, i.e. judgment, about it.

The term assessment has a wider range of application. In the context of this research work, assessment can be defined as a continuous process of appraising the progress made by a system or project. In many ways, assessment and evaluation seem virtually synonymous. More often, the two words are used interchangeably. This is current in American literature. In contrast, it is common in Britain to use "assessment" and "evaluation" in reference to two different meanings, although closely related activities (Rowntree, 1987). The term 'evaluation' essentially means – according to Prytherch (1995) the process of measuring the effectiveness of an organization in meeting

its aims and objective. The process would normally include judgments on the overall success of the organization in wider context.

Assessment can be done at some point of a process that is going on to judge the appropriateness of what is to be access. It is a fact finding activity, describing condition that exist at a particular time. The most evident purpose of assessment is to prove the worth of, or improve, the programme or activity. It may then lead to the decision to allocate resources for continuing the activity and, if necessary, for improving its management (Chollat-Traquet, 1996). According to Clarke (1992) as quoted in Chen et al (2011) it is important to note that the primary purpose or objective of evaluation research is not to explore new knowledge as other forms of research do. Rather, it aims at using current knowledge to assess and study the effects, effectiveness and outcomes of "some innovation, interventions, policy, practice or service" (Robson 2002, p. 202) as cited in Chen et al, (2011), and then to inform decision making to guide practical actions (Clark 1992 and Lagsten & Goldkuhl, 2008) as cited in Chen et al (2011)

It is a common knowledge that progress in any project depends on assessment of the results of previous efforts; only with such assessment can the authority know if established project is working well or should be changed (Mabera, 2003). The process involve in carrying out assessment consist of the following main elements, which can be used flexibly and adopted to different circumstances:

1. Specify the subject for assessment,
2. Ensure information support,
3. Verify relevance,
4. Assess adequacy,
5. Review progress,

6. Assess efficiency,
7. Assess effectiveness,
8. Assess impact, and
9. Draw conclusions and formulate proposals for future action (Chollat-Traquet, 1996, p. 14).

When a project is developed and implemented it is always good to assess it either at implementation stage or at the end to assess the viability, success, challenges or benefit of the project. To this end, evaluation of information systems has been a central theme of library and information science (LIS) literature for several decades. Among the scholars that contributed to the literature are Wilson (1985), Remenyl & Sherwood-Smith (1999), McAulay, Keval & Dohert (2001), Irani (2002), Morse (2002), Rai, Lang & Welker (2002), Cordoba & Robson (2003), DeLone & McLean (2003), Cronholm & Goldkuhl (2003), Brown (2005), Ferguson, Hider & Kelly (2005), Lagsten & Goldkuhl (2008), Al-adaileh (2009) to mention but a few.

Walsham (1993) suggest that information system evaluation can be seen as a multi-stage process occurring at several points, in different ways, during the product life-cycle. He further stressed that it is important to consider evaluation as a learning process for all involved – "questioning is acceptable, all assessment are legitimate in the evaluation discourse, everybody is a learner during the evaluation process, and moral issues can be debated (Walsham, 1993). Cronholm & Goldkuhl (2003) contributed to the decision of how to perform IS evaluation depending on the context. They stated that "there are formative and summative approaches containing different measures or criteria. Some approaches are focusing on harder economical criteria and others are focusing on softer user-oriented criteria". Similarly, (Rowntree, 1987) further advanced that the assessment can take of the following:

1. Diagnostic Assessment – this functions prior to the development of an activity or programme, it aims at planning a project that will be relevant and beneficial to the organization, such a project may meet previous expectations and needs. It allows for specifying the background, the pre-requisite for programme action, the interest of and personality of stakeholders in order to determine what kind of facilities or strategies to be made readily available. Before any project plan, it is necessary to diagnose the needs and expectations of the targeted audience, to determine what their requirements are in terms of capacity and experience, etc.
2. Formative Assessment – as the name implies, it is usually undertaken during the process of developing a programme of activity as it provides feedback for the programme improvement. The fact that it is stressed during a process, it allows continuously to adjust or to adopt a programme. It helps to gather the necessary information used to move towards desirable goals.
3. Summative Assessment – also called terminal assessment, occurs at the end of a programme, summative assessment is used to evaluate the total programme as it has fully developed towards achieving stated goals. It aims towards a much more comprehensive appraisal of the degree to which the outcome has been attained over the entire or part of a particular programme.

Evaluating the success of information systems cannot be over stated. It has been identified as one of the most critical issues in IS field (Al-adaileh, 2009). However, evaluators of IS are persons with divergent views and interest. They may be system owners, managers, developers, users, auditors, researchers etc. Some of them may be

interested only in the benefit of implemented system; others may strive for usage efficiency, while others look for possible ways of system improvement. As a result, evaluation criteria vary from hard defined economic and technical to soft user-oriented (Vasilecas, Saulis & Dereskevicius, 2006).

Several empirical studies have been conducted to explore the success or otherwise of already established information systems in different organizations across the globe. One of such study is the CHAOS study in 1994. The study involved 365 companies with total of 8,380 ISs application under development. IS project is considered successful if it is completed on time and budget, with all features and functions as specified. Only 16.2% of project fell in this category. In addition, IS project is considered as a partial failure if the project was completed, but was over cost, over time, and/or lacking all of the features and functions that were originally specified. 52.7% of all studied projects fell into this category. Finally, IS project is considered as complete failure if the project was abandoned or cancelled at some points and thus became total losses. A disturbing 31.1% of all studied project fell into this category.

Diniz, et al (2005) based on a multiple case study in three large banks in Brazil, proposed and tested a model of three dimensions to evaluate virtual business environments from the user's point of view including functionality, evaluates the offered services profile; reliability, investigates the security of a transactional site; and usability evaluate the quality of user interaction with the site. The findings of the study reveals that the three – dimensional evaluation approach can be useful to evaluate the quality level of Internet banking sites. Brynjolfsson & Mendelson (1993) shows that there exist a relationship between information systems and changes taking place in organization of

modern enterprise, both within and across firm. They offered that when viable information systems are developed and are changing radically, one cannot expect the optimal organizational structure to be unaffected. This is so, because, considering the interplay among information, incentives and decision rights in a unified fashion leads to new insights and a better organizational planning. Thus, Brynjolfsson & Mendelson further advanced that the revolution in information systems merits special attention as both cause and effect of the organizational transformation.

Sori (2009) in his study of Accounting Information Systems (AIS) and Knowledge Management in Malaysia reported that wide variety of people that are involve in the company's operation get the benefits from the implementation of the information system. He further reported that, the system assist the operational managers to come out with monthly reports for the top managerial level (i.e. tactical and strategic) plan, control and decide resources allocation. In addition, Sori's finding shows that the information system adds value to information processed within the company. In the light of above, it has also been reported that countries of the world not only embraced the new technologies (ASYCUDA) to enhance their operations but also evaluate the system to determine its success. For example Jordan embraced the technology in 1987, ten years after, the project was evaluated by three independent evaluators representing UNCTAD, UNDP and Custom Department in August 1999, the following impact were attained as indicated by the evaluation team:

Time of release: the green lane declaration takes an average of 2 hours

Revenue collection: the revenue has stayed constant despite significant reduction in duty rate

Trade statistics: trade statistics are more complete. Accurate and up-to-date

Procedures: Simplification and increase transparency through: integrated customs tariff; single administrative document; risk management techniques; DTI, i.e. electronic lodgment of customs declarations. (Wapa, 2001).

The success recorded in Jordan was further consolidated as evident in the report of Noaman, Purdy & Gharibeh, (2002)

> The effectiveness of ASYCUDA project results is demonstrated by the simplification of procedures which in turn brought about speed and accuracy in declarations' processing and cargo clearance. The increased volume of electronic declarations made by the business community and the production of more reliable customs data point to a greater degree of efficiency (p. 13)

Based on this submission, the ASYCUDA system can be referred to as a premium of transformation as far as clearance is concerned. Similarly, other evaluative efforts were recorded in the Islamic Republic of Iran and Romania. In Iran, the evaluation team made several strategic proposals concerning the organizational structure, customs procedures and the IT system. These proposals were taken into account for the roll-out phase covering 12 customs offices throughout the country, while in Romania the report indicated that, the customs automation project with ASYCUDA ++ as its core, have been very successful with the objectives of the project being fully met. The evaluation team also reported significant improvement in the quality and timeliness of statistical data and appreciable reduction in the clearance times for goods (UNCTAD, 2012).

In a similar development, Duncan et al (2009) quoted the general findings of Centre for Customs and Excise Studies which shows that ASYCUDA ++ and PC/trade are operating at reasonably effective and efficient levels, although the efficiency gain

vary from country to country; the satisfaction level of the trading community; who, in general, had provided strong support for automation, is quite high, as clearance times had been reduced considerably; the use of direct trader input (DTI) and clearnace based on risk assessment has created a positive image for customs. Isaac & Lilian (2010) conducted an empirical study on automation and customs tax administration in Uganda and their findings reveals that automation leads to efficiency of tax administration as well as cost reduction. Accordingly, Nannyonjo, Abuka & Okot (2010), reports that the introduction of ASYCUDA has improved technical efficiency of Uganda Revenue Authority (URA). In the same vein the application of automation in custom clearance and payment of duties and taxes between 1987 and today in Singapore achieved the following:

1. Processing time was reduced from 2 – 4 days to within minutes
2. Number of documents fell from 3 – 35 (depending on the transactions) to 1
3. During this period the number of daily transactions processed rose from 10,000 per day to 30,000 per day
4. Freight forwarders estimate that, they save 20 – 35% of the cost of handling trade documentation
5. Payments of customs duties are in the coffers of customs much faster than before and
6. The completion of trade statistics was substantially improved benefiting the trading community as well as national authorities responsible for trade policy and economic surveillance (De Wulf, 2004).

This is evident in the objectives which ASYCUDA was set to achieve by its developers (UNCTAD). Even though some countries of the world developed an alternative automation interface for customs clearance procedures such as Trade net (Singapore) ASYCUDA stood out to be the most popular and used system, as evident in the analysis conducted by USAID in 2006 between ASYCUDA and GCNet. The analysis shows that ASYCUDA:

1. Has been in existence for over 25 years and been successfully implemented in over 80 countries at reasonable cost
2. Has been upgraded 4 times to meet hardware and application software state-of-the-art advancements
3. Has a wide variety of specifically definable customs functional processes that can be selected by module and customized by each user nation and
4. Has well developed implementation, training and maintenance support network including the development of regional centers.

In conclusion, therefore, all over the world there is a huge amount of money spent on information systems. For example, Urbah, Smolnik & Riempp (2008) reported a projected expenditure on IS investment to be $1.48 trillion in 2010 alone. They equally, reported that a greater number of IS failure are still emerging despite these investment. It is therefore important to evaluate the outcome to justify the means. It may be done to assess how well the system contributes to achieving the goals of the parent constituents (Pritchard, 1996). It can also be done to diagnose particular problem areas of service or monitor progress towards specification or even compare past, current and desired level of performance (Van House et. al. 1990). Similarly, IS evaluation can be embarked upon to assess the extent to which it has achieved its objectives (Mackenzie, 1990). Evaluation is

never an easy task and consequently there are a lot of suggestions on how to evaluate system (Cronholm & Goldkhl, 2003). Whichever method is used, the main evaluation issues are efficiency of implementation, impact, effectiveness, and appropriateness (Ramage, 1995).

2.8 Information System User Satisfaction

Emergence, convergence, adoption and utilization of IS by individuals and organizations gave rise to user information satisfaction (UIS). IS has to be available and utilized before one derives satisfaction or not. Various factors influence user satisfaction such as ease of retrieval, and impact of information. The relevance and impact of IS in organizational development is increasing daily, many organizations have gained competitive advantage in profit margin, revenue generation, marketing, advertisement, imports, transportation, shipping freight forwarding, etc, through the application and utilization of IS as a tool or mechanism to carryout daily activities and have in most cases resulted in changing most organizations work setting – as a result of its adoption. Therefore, measurement of information systems (IS) success is both complex and illusive (Petter et al., 2008). There are IS that range from hedonic, developed for pleasure and enjoinment, to utilitarian, developed to improve individual and organizational performance (Van der Heijden, 2004).

Many scholars have attempted defining the concept of user satisfaction. For example, Delone & McLean (1992, 2003) defines it as the overall level of user satisfaction and as an important means of measuring user's opinion. Bailey et al (1983) defines UIS as a multidimensional attitude of the user towards different aspect of an IS. Similarly, Alkhata (1994), Ives et al (1983) and Iivari (1987) defines UIS as the

perceived effectiveness of an IS. In his contribution, Seddon (1997) sees it as a subjective assessment of the various consequences, evaluated on a pleasant and unpleasant continuum. In the same vein, Gatian (1994) in his study described UIS as a surrogate measure of IS effectiveness, the result of his study indicates that a relationship does exist between satisfaction and behavior, for user group. Accordingly Alkahtani (1994) reported that, there are different levels of satisfaction with the use of IS, for example, managers use the IS for different purposes and for a range of task and they correspondingly value systems to differing extent. IS can deliver the timely information and related functionality regarding users' task in IS usage (Hsu, 2012).

Various scholars have suggested that user information satisfaction UIS is one of the key factors leading to IS success (Mahmood, 2000). He further quoted Distsa & MacGregory (1996) who examines a wide range of user satisfaction models and identified the following key factors which lead to the realization of user expectations and satisfaction: the quality of the information from IS, the user interface features of the IS, the support provided by DP staff, vendors or manuals. The involvement of the user in the planning, development and implementation of the IS and the user attitudes towards the IS. Al-adaileh (2009) reported DeLoane & Maclean's (2003) in their latest study reveals that IS quality, system quality and service quality and each should be measured or controlled which will affect use and user satisfaction. Cyert & March (1963) are the first to propose the concept of user satisfaction (US) as surrogate of system success. Myers (1994) later proposes that IS success may be achieved when an information system is perceived to be successful by stakeholders and other observers and according to

Hirschheim & Smithson (1988) is therefore best measured in terms of end-user satisfaction.

Bailey & Pearson (1993) developed 39 items to measure computer user satisfaction and identified accuracy, reliability, timeliness, relevance, and confidence as the most important factors in their study. Similarly, an empirical study conducted by Doll & Torkzadeh (1988) measure user satisfaction by attributes of content, accuracy, format, ease of use and timeliness. Doll et al (2004) as cited in Mohamed, Hussin & Hussein (2009) tested and validated the End-user Computing Support (EUCS) model using 1166 responses across different application and recommended the use of a five first-order factor model they cited that accuracy was more important in user-satisfaction for operating personnel than it was for managerial or professional respondents.

Wood et al (1996) investigates students' database searching techniques, the effectiveness of their searches and their satisfaction with them in relation to their cognitive and learning styles. Result indicated that many students "were unable to construct an adequate search query, devise an effective search strategy or achieve an adequate search result" (p. p. 90). Despite this, over half the students experienced satisfaction with their results and 79% of the students considered their searches to be at least successful. It is suggested that the overall high level of satisfaction with their searches could be due to the students' low expectations or ignorance of the weakness of their search strategies. Sandore (1990) has also reported a "low overall association between precision and satisfaction, regardless of whether the user's expectations were for exhaustive (high-recall) or specific (high-precision) results" (p. 33).

Griffiths et al (2007) surveyed the information retrieval (IR) and information system (IS) literature in an attempt to understand what constitute user satisfaction and the factors that affects it. They found that user satisfaction is a measure that has been considered immensely in user - oriented system evaluation with both the IR and IS literature. According to their survey, they found that user satisfaction is not a single construct upon which to base user assessment of system effectiveness but is influenced by other factors, including: system output; user expectation and attitude, perceived ease of use and usefulness; system type; and task difficulty. In his contribution, Hildereth (2001) posites that end users of IR systems often expressed satisfaction both with their results and with the overall performance of the system, even when objective analysis of the results showed them to be poor. Earlier on, Harter & Hert (1997) reported that satisfaction has been the most widely used evaluation concept in information system evaluation.

On the other hand, a number of studies such as Garrity & Sanders (1998), Markus & Kell (1994), and Franklin et al (1992) suggest that most information systems fail to meet the objectives and aspiration held for them, not because they are not technically sound, but because psychological and organizational issues are not well addressed during the development, implementation and use of the System. In the same vein, Eveleesns & Verhoef (2009) observes that only 32% of information systems are considered successful. While other systems do not provide the desired functionality or add business value (Beale, 1996; Markus & Keil, 1994), other well executed and technically sound systems with required features to solve the intended business problems are not always used because of the potential uses' perception of their utility (Newman & Robey, 1992).

Therefore, assessing perception of users to determine satisfaction of IS is paramount and justified in this study.

In conclusion, it is central to understand the driving force of users' satisfaction to IS and to adapt the services to fulfill consumers' motives for using it (Hsu et al 2012). Several factors influence users' satisfaction such as quality of information, user manual and ease of retrieval among others. Similarly, lack of adequate knowledge and skills equally cause a challenge to user satisfaction with IS in an organization. Therefore, the need for organization to provide quality IS and makes it user friendly, can surely lead users to derive satisfaction.

2.9 Challenges facing ASYCUDA towards the Attainment of its Objectives in NCS

Automated System for Customs Data (ASYCUDA) is an information management system the development which started in the West African sub-region and has rapidly evolved from the delivery of automation of trade transactions (of individual countries) toward the adoption of e-international trade solutions. The review of the literature has highlighted both opportunities and challenges for the development and implementation of ASYCUDA as ascertained by a number of scholars such as Wapa (2001), Salehi, Alipour & Yahyavi (2010), Isaac & Lilian (2010), Nannyonjo, Abuka & Okot (2010), Cantens, Raballand & Bilangna (2011) and Gebeyehu (2012).

The literature reported varying degrees of challenges from across different countries of the world but mainly from the African countries. These challenges range from poor planning, lack of skilled manpower, inadequate funding, poor connectivity within and outside the country, and more importantly the issue of infrastructural facilities, just as Kubie (2010) and Gebeyehu (2012) in their separate studies of Customs

automation in Ethiopia identifies the following challenges bedeviling effective and efficient operations of the system:

1. frequent connectivity failure
2. server problems
3. absence of system supervisor
4. electric power interruption
5. lack of skilled manpower specially in the field of IT
6. the system security issues are not well managed
7. as there is no cost recovery mechanism, replacement of hardware and other equipment will be a problem for the future and
8. the sustainability of the system will be the next challenge.

From Liberia, Sackie (2010) reports very low level of computer literacy staff and traders. On the lack of trained Customs personnel in IT, Inde (2011), reported that, training of officers and men of the NCS in modern techniques of custom administration especially in the area of information technology has been greatly hampered on account of inadequate funding. Similarly, the implementation of ASYCUDA system in Uganda was also characterized with some challenging problem as observed by Nannyonjo, Abuka & Okot (2010). Their survey reveals the following challenges.

1. ***ICT infrastructure****:* Automation of URA customs has been seriously constrained by unreliable network connectivity, high connection costs for users such as clearing agents, and a poor general telecommunications infrastructure. This has been cited as the greatest challenge to the implementation of ASUCYDA to date.

2. ***Resistance to the system***: Resistance from stakeholders to introduction of the ASYCUDA system was observed particularly at the time of its launch. In URA some staff members thought it would result into job loss. In the business community, there was fear that the system would increase operating costs and would be difficult to apply as it requires IT knowledge. Most clients were not sure of the safety measures to be taken in case of any failure (leading to lost of merchandise) and efficiency of the system.
3. ***Risks****:* In some cases, the IT staff members lacked information on how the system operates leading to errors in declaration and penalty charges. Most traders are not conversant with the system which increases the risk of agents extorting money from them.
4. ***Set-up costs****:* The computer hardware and internet connectivity cost for set-up DTI were high [sic] most clearing agents. This negatively impacted on the cost of production and profits of these entities.
5. ***Storage and tax cost*****:** Despite the significant reduction in operating costs associated with the introduction of ASYCUDA, URA increased the tariff rates on most items and the bonded warehouses increased their rent for each 24 hours of storage (p. 32).

In a related development, Nkoma (2012) reports on the experience of Zambia's Customs Service Division where many a time, there is system failure to acquit the declarations electronically both at entry and exit ports which has not only caused delays in entry processing because frequently agents bonds are not re-imbursed but also introduces risks in transit goods monitoring, as records on the system do not reflect the correct picture on the ground. This poses a great challenge to the success of trade

facilitation efforts. In the same vein, there are also the environmental factors, Nkoma, further reported that computers and printers connected to ASYCUDA system had repeatedly been crashing or breaking down probably because of the hot and dusty environment, leading to a dismal efficiency of the equipment and sharing of computers by officers performing different functions is therefore, greatly affected.

On the whole International Monetary Fund (IMF) gave a background of the customs regimes of the African sub-region in 2009 and summarized the challenges of capacity building. IMF attributed the blame on the lack of capacity in the regional customs administration to fully understand, manipulate and effectively utilized available IT capabilities. This could be the reason why there was no connectivity between and among many African countries despite progress being made in ASYCUDA implementations in Africa. This is evident in a study on Chirundu one Stop Border Post Valuable Updates which reported that there is no connectivity between Zimbabwe and Zambia whilst both customs authorities used ASYCUDA ++ system which are not talking to each other. Similarly, ASYCUDA Implementation in Nepal has faced variety of problems and obstacles. The ICT Infrastructure was very poor and there was scarcity of IT professionals within the country (Dhungana, 2010).

The implication of the identified challenges is that, the computerization of customs clearance procedure which delineates geographical barriers will remain on the drawing board and can delay trade and create security related issues if not properly addressed. Calling for cooperation among countries and the private sector in addressing the challenges, ASYCUDA therefore offers an excellent platform that would allow customs administrations worldwide to participate in the global electronic market (Lyon

Summit, 1998). Thus the need to embrace it fully to maximize the potentials it promises. Since, from the available literature reviewed, there is none that evaluated NCS ASYCUDA objectives as perceived by users. This study therefore, presents itself to assess user's perception on the attainment of ASYCUDA objectives in NCS in order to fill in the gap.

2.10 Summary of the Review and Uniqueness of the Study

The review of literature in this study covered theoretical and conceptual analysis of relevant models and theories on Information systems in order to give a solid theoretical base to the study. Two models were found relevant and were adopted for this study; these are information success model and six generic type of information system evaluation. The review also featured the historical antecedent of the study environment; the Nigerian Custom Service (NCS) which was no doubt linked to the British Colonial activities in Nigeria dating back to 1891. It was also established from the literature that, NCS is saddled with the responsibilities of enforcement of government physical policies and laws as contained in the Customs and Excise Management Act (CEMA)

The review also features the importance of information system in modern organizations which led to enormous investment into computerization of Customs organizations world over, to bring about better management of government revenue, simplification, harmonization and standardization of international trade through an institutional strengthening of Customs administration. Attempt at the computerization of customs organizations dates back to 1981 when United Conference on Trade and Development (UNCTAD) received a request from the secretariat of Economic Community of West African States (ECOWAS) to assist in the compilation of foreign

trade statistics in their member states. Today, over 90 countries of the world adopted the Automated System for Custom Data which NCS subscribed to in 1996. This has changed the nature of work and communications as well as the way Customs organizations carry out their business activities.

The review also established the need for information system evaluation with the primary purpose of using current knowledge to assess and study the effect, effectiveness and outcomes of some innovations, intervention, policy, practice or service. Hence, this study explored the user satisfaction of ASYCUDA from the NCS officers and men, as well as the Clearing Agents' perspective. This is so because information systems can be measured in terms of end-user satisfaction in relation to content, format, ease of use, accuracy, and timeliness. The literature also revealed challenges bedeviling the smooth operation of the system. Major challenges identified and discussed by the literature focused on very low level of computer literacy staff and traders, lack of trained customs personnel in IT, inadequate funding and inadequate infrastructural facilities among others.

The literature reviewed highlighted a number of issues related to the information system evaluation. However, few of the reviewed studies focused mainly on the Automated Systems for Customs Data (ASYCUDA) as an information management system. In most instances, where there were such submissions, they were not done holistically using constructs of use, user satisfaction and objective of ASYCUDA from users' perception perspective. From the review it was established that none of the literature focuses mainly on the assessment of users' perception on the attainment of ASYCUDA objectives in NCS.

In conclusion, the uniqueness of this study can be seen from the harmonization process of D & M and Cronholm & Goldkuhl models of IS evaluation in which a conceptual framework and an instrument for assessing ASYCUDA objective was proposed and validated. Finally, to the knowledge of the researcher this is the first time ASYCUDA objectives in NCS are evaluated empirically from user's perspective, this is yet another uniqueness of the study.

References

Adeoti-Adekeye, W. B. (1997). The importance of management of information systems. *Library Review*, 46 (5), 318-327

Ajayi, I. A., & Omirin, Fadekemi F. (2007). The use of management information Systems (MIS) in decision making in the South-West Nigerian Universities, *Educational Research and Review*, 2 (5), 109-116.

Ajayi, S. A. (1988). *The true Custom man: An outline history of Nigeria Customs and Excise Department 1889 – 1984*. Lagos: Joe Tolala and Associate.

Al-adaileh, R. M. (2008). *Essentials of management information systems*. Karak –Jodan: Yazeed Publications

Al-adaileh, R. M. (2009). An evaluation of information systems success: User perspective – the case of Jordan Telecom Group. *European Journal of Scientific Research*, 37 (2), 226 - 239

Alkahtaini, M. M. (1998) *Computer-based information systems and their use by mangers in Saudi Arabia and the UK.* (Unpublished PhD Thesis). Loughborough University

Almutairi, H., & Subramanian, G. H. (2005). An empirical application of the DeLone and McLean model in the Kuwaiti private sector. *The Journal of Computer Information Systems*, *45*(3), 113

Amdii, I.E. S. (ed.) (1991*). 100 years of Nigeria Custom and Excise 1891 – 1991*. Zaria: Ahmadu Bello University Press

Ango, S. O. G. (1998). *The role of Nigeria Customs Service in the realization of vision 2010.* Ibadan: Spectrum Books

Bailey, J. F. & Pearson, S. W. (1993). Development of a tool for measuring and analyzing computer user satisfaction. *Management Science,* 29(5), 530-545

Barki, H., Titah, R. & Boffo, C. (2007). Information system use-related activity: An expanded behavioral conceptualization of information system use. *Information Systems Research,* 18 (2), 173-192

Bashar, Y. U. (2011). *ASYCUDA and new clearance procedure (import, export, transit and transshipment).* A lecture delivered at Customs Training College, Ikeja-Lagos for CIU 2011 Training Programme, 14-28 March 2011.

Beale, I. (1996). Why information systems fail: A case study. *Internal Auditor*, *53*(4), 12-14.

Bhattacherjee, A. (2001). Understanding information system continuance: An expectation-confirmation model, *MIS Quarterly,* 25 (3), 351-370

Booze, R, Allen, J, & Hamilton, M. E. (2007). Customs automation in Sub Saharan Africa.

Brown, A. (2005) IS evaluation in practice. *Electronic Journal of Information Systems Evaluation.* 8 (3), 169-178

Brynjolfsson, E. (1993). The productivity paradox of information technology. *Communication of ACM*, 36 (12), 67-77

Brynjolfsson, E. & Mendelson, H. (1993) Information systems and the organization of modern enterprise. *Journal of Organizational Computing*. December 1993. Retrieved from http://ccs.mit.edu/papers/CCSWP200/

Burton-Jones, A. & Grange, C. (2008). *Using information systems effectively: A representational perspective. Proceedings of JAIS Theory Development Workshop. Sprouts: Working Papers on Information System*, 8 (21). Retrieved from: http://sprouts.aisnet.org/8-21

Cantens, T., Raballand, G. & Bilangna, S. (2011) Reforming Customs by measuring performance: A Cameroon case study. *World Customs Journal,* 4(2), 55-74

Castro, J., Kolp, M. & Mylopoules, J. (2002). Towards requirements – driven information systems engineering: The Tropos project. *Information Systems*, 27, 365–389

The chaos report (1994). Retrieved from http://www.csus.edu/indiv/v/velianitis/161/ChaosReport.pdf

Chen, L., Soliman, K. S., Moa, E. & Frolick, M. N. (2000). Measuring user satisfaction with data warehouses: An explanatory study. *Information and Management,* 37, 103-110

Chen, S., Osman, N. M., Nunes, M. B. & Peng, G. C. (2011). *Information system evaluation methodologies. In: Proceedings of the IADIS International workshop on information systems research trends. Approaches and methodologies* (ISRTAM), 20th July, 2011, Rome, Italy. Retrieved from http://eprints.whiterose.ac.uk/74740/1/WRRO_74740.pdf

Chin, W. & Lee, M. (1997). *On the information of end user computing satisfaction: A proposed model and measurement instrument.* Working papers, March 28, City University, Hong Kong

Chollat-Traquet, C. (1996). *Evaluating tobacco control activities: Experiences and guiding principles.* Geneva: World Health Organization

Chung, S. H. & Snyder, C. A. (2000). ERP adoption: A technological evolution approach. *International Journal of Agile Management Systems*, 2(1), 24–32

Córdoba, J., & Robson, W. (2003). Making the evaluation of information systems insightful: understanding the role of power-ethics strategies. *Electronic Journal of Information Systems Evaluation*, *6*(2), 55-64.

Cronholm, S. & Goldkuhl, G. (2003). Strategies for information systems evaluation – six generic types. *Electronic Journal of Information Systems Evaluation*. 8 (2), 65-74

Customs and Excise Management Act (CEMA) No. 55 of 1958.

Cyert, R. & March, J. (1963). *A behavioural theory of the firm*. Englewood Cliffs, New Jesse: Printice-Hall.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13, 319-339

De Wulf, L. (2004) *Trade net in Ghana best practice in the use of information technology*. Background paper for the World Development Report

Delone, W. H. & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3 (1), 60–95

DeLone, W. H. & McLean, E. R. (2003). The DeLone and McLean Model of information systems success: A ten year update. *Management Information Systems*, 19 (4), 9–30

DeSeanctis, G. & Poole, M. S. (1994) Capturing the complexity in advanced technology user: Adaptive structuration theory. *Organization Science*, 5 (2), 121 - 147

Dhungana, C. M. (2010). Automation in Customs: Status and prospect in national IT arena: In Dahal, S. P. et al (eds.). *Customs 58th International Customs Day Special Issue*. Nepal: Department of Customs. Pp.1 - 7

Diniz, E., Porto, R. & Adachi, T. (2005) Internet banking in Brazil: Evaluation of functionality, reliability and usability. *Electronic Journal of Information Systems Evaluation.* 8 (12), 41–50

Doll, W. J. &Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly,* 12 (2), 259–274

Droper, C. (2004) Reforming Customs administration: The unlikely case of Bangladesh? World Bank Report

Duncan, R., Raikuna, B. & Achary, P. (2009). Feasibility study on sub-regional approaches to targeted Customs Services

Eveleens, J. L. & Verhoef, C. (2009). The rise and fall of the Chaos Report Figures, *IEEE Software*, 27(1), 30 - 36

Ferguson, S., Hider, P. & Kelly, T. (2005) Information systems evaluation and the search for Success: Lessons for LIS research. *Australian Library Journal.* Retrieved from: http://www.alia.org.au/publising/ali/54.3/full.text/ferguson.hilder.kelly.html

Franklin,I., Pain, D., Green, E., & Owen, J. (1992). Job design within a human centre (system) design framework. *Behaviour and Information Technology*, 11(3), 141 - 150

Garrity, E. J. & Sanders, G. L. (1998). *Information system success measurement*. London: IDEA Group Publishing.

Gatian, A. W. (1994). Is user satisfaction a valid measure of system effectiveness? *Information Management*, 26 (3), 119 - 131

Gebeyehu, M. (2012). Customs automation and trade facilitation (In the Case of Ethiopian Customs). Retrieved from: www.uneca.org/codi/codt4/ICT/Day2.../MekonnenGebeyehu.ppt

Graham, S. & Wendy, L. P. (2003). Harmonization of international taxation: The case of inter-listed stocks. *Management Finance*, 29 (1), 779 – 799

Greenwood, C. L., Jr. Thapan, A., Ahmed, J., Kertzman, D., & Kelly, B. B. (2008). Enhancing revenue collection and strengthening the criminal prosecution of tax evasion cases.

Griffiths, J., Johnson, F. & Hartliey, R. (2007). User satisfaction as a measure of system performance. *Journal of Librarianship and Science*, 39 (3), 142 - 152

Guba, E. G. & Lincoln, Y. (2001). Guidelines and checklist for constructivist (a.k.a. fourth general) evaluation. Retrieved from http://www.dmeforpeace.org/sites/default/files/Guba%20and%20Lincoln_Constructivist%20Evaluation.pdf

Hahamis, P., Iles, J., & Healy, M. (2005). E-government in Greece: Bridging the gap between need and reality. *Electronic Journal of e-Government*, 3 (4), 185-192.

Harter, S.P. & Hert, C.A. (1997) 'Evaluation of information retrieval systems: Approaches, issues, and methods', in Martha E. Williams, (ed.) *Annual Review of Information Science and Technology (ARIST)* 32. Medford, NJ: Information Today, pp. 3–94

Heidarkhani, A., khomami, A. A., Jahanbazi, Q. & Alipoor, H. (2013). The role of management information systems (MIS) in decision-making and problems of its implementation, universal. *Journal of Management and Social Sciences*, 3 (3), 78- 89

Hildreth, C. R. (2001). Accounting for users' inflated assessments of on-line catalogue search performance and usefulness: An experimental study. *Information Research,* 6(2). Retrieved from http://informationr.net/ir/6-2/paper101.html.

Hirschheim, R. & Smithson, S. (1988). A critical analysis of information systems evaluation. In: Bjorn-Anderson, N. and Davis, G. G., (eds.) *Information Systems Assessment: Issues and Challenges*. Amsterdam: Elsevier, (pp. 17 – 37)

Hsu, F. M., Lin, Y. T., Fang, C. T., & Chiu, C. M. (2012). A framework for users' satisfaction of information systems in e-government. *Proceedings of the Pacific Asia Conference on Information System (PACIS 2012).paper 111.* Retrieved from *http://aisel.aisnet.org/pacis2012/111*

Ikhilae, M. F. (2001). *The birth of Nigeria Custom Service*. Lagos: The Link Ultimate Ventures.

Inde, A. D. (2011) *Nigeria Customs Service*: *Performance scorecard* August 2009 to August 2011

Inmon,W. H., Welch, J. D. & Glassey, K. L. (1997). *Managing the data warehouse*. Wiley: New York.

Irani, Z. (2002) Information systems evaluation: Navigating through the problem domain. *Information Management*, 40 (1), 11 - 24

Isaac, N. N. & Lilian, L. (2010) Automation and Customs tax administration: Empirical evidence from Uganda. *African Journal of Business Management*, 4 (11), 2241 – 2246

Ives, B., Margrethe, M. & Baroudi, J. J. (1983). The Measurement of User Information Satisfaction. *Communication of the ACM*, 26 (10), 785 - 793

Jatau, M. D. (2001). *Combating Smuggling: the Nigeria Customs Service Experience. Lectured delivered at Nigeria Police Academy*, Wudil – Kano on 29th June 2001

Jiang, J. J., & Klein, G. (1996). User perceptions of evaluation criteria for the three System types. *The DATA BASE for Advances in Information System,* 27 (3), 63 - 69

Kebede, G. (1999). Performance evaluation in library and information systems of developing countries: A study of the literature. *Libri,* 49, 106 - 119

Kim, S. S. & Malhotra, N. K. (2005). A longitudinal model of continued IS use: An investigative view of four mechanism underlying postadoption phenomena. *Management Science,* 51(5), 741 – 755

Kiplangat, J., Kwake, A. & Kariuki, S. M. (2005). Information and Communication Technologies (ICT) adoption by Small and Medium Scale Enterprise (SME) tourism stakeholders in the Durbin region, South Africa. *African Journal of Library, Archives& Information Science,* 15 (2), 133 – 140

Kubie, K. (2010). Efficiency of electronic service delivery: A case study in automated systems for Customs data (ASYCUDA) in Ethiopian Revenue and Customs Authority (ERCA) (Unpublished master's thesis). Addis Ababa University.

Lagsten, J. & Goldkuhl, G. (2008) Interpretative IS evaluation: Results and uses. *Electronic Journal of Information Systems Evaluation.* 11 (2), 97 - 108

Laudon, K. & Loudon, J. (2006). *Management information systems: Managing the Digital Firms* (9th ed.). Prentice Hall

Livari, J. (1987). User Information Satisfaction (UIS) reconsidered: An information system as an antecedent of UIS. In: J. I. DecGross & C. H. Kriebel (eds.) *Proceedings of the eight international conferences on information system*. Pittsburg

Lucas, H. C. Jr. (1973). A descriptive model of information systems in the context of the organization. *ACM SIGMIS Database*, 5(2), 27 - 39

Lucas, H. C. Jr. (1975). Performance and the use of an information system. *Management Science*, 21(8), 908 – 919

Lucey, T. (2005). *Management information systems*. Cengage Learning EMEA

Lyon Summit (1998). Getting from here to there. *ASYCUDA Newsletter* no. 3 November

Mabera, S. U. (2003). Veterinary science collection evaluation: The case of Usmanu Danfodiyo University, Sokoto. *Sokoto Journal of Veterinary Sciences,* 5 (1), 25 - 29

Mackenzie, G. A. (1990). Performance measurement. In: Mauriec. L. B. ed. *Academic library management.* London: The Library Association (pp. 196 – 205)

Marcolin, B. L., Compeau, D., Munro, M. C., & Huff, S. L. (2001). Assessing user competence conceptualization and measurement. information systems research, 11(1), 37 - 60

Markus, M. l. & Keil, M. (1994). If we built it, they will come: Designing information systems that people want to use. *Slone Management Review*, 35(4), 11 – 25

Masrek, M. N. (2009). Determinants of strategic utilization of information systems: A conceptual framework. *Journal of software,* 4(6), 591-598

McAulay, L., Keval, N. & Doherty, N. (2001) *The stakeholders dimension in information systems evaluation.* Oxford: MCIL

Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Review: information technology and organizational performance: An integrative model of IT business value. *MIS quarterly*, *28*(2), 283-322.

Metrailler, A. & Estier, T. (2012). EVOLIS: A framework for evaluating evolution of information systems. Retrieved from: www.aim2012.bem.edu/papers/s74-1pdf

Modupe, A., Oladele, A. M., Akanmu, A. W. & Oluremi, O. Y. (2010). Adoption of management information systems (MIS) in LAUTECH teaching hospital library: The effects and prospects of library service delivery. *Ozean Journal of Social Science*, 3 (1), 63 -72

Mohamed, N., Hussin, H. & Hussein, R. (2009). Measuring users' satisfaction with Maleysia's electronic government systems. *Electronic of E-Government,* 7 (3), 283 – 294.

Mahmood, M. A. (2000). Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature. *International Journal of Human-computer Studies,* 52, 751 - 771

Molla, A. & Licker, P. S. (2001). E-commerce systems success: An attempt to extend and respecify the DeLon and MacLean model of IS success. *Journal of Electronic Commerce Research,* 2 (4), 131 - 141

Morse, E. L. (2002). Evaluation methodologies for information management systems. *D. Lib Magazine*, 8(9). Retrieved from http://www.dlib.org/dlib/september02/more/09morse.htm

Murdick, R. G., Ross, J. E. & Claggett, J. R. (2006). *Information systems for modern organization* (3rd ed.). New Delhi: Prentice-Hall

Myers, M. D. (1994). Dialectical hermeneutics: A theoretical framework for the implantation of information system. *Information System Journal*, 5, 51 -70

Myes, B. L., Kappelman, L. A. & Prybutok, V. R. (1998). A comprehensive model for assessing the quality and productivity of the information systems function: Toward a theory for information systems assessment. In: Garrity, E. J. & Sander, G. L. (Eds.).*Information Systems Success Measurement*, (pp. 94 -121)

Nannyonjo, J., Abuka, C. A. & Okot, N. (2010) Customs automation initiatives and their impacts on efficiency and production: Case study on Uganda – A final report

Newman, M. & Robey, D. (1992). A social process model of user – analyst relationships, *MIS Quarterly,* 16(2), 249 - 266

Nigeria Custom Service Quarterly Order No 1 – 3 January – March 2007

Nkoma, A. (2012).The experience with day to day management of a border post and main challenges encountered in facilitating trade. Retrieved form: trade.ec.europa.eu/docli6/html/134823.htm

Noaman, Q. G., Purdy, A. & Gharibeh, M. (2002). Joint evaluation mission: ASYCUDA program in Jordan. Retrieved from: http://www.unctad.org/en/docs/domepu20073_en.pdf

Obi, E. (2003). Educational management: Theory and practice. Enugu: JAMOE Nigeria Enterprises

OECD (2005). The role of automation in trade facilitation. OECD Trade Policy Working Papers No. 22

Oz, E. (2002). *Management information systems*. (3rd ed.). Australia: Course

Pant, V., Stiner, M. S. & Wagner, P. W. (2004) E – taxation: An introduction to the use of TXML for corporate tax reporting. *Journal of Electronic Commerce in Organizations*, 2 (1), 29 - 41

Pardo, T. A. & Scholl, H. J. (2002). *Walking top the cliffs: avoiding failure and reducing risk in large scale e-government projects, Proceedings of the 35th Hawaii International Conference of System Sciences*, (pp. 1616-1625)

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. SAGE Publication

Person, P. (2001). *On rationality, technology and action in the modern organization:* A Paper presented at seminar 2001 – 12- 04 at the Royal Institute of Technology, Stockholm.

Petter, S.; DeLone, W. & McLean, E. (2008) Measuring information systems success: Models,dimensions, measures, and interrelationships. *European Journal of Information Systems*, 17, 236 - 263

Pitt, L. F., Watson, R. T. & Kavan, C. B. (1995). Service quality: A measure of information systems effectiveness. *MIS Quarterly*, 19 (2), 173 - 187

Platisa, G., & Balaban, N. (2009). Methodological approaches to evaluation of information system functionality performances and importance of successfulness factors analysis. *Management Information Systems*, *4*(2), 11-17.

Pritchard, S. M. (1996). Determining quality in academic libraries, *Library Trends*, 44 (3), 572- 594

Prythers, R. (1995). Harrods librarians' glossary (8th ed.). Gower: Aldershot.

Rai, A.; Lang. S. & Welker, R. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. *Information Systems Research*, 13 (1), 50 - 69

Ramage, M. (1995) Information systems evaluation. Retrieved from: http://www.comp.1ancs.ac.uk/computing/research/cseg/projects/evaluation/1YR_ch222.html

Remenyl, D. & Sherwood-Smith, M. (1999). Maximise information systems value by continuous participative evaluation. *Logistics Information Management*, 12 (1/2), 145 - 156

Rowntree, D. (1987). Assessing students: how shall we know them? London: Kogan Page

Sackie, D. K. (2010). *Liberia's experience in the implementation of ASYCUDA world: Status, challenges and solution. Multi-year expert meeting on transport and trade facilitation: emerging challenges and recent developments affecting transport and trade facilitation.* Geneva, 8 – 10 December 2010.

Salehi, M.; Alipour, M. & Yahyavi, M. (2010). E-customs challenges and clients' view points: Empirical evidence of emerging economy. *International Management Review*, 6(2) 64 – 76

Sandore, B. (1990). Online searching: What measures satisfaction? *Library and Information Science Review,* 12, 33 - 54

Seddon, P. (1997). A respecification and extension of Delone and McLean model of IS success. *Information System Research,* 8(3), 240 - 253

Seddon, P. B. & Kiew, M. Y. (1996). A partial test and development of DeLone and McLean's model of IS success. *Australian Journal of Information Systems*, 4 (1), 90 - 109

Seeddon, P., Staples, S., Patnayakuni, R. & Bowtell, M. (1999). Dimensions of information system success. *Communications of the Association for Information Systems*, 2(3), 5 - 61

Sori, Z. M. (2009). Accounting information system (AIS) and knowledge management: A case study. *American Journal of Scientific Research.* Issue 4, 36 – 44 Retrieve from http://www.eurojournal.com/ajsr.htm

Sun, Y., & Kantor, P. B. (2006). Cross-evaluation: A new model for information system evaluation. *Journal of the American Society for Information Science and Technology*, 57(5), 614-628.

Swindly, D. G. (2007). Computerization of tax administration. *International Journal Fish Management*, 21 (3), 199 - 233

Terpsiadou, M. H. & Economides, A. A. (2009). The use of information systems in the Greek public financial services: the case of TAXIS. *Government Information Quarterly*, 26

Terzis, V. & Economides, A. A. (2006). Internet-based TAX filling. *Proceedings of first international conference in accounting and finance, ICAF*.

Thomas, V., & Kleiner, B. H. (1995). New developments in computer software. *Industrial Management & Data Systems,* 95(6), 22-26.

Tsiknakis, M. & Kouroubali, A. (2008). Organizational factors affecting successful adoption of innovative e-health services: A case study employing the FITT framework. *International Journal of Medical Informatics,* 77:

UNCTAD (2012), UNCTAD Technical assistance in trade facilitation. Retrieved from: http://www.asycuda.org/pdf%20docs/UNCTADTechnAssi.pdf

URA (2012) ASYCUDA ++ Trade Manual Edition ASY 12.05/5

Urbah, N., Smolnik, S. & Riempp, G. (2008). *A methodological examination of empirical research on information systems success: 2003 to 2007*. Proceedings of the fourteenth American Conference on Information Systems, Toronto, ON, Canada August 14th – 17th 2008

USAID (2013). UNCTAD agreement to strengthen Jordan Customs e-processing - success story.

Van der Heijden, H. (2004). User acceptance of hedonic information system. *MIS Quarterly*, 28 (4), 695 - 704

Van House, N. A., Weil, B., & McClure, C. R. (1990). *Measuring academic library performance*. American Library Association

Vasilecas, O. Saulis, A. & Dereskevicius, S. (2006). Evaluation of information systems procurement: Goal and task-driven approach. *Information Technology and control,*35(3), 229 -234

Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27 (3), 425 - 478

Walsham, G. (1993) *Interpreting information systems in organisation*, Chichester: John Wiley and Son

Wapa, M. (2001), Implementation of the ASYCUDA system in Jordan as means of facilitating trade. Retrieved from: www.wto.org/french/tratop_f/trafa_f/wkshop_2001/wapa.doc

Whiteside, J., & Wixon, D. (1987). Improving human-computer interaction—a quest for cognitive science. In: *Interfacing thought: Cognitive aspects of human-computer interaction*. MIT Press (pp. 353 - 365).

Wilson, T. (1985) Evaluation strategies for library/information systems. Retrieved from: http://informationr.net/tdw/publ/papers/evaluation85.html 16/1/2012

World Trade Organization (2007). Use of Customs automation systems, *Technical Note* 3

Wood, F., Ford, N., Miller, D., Sobczyk, G. & Duffin, R. (1996). Information skills, searching behaviour and cognitive styles for student – centered learning: A computer – assisted learning approach, *Journal of Information Science*, 22(2), 79 - 92

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter described the procedures followed in order to execute this study. These include research design, preliminary study and its result, population of the study, the sampling technique, sample size, data collection instruments as well as method for data analysis.

3.2 Methodology

According to Kothari (2004) research methodology refers to a set of procedures and methods used by a researcher to conduct a piece of research. It represents a systematic process gone through to solve a research problem. It is also a type of research in which a researcher decides what to study, asks specific or narrow based questions, collects quantifiable data through questionnaires from participants, analyzes these numbers using statistics and conducts the inquiry in an un biased manner (Cresswell, 2008).

For this study therefore, quantitative research methodology was adopted which allows for processing of relevant data in a systematic way as well as summarization of vast sources of information. The justification for choosing quantitative research methodology was that, it is a way to objectively solve a research problem (Kothari, 2004). It can describe, predict and explain a research phenomenon (Locke, Silverman & Spirduso, 1998). The researcher found quantitative research methodology more convenient because it allows the researcher to decide what to study, collect responses using questionnaire from officers and men and clearing agents who are subject of the

study and are found to be homogeneous in nature and scattered across the country. The opinion gathered from the respondents helps in explaining the research questions. Similarly, it also allow for random selection of participants for the study, which enabled the researcher to select sample for the study.

3.3 Research Design

Survey research design was employed in this study. Survey research focuses on people, the vital facts of people, their beliefs, opinions, attitude, and motivations and behavior (Osanyi, 2001). Survey research studies both large and small populations by selecting and studying samples chosen from the populations to discover the relative incidence, distribution, and interrelations of sociological and psychological variables. This type of design allows the researcher to study large population and use both questionnaire and interview in a single study. Survey research design allows the researcher to seek for the opinion of ASYCUDA users on the attainment of its objectives and the design also permits the researcher to study both large population (users of ASYCUDA) and small population (management staff of NCS). This was achieved by drawing sample from the large population of users to discover and asses their relative indices in relation to their responses on their perception on the attainment of ASYCUDA objectives.

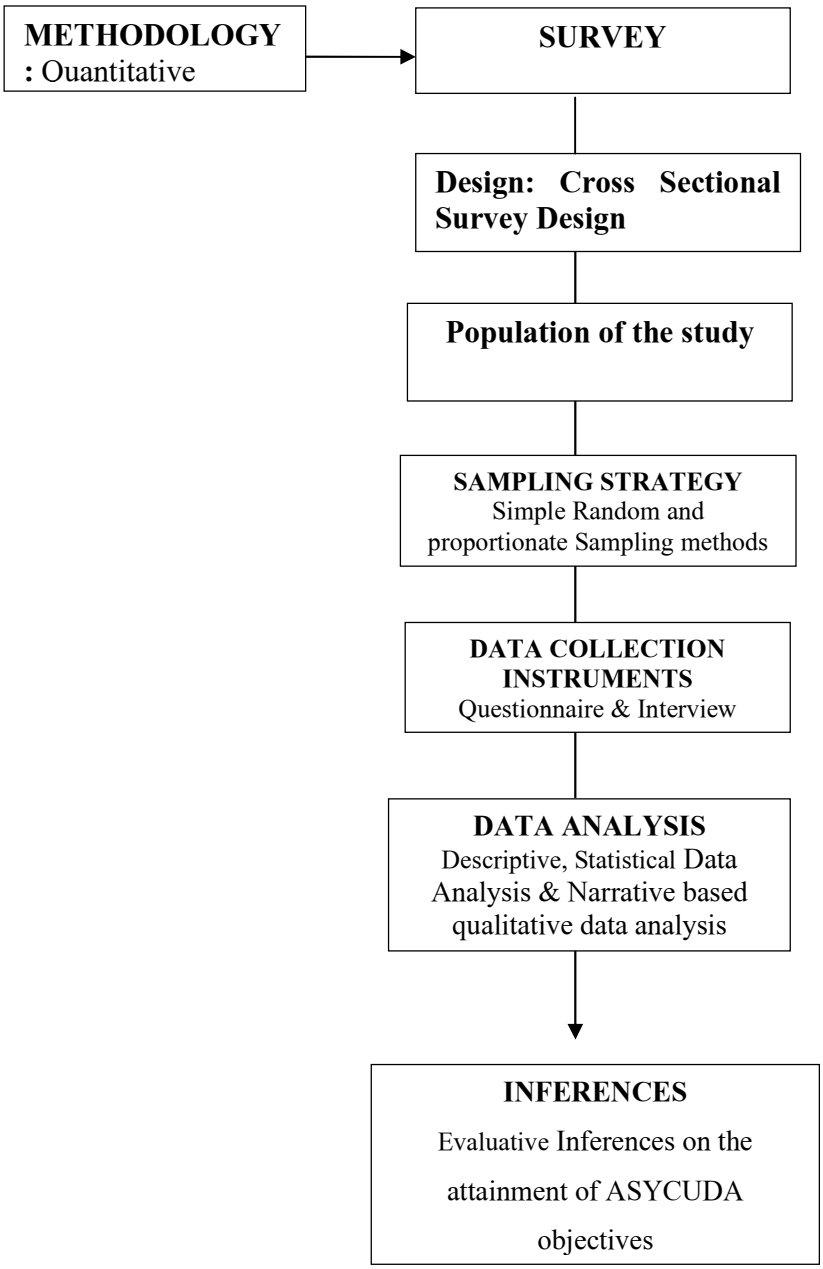
Cross – sectional survey design that evaluates a program which provides useful information for decision makers was adopted for the study. This is because cross – sectional design, according to Cresswell (2008), allows the researcher to collect data at one point in time. It also has the advantage of measuring or evaluating a program, system, current attitude or practice. The design also has the capacity to provide information in

short amount of time. Cresswell (2008) provides different types of cross – sectional survey designs to include:

1. Cross – sectional design that examines current attitude, belief, opinion or practices
2. Cross – sectional design that compares the two groups or more educational groups in terms of attitude, belief, opinion or practices
3. Cross – sectional design that measures the community heads of educational services
4. Cross – sectional design that evaluates a program or system
5. Cross – sectional design that uses a statement study or a natural survey involving thousands of participants.

For the purpose of this study, therefore, cross - sectional survey design that evaluates a program or system was adopted. This type was chosen because it enables the researcher to collect the opinion of respondents within short a period of time and it measures and evaluates ASYCUDA objectives in terms of user's opinion.

Figure 3.1: Summary of Research Design (Developed by the researcher)



3.4 Research Setting

What is now called the Nigeria Customs Service was formerly known as the Nigeria Customs and Excise and it is a para-military organization. The organization was established over a century ago, precisely in 1891, when the British Colonial

Administration appointed Mr. T.A Wall, as the Director-General of Customs for the collection of Inland Revenue in Niger Coast protectorate. This is the formalization of the duties which the department has been performing under the Royal Niger Company during the leadership of the past executives. In 1922, the name the Department of Customs and Excise emerged when the first Comptroller of Customs and Exercise, Federation of Nigeria was appointed (Source: https://www.customs.gov.ng/About/function.php).

The vision of the NCS is

1. To collect the duties of Customs and excise and perform other functions and ancillary thereto in line with international best practices and
2. To implement government fiscal policy, protect the Nigerian society while promoting trade.

Similarly, the NCS has the mission to build a referral service that is proactive, efficient, productive and reliable in the performance of its set objectives, using modern tolls and procedures. As part of the service efforts to provide effective and efficient service delivery, the Comptroller General of Customs came up with six points' agenda which include consolidating the current e-Customs initiative through ASYCUDA in line with international best practices (NCS, 2014).

3.4.1Functions of Nigeria Customs Service

Core Functions

1. Collection of revenue i.e. import and excise duties and accounting for same.
2. Prevention and suppression of smuggling.

Other functions of the NCS include the followings:

1. Implementation of government fiscal measures
2. Generation of statistical data for planning purpose
3. Trade Facilitation.
4. Implementation of bilateral and multilateral agreements entered into by government
5. Collection of levies and charges
6. Collaborative functions with government Agencies including CBN, Police, NDLEA, SON, NAFDAC, FIRS, etc.

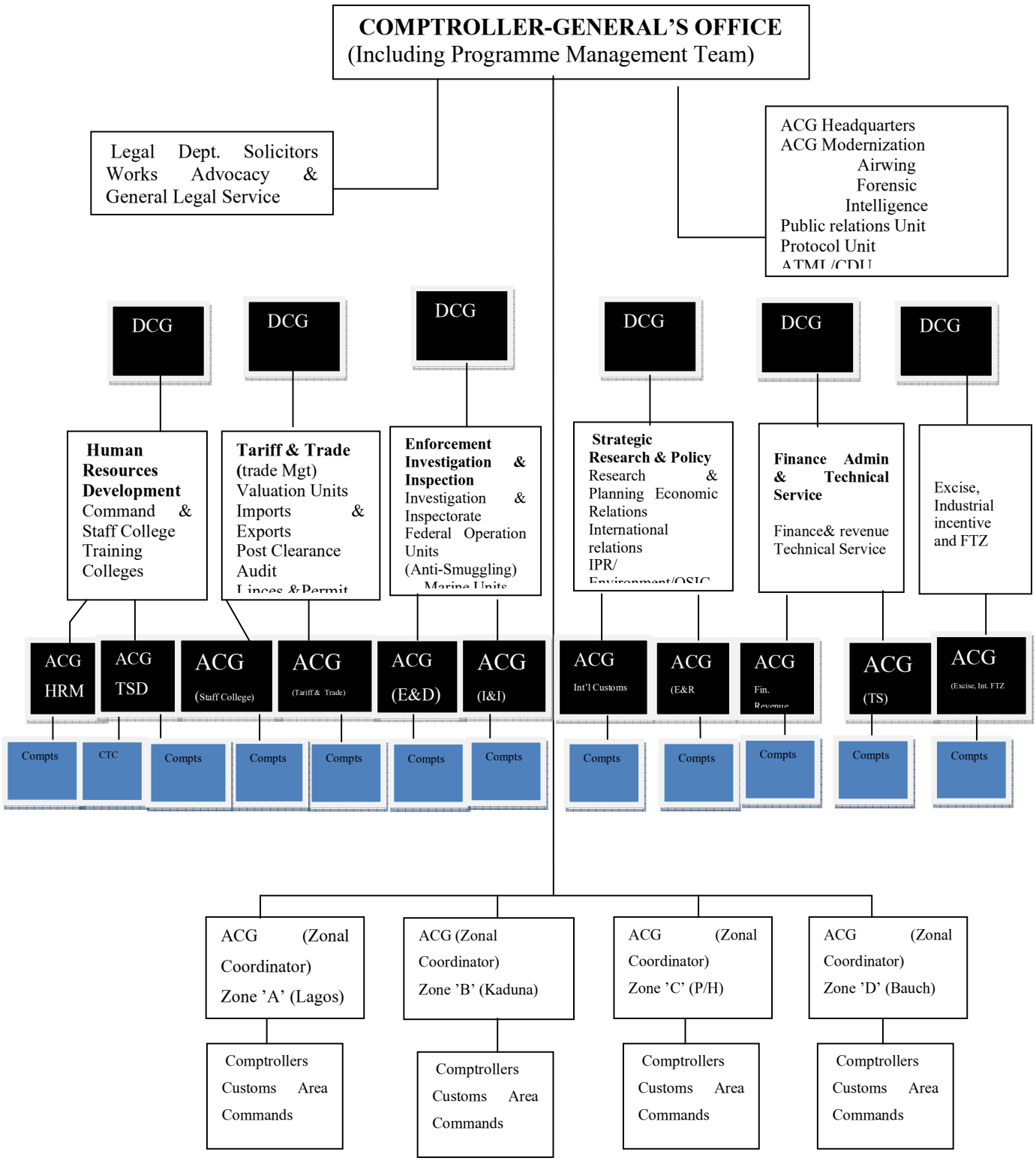
The service also supports the prevention of the following illegal trades across the Nigerian boders:

1. Illegal commercial activities and trade in illicit goods, e.g. import of fake and sub-standard goods
2. Infraction on intellectual property rights
3. Illegal international trade in endangered species
4. Illegal trade in arms and ammunition
5. Money laundering
6. Traffic of illicit drugs
7. Illegal trade in cultural Artifacts.
8. Importation of pornographic materials
9. Importation of toxic and hazardous substances.
   (Source: https://www.customs.gov.ng/About/function.php)

3.4.2 Administrative Structure of the Nigeria Customs Service

The service is being administered by the management team as at the time of this study headed by the then Comptroller – General Dikko Inde Abdullahi, CFR. Six Deputy Comptroller – General (DCGS), Seventeen Assistant Comptroller – General (ACGS) and Legal Adviser, who is a designate of Minister of Justice (NCS, 2014). The structure is presented Figure 3.2.

Figure 3.2: Administrative Structure of the NCS



Source: Nigeria Customs Service Annual Report, 2014.

For ease of administration, the service is divided into four (4) zones nationwide. Each zone is headed by an Assistant Comptroller-General while the Area Commands (26) are headed by Area Controller. The distribution of the zones and area commands are depicted in Table 3.1 below.

Table 3.1: Zonal Offices and Area Command in NCS

Zones	**Area Commands**
Zone "A" Lagos	Apapa, MMIA, Ogun, Osun/Oyo, Ondo/ Ekiti, Tin-can, Lilypond, Seme, Lagos Island. KLTC and PTML
Zone "B" Kaduna	Kaduna/ Katsina, Kano/ Jigawa, Sokoto/ Kebbi/ Zamfara, Kogi/ Kwara/ Niger, FCT
Zone "C"Port/Harcourt	Abia/Imo, Anambra/Enugu/Ebonyi, PH I, Onne, Edo /Delta, Cross River /EPZ/ Akwa Ibom
Zone "D" Bauchi	Bauchi/Gombe, Borno/ Yobe, Adamawa/ Taraba, Benue/Plateau/Nasarawa

Source: https://www.customs.gov.ng/About/zonal_headquarters.php

3.5 Preliminary Study

As a prelude to the main study on Assessment of users' perception on the attainment of ASYCUDA objectives as an information management system in the Nigerian Custom Service, a preliminary study was conducted in order to assess the chances of success in obtaining relevant data, as well as assessing the efficacy of the research strategy. The objective of the preliminary study was to:

1. Identify the population of the study
2. Enable the researcher come up with the sample size of respondents for the research.

3.6 Population of the Study

According to Pickard (2007), population is the entire set of individuals about which inference is made. In the context of this study, the universe population of the study comprised of the primary population made of up Customs personnel who are working in

ASYCUDA units and Clearing Agents operating in Nigeria. The total population of officers and men as well as Clearing Agents are 317 and 2,926 (preliminary survey) respectively from which a sample is drawn for the study. The secondary population (survey centers) on the other hand comprises all the 4 zones of the NCS with 26 area commands.

Table 3.2: Population of the Study

Zones	Area Commands	Population	
		Officers	**Agents**
Zone A Lagos	Apapa	25	456
	Tim-can Island	55	305
	PTML	9	913
	Badagry (Seme)	6	185
	Kikiri Lighter Terminal	18	403
	Murtala Muhammed International Airport	23	170
	Ogun (Idioroko)	14	26
	Oyo/Osun	4	2
	Lagos Industrial	Nil	Nil
	Ondo/ Ekiti	Nil	Nil
	Lilypond	10	30
Zone B Kaduna			
	Kaduna/Katsina	39	13
	Federal Capital Territory (FCT)	6	24
	Sokoto/Kebbi/Zamfara	18	5
	Niger/Kwara	6	5
	Kano/ Jigawa	25	12
Zone C: Port Harcourt	Imo/ Abia	2	Nil
	Port Harcourt Area 1	10	6
	Anambra / Enugu/ Ebonyi	2	Nil
	Port Harcourt / Onne	25	301
	Edo/ Delta	5	17
	Cross River/ EPZ/Akwa Ibong	10	37
Zone D: Bauchi	Bauchi /Gombe	Nil	Nil
	Borno/Yobe	3	4
	Adamawa/Taraba	2	1
	Benue/ Plateau/Nassarawa	Nil	Nil
	TOTAL	**317**	**2,926**

Source; Preliminary Study 2013/2014

The population of the survey centers and respondents groups indicates that there are a total of four Zones with 317 officers and men and 2,926 number of Clearing Agents as indicated in table 3.2 above.

3.7 Sampling Technique

Sampling, according to Kumar (1999), is a process of selecting a sample from the total population of the study for obvious advantages. And these include time saving (it is time-saving because studying a sample of a population saves time of the researcher in terms of administering his instrument and responses); financial (it reduces the total cost of executing the study because of inadequate finances to enable the researcher to cover all the population of the research, hence the need for sampling) and human resource (it reduces the level of effort, which is required if the total population is used). He further stresses that sampling as a tradeoff between certain gains and losses entailed by the study. A researcher makes an estimate about the actual situation prevalent in the total population from which the sample is drawn.

In choosing the study centres for the research, therefore, the researcher used simple random sampling to select two Zones out of the 4 zones in the study areas. Those selected were: Zone A Lagos and Zone B Kaduna. The justification for choosing the two zones was that the functions and activities carried out in the remaining zones are similar and since Lagos and Kaduna zones have more respondents, the likelihood of getting valid and positive responses is guaranteed. In this study, therefore, the researcher used 2 zones in the NCS formation to represent secondary sample. This is shown in Table 3. 2. Simple random sampling technique is the basic sampling method assumed for statistical method and computation.

The main benefit of this method is that each member of the population has equal chance of being chosen. This means that it guarantees that the sample chosen is representative of the population in turn, and the statistical conclusion drawn from analysis of the sample served as the representation of the total population. To draw the sample for the survey centers, the researcher used lottery method which is a common type of simple random sampling. In which, each member or item of the population at hand was assigned a unique number. The numbers were then thoroughly mixed, then without any bias the researcher choose a number expected to participate in the study. The population members or items that were assigned the numbers would be included in the study as sample (Crossman n.d).

In drawing the sample for the clearing agents, proportionate sampling technique with random selection was used. Proportionate selection involves sampling strategy i.e. (a method for gathering participants for a study) used when the population is composed of several subgroups that are vastly different in number. The number of participants from each subgroup is determined by their number relative to the entire population (Neuman, 2000, p. 217).

3.8 Sample Size

Determining the sample size is very important in research because there is no point in utilizing a sample that is larger than necessary, as doing so will unnecessarily increase the time and money needed for the study. Powell & Connaway (2004) define sample size as the degree of precision required between the sample and the population which is usually one. There are two sets of samples for this study, the sample of the survey centre and sample of the respondents groups as presented in Table 3.3. The sample size for the survey centres consists of two zones: **A** Lagos with 11 commands

and **B** Kaduna with 5 commands, making a total of 16 area commands out of 26 commands in NCS. The sample size for the respondents groups consists of officers and men of the NCS and Clearing Agents. All in all, there are a total of 248 officers and men working with ASYCUDA in the selected commands and the researcher decided to use all the officers and men as the sample of the study. This is because the population is not large and therefore can be managed by the researcher.

The researcher also selected 286 clearing agents using proportionate techniques with random selection which represents 10% of 2,926 of the total population except cluster with a population of less than 20 as presented in table 3.3. This is in line with the submissions of Seaberg (1988); Neuman (2000); Grinnell & Williams (1990) as cited in Ngulube (2005) who inferred that a minimum of 10% of the sample, especially for a large population, is good enough to draw a valid and reliable conclusion about a finding. The choice of the selected groups is based on:

1. Officers and men – this were included in the study because they are directly working with ASYCUDA database to either upload or download information.
2. Clearing Agents – the agents are not only generating a lot of data in the database but they are also the most frequent users of the database in clearance.
3. Management staff – this were included in the study because they coordinate and administers the automation of all Customs processes and procedures.

Table 3.3: Sample Size of the Study

Zones	Area Commands	Sample Size	
		Officers	**Agents**
Zone A Lagos	Apapa	25	46
	Tim-can Island	55	31
	PTML	9	91
	Badagry (Seme)	6	19
	Kikiri Lighter Terminal	18	40
	Murtala Muhaamed International Airport	23	17
	Ogun (idioroko)	14	3
	Oyo/Osun	4	2
Zone B Kaduna			
	Kaduna/Katsina	39	13
	Federal Capital Territory (FCT)	6	2
	Sokoto/Kebbi/Zamfara	18	5
	Niger/Kwara/Kogi	6	5
	Kano/ Jigawa	25	12
Total		**248**	**286**

Source; Preliminary Study 2013-2014

3.9 Instruments for Data Collection

Various instruments were used in collecting data for a study. Such instruments include questionnaire, interview, and observation. These instruments are used as means of selecting or developing data collecting devices and methods appropriate to a given evaluation or research problem. In this study, two instruments were used, the questionnaire and the interview. Each of the instruments has been described in relation to its relevance to the study.

3.9.1 Questionnaire for Users of ASYCUDA

Questionnaire was used as one of the instruments for collecting relevant data for this research work. According to Neuman (2000), a questionnaire is the main feasible way to gather useful information, especially when the subject of study are scattered.

Questionnaire is considered most appropriate for this study given the fact that even though the study groups are homogeneous, they are, nonetheless, scattered across the country. Structured questionnaire built from the critical analysis of literature and the harmonization of the constructs of Cronholm & Goldkuhl (2003) and Delone & McLean (2003) models was used to collect data from the respondents. The questionnaire was structured into five sections as follows:

Section 'A' focuses on the background information of the respondents with a total of five items. The questions gathered information about the command, profession, years in service, gender and educational qualification of the respondents'. Section 'B' of the instrument deals with ASYCUDA objectives. The questions in this section were structured using a 5– point Likert scale rating for each question in order to collect respondents opinion that best describes whether ASYCUDA has met its objectives in terms of normalization of forms and documents (3 items), data standardization and computerization of Customs clearance (9 items), simplification of custom clearance (9 items), computerization of custom clearance (7 items), and provision of modern tools (4 items), and techniques (5 items), implementation of sound procedures (7 items), and providing audit trials and mechanism for control (12 items).

Section 'C' of the instrument contains 18 items that dealt with ASYCUDA utilization by officers and men. The 16 number questions that addressed ASYCUDA user satisfaction were presented in section 'D' of the instrument. In addition, 23 items were structured in Section E and the questions focused on the challenges faced by ASYCUDA as an information management system in the NCS. The last section of the instrument, section F, consists of 8 questions on suggestions or measures to be taken towards

realizing optimum performance of ASYCUDA (see appendix III). In all, there are a total of 128 items in the instruments. The questionnaire was self developed by the researcher through the critical analysis / evaluation of the literature. From the review of the related body of knowledge, the researcher identified the variables and structured them into constructs that formed the instruments.

3.9.2 Interviews for the Management of NCS

As mentioned earlier, there are ranges of data collection instruments from which a researcher may choose from. Interview technique is one of the frequently used data collection methods, most commonly using open-ended or semi-structured questions (Williamson, 2006). There is great deal of advice about interviewing in the social science literature (Williamson, 2002). The researcher used self developed open-ended (structured interview protocol) to elicit responses from the management of the NCS. The interview is structured into two sections with section 'A' focusing on ASYCUDA objectives. In this section, the first interview questions raised aimed at eliciting data on the ways ASYCUDA achieved its objective of facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedure to accelerate the clearance of goods.

In the same vein, another question was asked on participant's opinions on the ways in which ASYCUDA achieved its objectives of strengthening customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations. The last questions in this section elicits data on the ways in which ASYCUDA has achieved its objective of strengthening customs management and control

by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

SECTION 'B 'of the interview guide, focused on the challenges and recommendations on the attainment of ASYCUDA objectives (see appendix VI). The open-ended nature of the question allowed participants to freely express themselves (Adeogu, 2005). The interview was flexible which enable the researcher to adjust questions to encompass new perspectives. Each question was mapped to one or more of key objectives of ASYCUDA which form the main research questions. The persons that were selected for interview represented the management of the NCS who have adequate knowledge of the development of ASYCUDA system in the NCS. The interview questions were addressed to the management staff of the NCS in order to determine whether ASYCUDA has achieved its objectives or otherwise. In addition, the interview focused on the challenges and possible measures to address the identified challenges.

The essence of this data is to explore further additional information on the evaluation of ASYCUDA on the attainment of its objectives. Participants were asked to indicate their interest to participate in the study and based on that they were selected. The researcher approached the site of the interview using Creswell (2008) strategies as detailed in the preceding section of 3.10.1. The interview data was then recorded on paper, examined, evaluated and analyzed in line with the objectives of the study. The researcher approached the study in a matrix format as described in table 3.4 below.

Table 3.4: Research Matrix

S/No	Research Questions	Frame Work	Data collected	Number of items on instruments	Respondents groups that answer the questions
1	RQ 1	Crouholm and Goldkhul 2003	ASYCUDA objectives	56	Officers and Men and Clearing Agents
2	RQ 2	D/M model 2003	ASYCUDA use	18	Officers and Men and clearing Agents
3	RQ 3	D/M model 2003	ASYCUDA user satisfaction	16	Officers and Men and Clearing Agents
4	RQ 4	Literature review	Challenges	23	Officers and Men and Clearing Agents
5	RQ 5	Literature review	Measures to address identified challenges	8	Officers and Men and clearing Agents
6	RQ1, 4, & 5	Interview Guide	Interview (text data)	Interview guide	Management Staff

Key: RQ = Research Question

3.10 Validity and Reliability of the Data Collection Instruments

Malmgreen (2005) and Powel (1985) stressed the need for researchers to assess the validity and reliability of the research instrument. The literature suggested a range of 2 to 20 content experts to be selected to review relevance and clarity of research instrument (Malmgreen, 2005) as cited in Maidabino (2011). In this study, a total of 16 content experts or validators were involved in the pre-testing exercise. The questionnaire for the study was subjected to face and content validation and reliability tests. Powell (1985) mentioned that face validity represents the most commonly used method for determining the validity of the data collection instrument. To ensure the face and content validity of the research instrument, copies of the questionnaire was given to 4 senior custom officers who were not selected for the study.

The researcher also submitted copies of the instrument to 10 ASYCUDA officers and men and Clearing Agents from the Calabar command who were not participants for the study for validation. In addition, the questionnaire was also submitted to experts in the Department of Library and Information Sciences, Bayero University Kano. The validators were asked to check the formation and requirements of the questions in addressing the research objectives. They highlighted some observations relating to grammatical structure, length, content of the questions, and the timing of filling the questionnaire by respondents. All their contributions and suggestions were taken into consideration in drafting the final copy of the questionnaire administered to the users of ASYCUDA. Their independent judgment was taken into consideration when constructing the final draft to give the instrument contents and required validity.

3.10.1 Reliability

The instrument was also subjected to reliability test in order to explore its consistency in measuring what it is intended to measure. According to Bless & Higson-Smith (1995) reliability is concerned with consistency measures. An instrument that gives the same score when used to measure an unchanging value can be trusted to give an accurate measurement and is said to have high reliability. Cronbach alpha was used to measure the reliability of each item of the instrument. In this study, the Cronbach's alpha using SPSS Ver 17 was used to measure the reliability or consistency of the instrument. Writers like Zikmund (2003) and Garson (1998) opines that the alpha level of a good scale uses a lenient cut-off of .60 as a common and acceptable alpha level. In this study, an alpha score of at least .70 or higher is considered to be acceptable.

Table 5 gives a summary of the result of the reliability test of the instrument used for the actual data collection for the study. The result indicates that all the items in the instrument were found to have an acceptable measure of internal consistency, as majority of the items registered .80 and above. The item that addressed the issue of use of ASYCUDA indicates the highest score of 0.916, followed by that of user satisfaction with alpha value of 0.894, and challenges aspect of the instrument with 0.862 as presented in Table 3.5 below.

Table 3.5: Reliability Analysis Results of the Questionnaire

S/N	Items of the instrument		Cronbach's Alpha Scores	Number of Items on Scale
1	ASYCUDA Objectives		0.802	36
2	ASYCUDA Use		0.916	35
3	ASYCUDA Satisfaction		0.894	20
4	ASYCUDA Challenges		0.876	16
5	Measures to the challenges		0.862	21

3.10.2 Trustworthiness and Transferability of the Interview Data

With regard to the trustworthiness and transferability of the qualitative data collected through the interview, the researcher heeded to the advice of Creswell (2008) as cited in Maidabino (2011) who reported member checking and external audit as primary forms of validating qualitative data. This study however, adopted the member checking approach to ensure the trustworthiness of the qualitative data. In this context, therefore, the researcher sends a copy of the interview report to some of the participants and requested them to check the accuracy of the transcribed data.

A request form for member checking the collected data was designed and used to ensure compliance with the theoretical submission of authorities in this regard (Appendix

4). The researcher requests the interviewee to check the interview report to ensure proper reporting of their views on the subject of the study. They were also asked to make any suggestions on what they think does not represent their opinion of the interview report. In return the participants accepted the request for member checking, checked and give their input which mainly focused on spelling on items of the objectives of ASYCUDA. The highlights of the checkers were incorporated by the researcher which testified to the accuracy, trustworthiness and validity of the findings of the study.

3.11 Administration of Research Instruments

3.11.1 Administration of the questionnaire

To obtain the necessary data for this study and to ensure appreciable responses from the research subjects, the copies of the questionnaire was personally administered by the researcher in some commands, while the researcher employed the use of research assistants in other commands who helped in the administration and retrieval of the questionnaire. The research assistants were given adequate orientation on how to go about administering the research instrument in line with the objectives of the study.

3.11.2 Approach to Qualitative Data Collection

Creswell (2008) describes the essentials steps involved in the process of collecting qualitative data. A researcher, according to him, needs to "identify his/her participants and sites, gain access, determine the types of data to collect, develop data collection forms, and administer the process in an ethical manner". In this study therefore, the researcher adopted and utilized the five basic steps mentioned above as proposed by Creswell. The steps are detailed below.

3.11.2.1 Selection of Site

Site selection was targeted at the management of the NCS at the headquarters with bias to ICT department who are in charge of ASYCUDA unit and can as well be in better position to comment and respond to all questions regarding ASYCUDA as outlined in the instrument.

3.11.2.1 Gaining Access to the Site

To gain access to the site, the researcher wrote a request letter for interview to Comptroller General of Customs (CGC) (See Appendix A). The request was granted and the researcher was invited for the interview. The researcher left for NCS Headquarters on the 6th November, 2013 and met with the Comptroller, ICT who appoints a team of three (3) officers to attend to the questions, and the interview lasted for 1hr: 20 min.

3.11.2.1 Types of Data Obtained

The type of data sought for and obtained was oral. The interview session commenced with the researcher being introduced by the head of the team and later the researcher explained why the choice of the topic and continued with the interview item by item as listed in the instrument and clarifications were done where necessary.

3.1.2.4 Data Collection Form

As the session commenced each item in the instrument was treated with individual member explaining while the researcher writes, where necessary members were asked to either repeat or explain what they said, at the end of the session the researcher went ahead to read what their responses on each item was to make sure there was no distortion of their opinion/responses.

3.11.2.5. Ethical Consideration

Ethical consideration in research activities centered on the researcher's behavior, that deals with accountability as well as anonymity and confidentiality of the research participants. In the conduct of this interview, the principles of confidentiality were strictly adhered to since the respondents were assured that the data collected would only be used for academic purposes. Other ethical issues considered were retraction of consent and debriefing of participants.

3.12 Method of Data Analysis

The data collected from the questionnaire was presented in table form using frequencies to perform quantitative data analysis. The statistical test was equally performed using chi-square to examine the relationships between the use of ASYCUDA and success level of its objectives. The Statistical Package for the Social Sciences (SPSS) was used for the analysis of the data. It was used to generate tables of frequencies and descriptive statistics. The SPSS was chosen for the analysis of data because it is comprehensive and it is a relatively easy-to-use computer programme for statistical analysis, report writing, tabulation and general – purpose data management.

On the other hand, data collected from the interview was transcribed, coded and analyzed. The data was analyzed using narrative base qualitative data analysis, technique. Thorne (2000) noted that in narrative analysis researchers discovered the extent to which human experience is shaped, transformed, and understood through linguistic representation and try to articulate them in into words. The essence is to transform the actual experience into a communicable representation of it. Thus, speech forms are not the experiences themselves, but a socially and culturally constructed device for creating

shared understandings about them. Narrative analysis is a strategy that recognizes the extent to which the stories we tell provide insights about our lived experiences through analytic processes that help us detect the main narrative themes within the accounts people give about the particular phenomena under study. The participants' verbatim expressions was digested and reported in line with the objectives of the study.

References

Adeogun, M. (2005). Resource sharing services and constraints in selected seventh-day adventists university libraries in Sub-Saharan Africa. *Information Development*, 21 (2), 152 - 160

Alegbeleye, G. B. (1990) Studies on user information needs: A critic and suggestions. *Nigerian Library and Information Science Review,* 8(1), P8

Bless, C. & Higson-Smith, C. (1995). *Fundamentals of social research methods* (2nd ed.). Cape Town: Juta

Cohen, L. & Manion, L. (1992). *Research method in education*, (3rd ed.). London: Rutledge

Creswell, J. W. (2008) *Educational research: Planning, conducting, and evaluating Quantitative and qualitative research,* (3rd ed.). New Jersey: Pearson

Cronholm, S. and Goldkuhl, G. (2003) Strategies for information systems evaluation – six generic types. *Electronic Journal of Information Systems Evaluation*. 8 (2), 65 -74

Crossman, A. (n.d). In: Babbie, E. (2001). The practice of social research (9th ed.). Belmont,CA: Wadsworth Thomson.

DeLone, W. H. & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten year update. *Management Information Systems*, 19 (4), 9 – 30

Doyle, B. C. (1975). *Information retrieval and processing*. California: A Wiley-Becker Hayes Series.

Garson, G. D. (1998). Statnotes: Topics in multivariate analysis. Retrieved from: http://www.gartner.com/resources/214500/214540/forcast_alert_spending_w_214540.pdf

Kothari, C.R. (2004). *Research methodology: Methods and technique* (2nd ed.). New Delhi: New Age International.

Kumar, R. (1999). *Research methodology: A step-by-step guide for beginners*. London: Sage Publishers

Locke, L. F., Silverman, S. J., & Spirduso, W. W. (2009). *Reading and understanding research*. Sage Publications.

Maidabino, A. A. (2011). Assessing collection security management in Nigerian university libraries. (Unpublished PhD thesis) University Malaya, Malaysia

Malmgreen, C. (2005)**.** Validating research instrument NNSDO national nursing staff development organization. NNSDO national office, 7794 Grow Drive, Pensacola, FL 32514 p: 800.489.1995 / 850.474.0995 ~ f: 850.484.8762 web: www.nnsdo.org.

Neuman, W. L. (2000). *Social research method*. University of Wisconsin at Whitewater.

Nigeria Customs Service (2014). *Annual Report 2014*

Ngulube, P. (2005). Research procedure used by master of information studies students at the University of Natal in the Period 1982 – 2002 with special reference to their sampling techniques and survey response rate: A methodological discourse. *The International Information and Library Review,* 37, 127 - 143

Pickard, A. J. (2007). *Research methods in information*. London: Facet Publishing

Powell, R. R. (1985). *Basic research methods for librarians*. Norwood: Ablex

Powell, R. R. & Connaway, L. S. (2004). *Basic research methods for librarians* (4th ed). London: Greenwood Publishers

Thorne, S.(2000). Data analysis in qualitative research evidence based nursingebn.bmj.com. *Evidence Based Nursing 2000; 3, 68-70.* Retrieved from: *http://ebn.bmj.com/content/3/3/68.full*

Wiliamson, K. (2002). Research techniques: Questionnaires and interviews. In K.

Williamson, Research methods for students, academics, and professional: Information management systems. 2nd ed. Wagga Wagga, NSW: Centre for information studies, Charles Sturt University. Pp. 235 - 249

Wiliamson, K. (2006). Research in constructivist frameworks using ethnographic techniques. *Library trends,* 55 (1), 83 – 101.

Zikmund, W. G. (2003). Sample designs and sampling procedures. *Business research methods*, *7*, 368-400.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents the findings and analysis of the study using both descriptive, inferential statistics and narrative based qualitative analysis. Under the descriptive analysis, data was presented using tables and frequencies while the inferential analysis uses Pearson Product-moment Correlation Coefficient to determine the relationship that exist between variables measured. On the other hand, the qualitative data analysis was presented using narrative based.

4.2 Response Rate

This part of the study presents the descriptive data of the respondents that participated in the study. It includes frequencies, percentages for the categorical and multiple responses, and ranges, means and standard deviation for the numeric data. As a whole 534 copies of questionnaire were distributed personally by the researcher in some commands while research assistance were employed in other commands, but only 452 were returned and found useful representing 84.6% as presented in Table 4.1

Table 4.1: Response Rate

Respondents	**Questionnaire Administered**	**Questionnaire Returned**	**Response Rate (%)**
Officers and Men	248	199	80.2
Agents	286	253	88,5
Total	**534**	**452**	**84.6.%**

Table 4.1 shows that, a total of five hundred and thirty four (534) copies of the questionnaire were administered by the researcher and four hundred and fifty two (452) copies were returned and found usable for the analysis. This represent 84.6% as presented in table 4.1. The high response rate obtained in this study is attributable to the personal collection of data strategy adopted by the researcher. In addition, this mirrors that the response rate was adequate enough for the analysis in the study. As such, the analysis for the study was based on 452 copies of the questionnaire returned and found usable.

4.3 Demographic and Background Information

Respondents were asked to provide their background information such as profession, gender, years of experience, and highest educational qualification. Table 4.2 showed the summary on the background information of the respondent.

Table 4.2 Descriptive statistics of Demographic Variables (N=452)

Demographic variables	N	%
Profession		
Custom officers and Men	199	44%
Custom Agents	253	56%
Total	**452**	**100%**
Gender		
Male	427	94.5%
Female	25	4.5%
Total	**452**	**100%**
Years of Experience		
0-4 years	22	4.87%
5-10 years	128	28.32%
11-15 years	65	14.40%
16-20years	163	37.17%
20 years and above	74	16.30%
Total	**452**	**100%**
Highest Educational qualification		
Ph D	Nil	Nil
Masters	53	11.7%
Bachelor Degree/HND	228	50.4%
Diploma	116	25.7%
NCE	35	7.7%
Secondary cert. /Grade II	20	4.4%
Total	**452**	**100%**

The questionnaire assessed the demographic variables of both officers and men and clearing agents which include:

4.3.1Distribution of Respondents by Profession

Table 4.2 indicates the status of the respondents under study. About 253 (56%) of the respondents were working as customs agents, while 199 (44%) were officers and men. This implies that there were more agents engaged in working with ASYCUDA than the customs officers and men.

4.3.2 Distribution of Respondents by Gender

As shown in Table 4.2 above, the distribution of respondents by gender indicated that majority 427(94.5%) were males and only 25 (4.5%) were females. As such, there were more males working with ASYCUDA than females. This is not surprising because, gender issue in the NCS is not considered as far as working in the NCS ASYCUDA is concerned. All are treated equally.

4.3.3 Distribution of Respondents by years of Experience

Table 4.2 indicates that less than half 163 (37.17%) had working experiences ranging between 16-20 years, followed by 128 (28.32%) with 5-10 years working experience while 74 (16.30) had between 20 years and above and 65 (14.40%) indicated that they have between 11-15 years working experience. In addition, the table further indicated that the least years of working experiences were 0-4 years representing 4.87%. This show that majority of the respondents had between 16 – 20 years working experiences.

4.3.5 Distribution of Respondents by High Level of Education

Respondents were also examined in terms of their highest level of education obtained and the findings showed that more than half 228 (50.4%) of the respondents had Bachelors degree/Higher National Diploma (HND), followed by Diploma with 116 (25.7%). However, 53 (11.7%) had masters degree and 35(7.7%) had NCE and only 20 (4.4%) had secondary school certificate/Grade II certificate. This shows that more than half of the respondents for this study had bachelor degree and Higher National Diploma meaning that senior officers were the ones working with ASYCUDA in the Nigerian Custom service, as far as clearing process is concerned. However, qualification notwithstanding, officers must undergo a basic ASYCUDA training/course before deployed to work in ASYCUDA unit.

4.4 Extent to which ASYCUDA was used by Officers and Men and Clearing Agents

The respondents were asked to rate their opinion on the uses of ASYCUDA in Customs clearance procedure to accelerate the clearance of goods. Table 4.3 showed the summary on the opinion of the respondent.

Table 4.3 Respondents Opinion on the Use of ASYCUDA for Custom Operation (N not equal to 452)

Statements	A	N	DA
I always use ASYCUDA database in clearing of imported goods	384 (85.0%)	45 (10.0)	23 (5.1%)
I use ASYCUDA for confirmation of Customs duty/payments	395 (87.4%)	30 (6.6%)	27 (6.0%)
I use ASYCUDA for checking of manifest for goods that are to be cleared	407 (90.0%)	33 (7.3%)	12 (2.7%)
I use ASYCUDA for lodging of Single Goods Declaration	371 (82.1%)	47 (10.4%)	24 (5.3%)
I use ASYCUDA for release of goods that are cleared	350 (77.3%)	56 (12.4%)	44 (9.7%)
I use ASYCUDA for checking harmonize commodity description and coding system	373 (82.5%)	26 (5.8%)	51 (11.3%)
I use ASYCUDA for Scanning of imported goods	403 (89.2%)	23 (5.1%)	26 (5.8%)

Table 4.3 Continuation

I use ASYCUDA for making payments of duties and taxes to Banks	383 (84.7%)	40 (8.8%)	28 (6.2%)
I use ASYCUDA for selecting lanes (Blue, Yellow, Green, and Red)	394 (87.2%)	29 (6.4%)	26 (5.8%)
I use ASYCUDA for post clearance audit of imported goods	388 (85.8%)	45 (10.0)	19 (4.2%)
I use ASYCUDA for transmission of RAR online	356 (78.8%)	43 (9.5%)	53 (11.7%)
I use ASYCUDA for generating assessment report online	409 (90.5%)	23 (5.1%)	19 (4.2%)
I use ASYCUDA for transmission of duty and taxes	404 (89.4%)	25 (6.4%)	13 (2.9%)
I use ASYCUDA for profiling of importers registered with NCS	384 (85.0%)	29 (6.4%)	26 (5.8%)
I use ASYCUDA to interface between terminal operators and concessionaires in clearance procedure.	388 (85.8%)	45 (10.0)	19 (4.2%)
The use of ASYCUDA has made customs operation easier and faster	356 (78.8%)	40 (8.8%)	53 (11.7%)
The use of ASYCUDA has made Customs operation difficult and slower.	39 (8.6%)	61 (13.5%)	349 (77.2%)
After the introduction of ASYCUDA it takes few days to clear goods	400 (88.5%)	25 (5.5%)	27 (6%)

Key: A = Agree, N = Not Decided, DA = Disagree

From Table 4.3, it can be seen that majority of the respondents were in agreement with statements concerning the use of ASYCUDA in custom operations as indicated by 384 (85.0%) of the respondents agreed that they use ASYCUDA for clearing of imported goods compared to 23 (5.1%) who disagreed. With 395 (87.4%) who indicated that they use ASYCUDA for confirmation of Customs duty/payments compared to 27 (6%) who disagreed. 407 representing 90.0% respondents indicated that they use ASYCUDA for checking manifest of goods that are to be cleared compared to 12 (2.7%) who disagreed. Another 371 (82.1%) of the respondents agreed that they use ASYCUDA for lodging of single goods declaration compared to 24 (5.3%) who disagreed. Similarly, 350 (77.3%) of the respondents agreed that they use ASYCUDA for release goods that have been cleared compared to 44 (9.7%) who disagreed. With 373 (82.5%) of the respondents agreed that they use ASYCUDA for harmonizing commodity description and coding

compared to 26 (5.8%) who remained neutral. Table 4.5 also reveals that majority 403 (89.2%) of the respondents agreed that they use ASYCUDA for scanning of imported goods and other supporting documents compared to 23 (5.1%) who remained neutral; while 383 (84.7%) of the respondents agreed that they use ASYCUDA for making payments of duties and taxes to Banks compared to 28 (6.2%) who disagreed. About 394 (87.2%) of the respondents agreed that they use ASYCUDA for selecting lanes (Blue, Yellow, Green, and Red) compared to 26 (5.8%) who disagreed.

Table 4.3 further reveals that 388 (85.8%) of the respondents agreed that they use ASYCUDA for post clearance audit of imported goods compared to 19 (4.2%) who disagreed, 356 (78.8%) of the respondents agreed that they use ASYCUDA for transmission of RAR online compared to 43 (9.5%) who remained neutral. About 409 (90.5%) of the respondents agreed that they use ASYCUDA for generating assessment report online compared to 19 (4.2%) who disagreed 404 (89.4%) of the respondents agreed that they use ASYCUDA for transmission of duty and taxes compared to 13 (2.9%) who disagreed. While 384 (85.0%) of the respondents agreed that they use ASYCUDA for profiling of importers registered with the NCS compared to 26 (5.8%) who disagreed 388 (85.8%) of the respondents agreed that they use ASYCUDA to interface between terminal operators and concessionaires in clearance procedure compared to 19 (4.2%) who disagreed. About 356 (78.8%) of the respondents agreed that the use of ASYCUDA has made customs operation easier and faster in clearance compared to 40 (8.8%) who remained neutral. Also, 349 (77.2%) of the respondents disagreed that the use of ASYCUDA has made customs operation difficult and slower while only 39 (8.6%) indicated agreement. And 400 (88.5%) of the respondents agreed

that introduction of ASYCUDA makes clearance of goods to be done in few days compared to 25 (5.5%) who remained neutral.

The above findings indicated that majority of the respondents indicated that they use ASYCUDA for generating, organizing, storage and preservation of information. They also indicated that they use ASYCUDA to discharge their routine activities thereby attaining trade facilitation and increased revenue generation. On the other hand, 12 respondents representing 2.7% disagreed with the statement of using ASYCUDA for checking of manifest for goods that are to be cleared.

4.4.1 Perception of Users on the Attainment of ASYCUDA Objectives in Terms of Facilitation of Trade

Respondents were asked to rate their opinion on the extent to which they agreed or disagreed with statements assessing whether ASYCUDA has achieved its objective on facilitating trade through normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedure to accelerate the clearance of goods. Table 4.3 showed the summary on the opinion of the respondent.

Table 4.5: Respondent Opinions on the Objective of ASYCUDA on Facilitating Trade (N not equal to 452)

Statements	A	N	DA
Normalization of Forms and documents			
Normalization of forms & documents in clearance procedure was achieved by the use of ASYCUDA through harmonizing commodity description and coding system (HS) with corresponding National Laws.	430 (95.1%)	10 (2.2%)	12 (2.7%)
Normalization of forms and documents was achieved by the use of ASYCUDA through ensuring National trade processing are in line with world best practices by the use of e- SGD in clearance of goods.	411 (90.9%)	22 (4.9%)	19 (4.2%)
Normalization of forms and documents was achieved by the use of ASYCUDA through streamlining procedure and documentation by reducing the number of document in clearance.	403 (89.2%)	32 (7.1%)	17 (3.8%)
Data Standardization			

Table 4.5 Continuation

Data standardization was achieved by the use of ASYCUDA through self-assessment by traders for payment of duties and taxes in clearance of goods.	372 (82.1%)	46 (10.2%)	33 (7.3%)
Data standardization was achieved by the use of ASYCUDA through automation of customs procedures and regimes in clearing process.	403 (89.2%)	31 (6.9%)	18 (4.0%)
Data standardization was achieved by the use of ASYCUDA through Transmission of RAR in clearance of goods.	415 (91.8%)	20 (4.4%)	17 (3.8%)
Data standardization was achieved by the use of ASYCUDA through calculation of duties and taxes electronically in clearing process.	419 (92.7%)	19 (4.2%)	14 (3.1%)
Data standardization was achieved by the use of ASYCUDA through Submission of e-manifest by shipping lines and Airline operators in clearing process	421 (93.1%)	24 (5.3%)	7 (1.5%)
Data standardization was achieved by the use of ASYCUDA through electronic filling and lodgment of SGD in clearing process.	417 (92.3%)	17 (3.8%)	18 (4.0%)
Data standardization was achieved by the use of ASYCUDA through document verification to ensure correctness of the declaration in clearing process	397 (87.8%)	38 (8.4%)	17 (3.8%)
Data standardization was achieved by the use of ASYCUDA through document validation, and assigning of unique customs reference number	378 (83.6%)	54 (11.9%)	20 (4.4%)
Simplification of Custom Clearance Procedure			
Simplification of Clearance was achieved by the use of ASYCUDA through the introduction of Inspection Act.	400 (88.5%)	36 (8.0%)	13 (2.9%)
Simplification of clearance was achieved by the use of ASYCUDA through release note print out.	415 (91.8%)	20 (4.4%)	17 (3.8%)
Simplification of Clearance was achieved by the use of ASYCUDA through risk management selectivity.	393 (86.5%)	32 (7.1%)	24 (5.3%)
Simplification of Clearance was achieved by the use of ASYCUDA through **p**rompt and timely e – remittance of revenue between CBN and designated banks.	384 (85.0%)	46 (10.2%)	21 (4.6%)
Simplification of Clearance was achieved by the use of ASYCUDA through profiling of importers and scanning of goods.	393 (86.5%)	25 (5.5%)	25 (5.5%)
Simplification of Clearance was achieved by the use of ASYCUDA through lodging of SGD by traders using DTI.	340 (75.2%)	46 (10.2%)	21 (4.6%)
Simplification of Clearance was achieved by the use of ASYCUDA through post modification to achieve duty and taxes recovery	393 (86.5%)	32 (7.1%)	24 (5.3%)
Simplification of Clearance was achieved by the use of ASYCUDA through prompt and timely e-reconciliation of all duties and taxes between customs and designated banks.	399 (88.3%)	39 (8.6%)	14 (3.1%)
Computerization of Custom Clearance			
Computerization of Custom Clearance was achieved by the use of ASYCUDA in generating assessment report online.	399 (88.3%)	39 (8.6%)	14 (3.1%)
Computerization of Custom Clearance was achieved by the use of ASYCUDA in making electronic payment of duties and taxes online.	393 (86.5%)	37 (8.2%)	22 (4.9%)
Computerization of Custom Clearance was achieved by the use of ASYCUDA lodging of SGD by traders using DTI online	366 (80.0%)	42 (9.3%)	44 (9.7%)
Computerization of Custom Clearance was achieved by the use of ASYCUDA in submission of e-manifest by shipping and airlines	328 (72.6%)	19 (4.2%)	105 (23.2%)
Computerization of Custom Clearance was achieved by the use of ASYCUDA in calculation of duties and taxes online	340 (75.2%)	23 (5.1%)	19 (4.2%)
Computerisation of customs clearance was achieved by the use of ASYCUDA in transmission of RAR	378 (83.6%)	54 (11.9%)	20 (4.4%)

Key: A = Agree, N = Not Decided, DA = Disagree

From Table 4.5, it can be seen that majority of the respondents were in agreement with the statements concerning the objectives of ASYCUDA in terms of normalization of forms and documentation, data standardization, simplification and computerization of customs clearance in the following:

Out of 452 respondents, 430 (95.1%) agreed that ASYCUDA has achieved its objective of normalization of forms and documents in clearance procedure through harmonizing commodity description and coding system (HS) with corresponding National laws compared to 10 (2.2%) who remained neutral. Of all the respondents, 411 (90.9%) agreed that normalization of forms and documents was achieved by the use of ASYCUDA through ensuring National trade processing are in line with world best practices by the use of e-SGD in clearance of goods compared to 19 (4.2%) who disagreed. Similarly, 403 (89.2%) respondents agreed that normalization of forms and documents was achieved by the use of ASYCUDA through streamlining procedures and by reducing the number of document in clearance compared to 17 (3.8%) who disagreed.

From the above analysis, it can be seen that the objective of ASYCUDA on normalization of forms and documents in clearance has been achieved because the use of ASYCUDA in custom operations has greatly reduced the cumbersome nature involved in clearance of goods in Nigerian Custom Service. Table 4.5: also shows that:

The majority of the respondents 372 (82.1%) reported that data standardization was achieved by the use of ASYCUDA through self-assessment by traders in payment of duties and taxes in clearance of goods, compared to 33 (7.3%) who disagreed, and 403 (89.2%) indicates that data standardization was achieved by the use of ASYCUDA through automation of customs procedures and regimes in clearing process as compared

to 18 (4%) who disagreed. Similarly, 415 (91.8%) of the respondents agreed that data standardization was achieved by the use of ASYCUDA through Transmission of RAR in clearance of goods compared to 17 (3.8%) who disagreed. Also, 419 (92.7%) of the respondents agreed that data standardization was achieved by the use of ASYCUDA through the calculation of duties and taxes electronically in clearing process compared to 14 (3.1%) who disagreed.

Furthermore, majority 421 (93.1%) of the respondents also agreed that data standardization was achieved by the use of ASYCUDA through Submission of e-manifest by shipping lines and Airline operators in clearing process compared to 7 (1.5%) who disagreed. It was also clear that large percentage of respondents 417 (92.3%) reported that data standardization was achieved by the use of ASYCUDA through electronic filling and lodgment of SGD in clearing process compared to 18 (4%) who disagreed. While, 397 (87.8%) of the respondents submitted that data standardization was achieved by the use of ASYCUDA through document verification to ensure correctness of the declaration in clearing process compared to 17 (3.8%) who disagreed, as 378 (83.6%) agreed that data standardization was achieved by the use of ASYCUDA through document validation and assigning of unique customs reference number compared to 20 (4.4%) who disagreed.

This findings mirrors that majority of the respondents indicated that the ASYCUDA objectives on data standardization has been achieved, because Nigerian the Customs Service has followed the global best practices in terms of applying technology to enhance the clearance procedure. Whereas the minority 7 representing 1.5% of the respondents disagree that data standardization was achieved by the use of ASYCUDA

through submission of e-manifest by Shipping and Air line operators in clearing process. In addition, Table 4.3 indicates that:

The majority 400 (88.5%) of the respondents agreed that simplification of clearance was achieved by the use of ASYCUDA through the introduction of Inspection Act compared to 13 (2.9%) who disagreed. Also, 415 (91.5%) indicates that simplification of Clearance was achieved by the use of ASYCUDA through the use of release note print out compared to 17 (3.8%) who disagreed. About 393 (86.5%) agreed that simplification of Clearance was achieved by the use of ASYCUDA through risk management selectivity compared to 24 (5.4%) who disagreed. About 384 (85.0%) of the respondents agreed that simplification of clearance was achieved by the use of ASYCUDA through prompt and timely e – remittance of revenue between CBN and designated banks compared to 21 (4.6%) who disagreed. Similarly, 393 (86.5%) agreed that simplification of clearance was achieved by the use of ASYCUDA through profiling of importer compared to 24 (5.5%) who disagreed.

Of all the respondents, 340 (75.2%) agrees that simplification of clearance was achieved by the use of ASYCUDA through lodging of SGD by traders using DTI compared to 21 (4.6%) who disagreed. While, 393 (86.5%) indicates that simplification of clearance was achieved by the use of ASYCUDA through post modification to achieve duty and tax recovery compared to 24 (5.3%) who disagreed. And finally, 399 representing 88.3% of the respondents agreed that simplification of clearance was achieved by the use of ASYCUDA through prompt and timely e-reconciliation of all duties and taxes between customs and designated banks compared to 14 (3.1%) who disagreed.

From the above findings, it is glaring that ASYCUDA has achieved its objective on the simplification of clearance procedure of custom operations as result of modification made, innovation introduced and easy ways followed in custom clearance procedures. Whereas the minority 13 representing 2.9% of the respondents disagree that simplification of clearance was achieved by the use of ASYCUDA through the introduction of inspection act. Table 4.5 further reveals that: On the computerization of custom clearance, majority 399 (88.3%) of the respondents agreed that computerization of custom clearance was achieved through the use of ASYCUDA in generating assessment report online compared to 14 (3.1%) who disagreed. While 393 (86.5%) indicated that computerization of Custom Clearance was achieved by the use of ASYCUDA in making electronic payment of duties and taxes online compared to 22 (4.8%) who disagreed.

It is also clear that, about 366 (80%) of the respondents agreed that computerization of custom clearance was achieved through the use of ASYCUDA lodging of SGD by traders using DTI and transmission of RAR online compared to 42 (9.3%) who disagreed. 328 (72.6%) agreed that computerization of custom clearance was achieved through the use of ASYCUDA in the submission of e-manifest by shipping and airlines compared to 19 (4.2%) who remained neutral. 340 (75.2%) of the respondents agreed that computerization of custom clearance was achieved by the use of ASYCUDA in automating customs procedures and regimes compared to 19 (4.2%) who disagreed. And 378 (83.6%) of the respondents agreed that computerization of custom clearance was achieved by the use of ASYCUDA in transmission of RAR compared to 20 (4.4%) who disagreed.

From the above presentation, it could be seen that majority of the respondents indicated that ASYCUDA has achieved computerization. While only 14 representing 3.1% of the respondents disagreed that computerization of customs clearance was achieved in generating assessment report online. The findings mirror that, majority of the respondents who used ASYCUDA for custom operations indicated that if has achieved its objective of facilitating trade through normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedure to accelerate the clearance of goods. It could be seen through the efforts made by the Nigerian Customs Service to remove tedious, repetitive and time consuming manual ways of clearance of goods by introducing the use of ASYCUDA.

4.4.2 Perception of Users on the Attainment of ASYCUDA Objectives in Terms of Providing Modern Tools

Respondents were asked to rate their opinion on the extent to which they agreed or disagreed with statements assessing whether ASYCUDA has achieved its objective in terms of providing modern tools and techniques to facilitate trade through speedy clearance of goods. Table 4.6 showed the summary on the opinion of the respondent.

Table 4.6: Respondent Opinions on the Objective of ASYCUDA on Providing modern Tools and Techniques (N not equal to 452)

Statements	A	N	DA
Provision of Modern Tools			
Provision of modern tools in custom clearance was achieved through the provision of computers and other peripheral devices	401 (88.7%)	30 (6.6%)	18 (4.0%)
Provision of modern tools in custom clearance was achieved through the provision of Scanning machines and internet connectivity	407 (90.0%)	24 (5.3%)	20 (4.4%)

Table 4.6 Continuation

Provision of modern tools in custom clearance was achieved through the provision of central server at NCS Headquarters and the networking tools	396 (87.6%)	37 (8.2%)	18 (4.0%)
Provision of modern tools in custom clearance was achieved through the provision of DTI system that minimized human contact in clearance	401 (88.7%)	36 (8.0%)	15 (3.3%)
Provision of Techniques			
Provision of modern techniques in clearance was achieved through the scanning of goods.	399 (88.3%)	26 (5.8%)	27 (6.0%)
Provision of modern techniques in clearance was achieved through alert sent on risky or delayed SGD.	366 (81.0%)	47 (10.4%)	39 (8.6%)
Provision of modern techniques in clearance was achieved through cargo control via e-manifest.	371 (83.1%)	45 (10.0%)	35 (7.7%)
Provision of modern techniques in clearance was achieved through the ASYCUDA selectivity lanes of blue, yellow, green and red.	404 (89.4%)	29 (6.4%)	18 (4.0%)
Provision of modern techniques in clearance was achieved through the payment of duties and taxes online to designated Banks.	403 (89.2%)	31 (6.9%)	18 (4.0%)
Implementation of Sound Procedures			
Implementing sound procedures was achieved in clearance through ASYCUDA selectivity lanes.	389 (86.1%)	47 (10.4%)	15 (3.3%)
Implementing sound procedures was achieved in clearance through lodgment of SGD using DTI	361 (79.9%)	51 (11.3%)	35 (7.7%)
Implementing sound procedures was achieved in clearance through data bank as a risk management tool.	376 (83.2%)	20 (4.4%)	20 (4.4%)
Implementing sound procedures was achieved in clearance through profiling of importers.	377 (83.4%)	30 (6.6%)	29 (6.4.%)
Implementing sound procedures was achieved in clearance through scanning of goods.	311 (68.8%)	49 (10.8%)	21 (4.6%)
Implementing sound procedures was achieved in clearance through alert send on risky or delayed SGD.	398 (88.1%)	41 (9.1%)	12 (2.7%)

Table 4.6 Continuation

Implementing sound procedures was achieved in clearance through inspection act.	366 (81%)	47 (10.4%)	39 (8.6%)
Provision of Full Audit Trails and Mechanism for Control			
Provision of audit trials and mechanism for control in clearance was achieved through scanning of goods	385 (85.2%)	45 (9.9%)	20 (4.4%)
Provision of audit trials and mechanism for control in clearance was achieved through ASYCUDSA selectivity lanes.	395 (87.4%)	44 (9.7%)	11 (2.4%)
Provision of audit trials and mechanism for control in clearance was achieved through payment of duties and taxes online.	383 (86.7%)	51 (11.3%)	17 (3.8%)
Provision of audit trials and mechanism for control in clearance was achieved through ASYCUDA system audit trials.	392 (86.7%)	41 (9.1%)	19 (4.2%)
Provision of audit trials and mechanism for control in clearance was achieved through submission of e-manifest.	311 (68.8%)	69 (15.3%)	71 (15.7%)
Provision of audit trials and mechanism for control in clearance was achieved through role base security access via password	399 (88.3%)	26 (5.8%)	27 (6.0%)
Provision of audit trials and mechanism for control in clearance was achieved through post clearance audit.	366 (81.0%)	47 (10.4%)	39 (8.6%)
Provision of audit trials and mechanism for control in clearance was achieved through Alert send on risky or delayed SGD.	371 (83.1%)	45 (10.0%)	35 (7.7%)
Provision of audit trials and mechanism for control in clearance was achieved through transmission of RAR online.	404 (89.4%)	29 (6.4%)	18 (4.0%)

Key: A = Agree, N = Not Decided, DA = Disagree

From Table 4.6, it can be seen that majority of the respondents were in agreement with statements concerning the objectives of ASYCUDA in terms of provision of modern tools, implementation of sound procedure, provision of audit trials and mechanism for controlling custom operations as indicated by the majority of the respondents 401

(88.7%) who indicated that ASYCUDA provide modern tools in custom clearance through the provision of state of the art computers and other peripheral devices compared to 18 (4%) who disagreed. Also, 407 representing 90.0% agreed that ASYCUDA provide modern tools in custom clearance through the provision of scanning machines and internet connectivity compared to 20 (4.4%) who disagreed. About 396 (87.6%) also agreed that ASYCUDA provide modern tools in custom clearance through the provision of central server at the NCS Headquarters and the networking tools compared to 18 (4%) who disagreed. And about 401 (88.7%) of the respondents agreed that ASYCUDA provides modern tools in custom clearance through the provision of DTI system that minimized human contact in clearance process compared to 15 (3.3%) who disagreed.

The above findings shows that majority of the respondents indicated that the ASYCUDA objectives on the provision of modern of tools in custom operations and clearance has been achieved, because the use of ASYCUDA has greatly assisted users to increase their efficiency and effectiveness in discharging their responsibilities of custom clearance and operation without delay. Whereas the minority 18 representing 4% of the respondents disagree that provision of modern tools in Customs clearance was achieved through the provision of computers and other peripheral devices.

Similarly, Table 4.6 further showed that majority of the respondents 399 (88.3%) agreed that ASYCUDA has achieved its objectives of provision of modern techniques in clearance through the scanning of goods compared to 26 (5.8%) who remained neutral. About 366 representing 81.0% indicated that ASYCUDA has achieved its objectives of provision of modern techniques in clearance through alert sent on risky or delayed SGD compared to 39 (8.6%) who disagreed, with 371 (83.1%) indicating that ASYCUDA has

achieved its objectives of provision of modern techniques in clearance through cargo control via e-manifest compared to 35 (7.7%) who disagreed. Similarly, 404 (89.4%) reported that ASYCUDA has achieved its objectives of provision of modern techniques in clearance through the ASYCUDA selectivity lanes of blue, yellow, green and red compared to 18 (4%) who disagreed. About 402 (89.2%) of the respondents agreed that ASYCUDA has achieved its objectives of provision of modern techniques in clearance through payment of duties and taxes online to designated Banks compared to 18 (4%) who disagreed.

From the above analysis, it could be seen that the objective of ASYCUDA on the provision of modern techniques has been achieved because the use of ASYCUDA has reduced delays in clearance and provides transparency and accountability in the Custom clearance and operations. Whereas the minority 18 representing 4% of the respondents disagreed that provision of modern techniques in clearance was achieved through the payment of duties and taxes online. When asked to express their opinion on issue of sound procedures in clearance majority of the respondents 389 (86.1%) agreed that implementation of sound procedures was achieved in clearance through ASYCUDA selectivity lanes compared to 15 (3.3%) who disagreed as shown in table 4.6. Also, 361 representing 79.9% of the respondents agreed that implementation of sound procedures was achieved in clearance through the use of ASYCUDA in lodgment of SGD using DTI compared to 35 (7.7%) who disagreed. While 376 (83.2%) indicated that implementation of sound procedures was achieved in clearance with the use of ASYCUDA through use of data bank as a risk management tool compared to 20 (4.4%) who disagreed.

It is also clear that, about 377 (83.4%) respondent indicated that Implementation of sound procedures was achieved by the use of ASYCUDA through the profiling of importers compared to 29 (6.4%) who disagreed. Table 4.6 further revealed that 311 (68.8%) of the respondents had agreed that implementation of sound procedures was achieved in clearance by the use of ASYCUDA through scanning of goods compared to 21 (4.6%) who disagreed. About 398 (88.1%) of the respondents agreed that implementation of sound procedures was achieved in clearance with the use of ASYCUDA through alert send on risky or delayed SGD compared to 12 (2.7%) who disagreed. And 366 representing 81% agreed that implementation of sound procedures was achieved in clearance by the use of ASYCUDA through the use of inspection Act compared to 18 (4%) who disagreed.

From the above, it is important to note that ASYCUDA has achieved its objective on the implementation of sound procedures in customs clearance by enhancing operational efficiency in clearance. 12 respondents representing 2.7% disagreed that implementing sound procedure was achieved in clearance through alert send on risky or delayed SGD. Table 4.6 also showed that regarding the provision of audit trials and mechanism for control, majority 385 (85.2%) of the respondents agreed that ASYCUDA has achieved its objective of providing audit trials and mechanism for control in clearance through scanning of goods compared to 20 (4.4%) who disagreed. 395 (87.4%) of the respondents agreed that ASYCUDA has achieved its objective of providing audit trials and mechanism for control in clearance through the use of selectivity lanes compared to 11 (2.4%) who disagreed. About 383 (86.7%) of the respondents agreed that ASYCUDA has achieved its objective of providing audit trials and mechanism for

control in clearance through payment of duties and taxes online compared to 17 (3.8%) who disagreed. 392 representing 86.7% of the respondents agreed that ASYCUDA has achieved its objective of providing audit trials and mechanism for control in clearance through the use of system audit compared to 19 (4.2%) who disagreed.

From the table it could be seen that, about 311 (68.8%) of the respondents agreed that ASYCUDA has achieved its objective of providing audit trials and mechanism for control in clearance through submission of e-manifest compared to 69 (15.3%) who remained neutral. While 399 (88.3%) of the respondents are in agreement that the provision of audit trials and mechanism for control in clearance was achieved through role base security access via password compared, 26 (5.8%) remained neutral. 366 (81.0%) of the respondents agreed that ASYCUDA has achieved its objectives of providing audit trials and mechanism for control in clearance through the use of post clearance audit compared to 39 (8.6%) who disagreed. 371 (83.1%) of the respondents had agreed that ASYCUDA has achieved its objectives of providing audit trials and mechanism for control in clearance through the use of alert sent on risky or delayed SGD compared to 35 (7.7%) who disagreed. And 404 (89.4%) of the respondents agreed that ASYCUDA has achieved its objectives of providing audit trials and mechanism for control in clearance through the transmission of RAR online compared to 18 (4%) who disagreed.

From the above findings, it is worthy to note that ASYCUDA has achieved its objective by providing full audit trials and mechanism for control in clearance by turning lapses into success and loses into profit, thereby achieving transparency and accountability. Meanwhile, the minority 11 representing 2.4% of the respondents

disagree that provision of audit trials and mechanism for control in clearance was achieved through ASYCUDA selectivity lane. Overall, it could be shown that the findings mirror that majority of the respondents have all agreed that ASYCUDA has achieved its objectives of strengthening customs operational efficiency by providing modern tools and techniques, implementation of sound procedures and provision of full audit trials and mechanism for control in custom operations.

4.5 Extent of Users Satisfaction with ASYCUDA in Terms of Customs Operation

Respondents were asked to rate their opinion on the extent to which they agreed or disagreed with statements assessing their satisfaction with accuracy, ease of use, format, timelessness, content of ASYCUDA in relation to Customs clearance procedure to accelerate the clearance of goods. Table 4.4 showed the summary on the opinion of the respondent.

Table 4.4: Respondents Opinion on the Satisfaction with ASYCUDA in Custom Operation (N not equal to 452)

Statements	A	N	DA
I am satisfied with the accuracy of ASYCUDA's for confirmation of Customs duty	361 (79.9%)	41 (9.1%)	49 (10.8%)
I am satisfied with the accuracy of ASYCUDA's for scanning of goods	359 (79.4%)	47 (10.4%)	45 (10.0%)
I am satisfied with the accuracy of ASYCUDA's for release of goods	395 (87.4%)	34 (7.5%)	23 (5.1%)
I am satisfied with the ASYCUDA's ease of use in interface with Banks.	358 (79.2%)	50 (11.1%)	32 (7.1%)
I am satisfied with ASYCUDA's ease of use for profiling.	381 (84.3%)	47 (10.4%)	24 (5.3%)

Table 4.4 Continuation

I am satisfied with ASYCUDA's ease of use in selecting lanes.	374 (82.7%)	44 (9.7%)	33 (7.3%)
I am satisfied with ASYCUDA ease of use in post clearance audit.	376 (83.2%)	47 (10.4%)	27 (6.0%)
I am satisfied with ASYCUDA's format of examination of goods	410 (90.7%)	28 (6.2%)	14 (3.1%)
I am satisfied with ASYCUDA's format in Generating Assessment Report	347 (76.8%)	45 (10.0%)	55 (12.2%)
I am satisfied with ASYCUDA's format in lodging of SGD.	392 (86.7%)	41 (9.1%)	19 (4.2%)
I am satisfied with ASYCUDA's timelessness in transmission of duty and taxes online.	367 (81.2%)	55 (12%)	25 (5.3%)
I am satisfied with ASYCUDA's timelessness in transmission of RAR online	372 (82.3%)	49 (10.8%)	30 (6.5%)
I am satisfied with ASYCUDA's timelessness in interface between terminal operator and concessessionaire.	392 (86.7%)	37 (8.2%)	21 (4.6%)
I am satisfied with ASYCUDA's content for providing information need for my activities.	387 (85.6%)	49 (10.8%)	15 (3.3%)
I am satisfied with ASYCUDA's content in checking of harmonized system.	394 (87.2%)	35 (7.7%)	22 (4.9%)
I am satisfied with the content of ASYCUDA for checking manifest.	389 (86.1%)	37 (8.2%)	25 (5.3%)

Key: A = Agree, N = Not Decided, DA = Disagree

From Table 4.4, it clear that majority of the respondents were in agreement with statements concerning the satisfaction on the use of ASYCUDA in custom service and operation as indicated by the majority of the respondents 361 (79.9%) who reported that they are satisfied with accuracy of ASYCUDA for Confirmation of Customs duty

payments compared to 41 (9.1%) who remained neutral. About 359 representing 79.4% had reported that they are satisfied with accuracy of ASYCUDA for scanning compared to 45 (10%) who disagreed. 395 (87.4%) of the respondents had agreed that they are satisfied with accuracy of ASYCUDA for release of goods compared to 23 (5.1%) who disagreed. 358 (79.2%) of the respondents agreed that they are satisfied with ASYCUDA's ease of use in interfacing with Banks compared to 32 (7.1%) who disagreed. Table 4.4 further reveals that 381 (84.3%) of the respondents agreed that they are satisfied with ASYCUDA's ease of use for profiling compared to 24 (5.3%) who disagreed. About 374 (82.7%) of the respondents agreed that they are satisfied with ASYCUDA's ease of use in selecting lanes compared to 33 (7.3%) who disagreed. Similarly, 376 representing 83.2% of the respondents agreed that they are satisfied with ASYCUDA's ease of use in post clearance audit compared to 27 (6%) who disagreed. It was also clear that majority of the respondents 410 (90.7%) reported that they are satisfied with ASYCUDA's format of examination of goods compared to 14 (3.1%) who disagreed. Also 347 (76.8%) of the respondents agreed that they are satisfied with ASYCUDA's format in generating assessment report compared to 45 (10%) who remained neutral.

Table 4.4 further demonstrates that the majority of the respondents392 (86.7%) agreed that they are satisfied with ASYCUDA's format in lodging of SGD compared to 19 (4.2%) who disagreed. About 367 (81.2%) of the respondents agreed that they are satisfied with ASYCUDA's timelessness in transmission of duty and taxes online compared to 25 (5.3%) who disagreed. About 372 (82.3%) of the respondents had agreed that they are satisfied with ASYCUDA's timelessness in transmission of RAR online

compared to 30 (6.5%) who disagreed. 392 (86.7%) of the respondents agreed that they are satisfied with ASYCUDA's timelessness in interface between terminal operators and concessionaire compared to 21 (4.6%) who disagreed. While 387 (85.6%) of the respondents agreed that they are satisfied with ASYCUDA's content for providing information needed for my activities compared to 15 (3.3%) who disagreed. 394 (87.2%) of the respondents had agreed that they are satisfied with ASYCUDA's content in checking of harmonized system compared to 22 (4.9%) who disagreed. And 389 (86.1%) of the respondents agreed that they are satisfied with ASYCUDA's content in checking manifest compared to 25 (5.3%) who disagreed.

The above findings show that majority of the respondents indicated that they were satisfied with the functions of ASYCUDA because it had provides strong support for automation in relation accuracy, ease of use, format, content and the reduction of clearance time considerably. While 14 respondents representing 3.1% indicated not being satisfied with ASYCUDA format of examination of goods.

4.6 Challenges faced by ASYCUDA in NCS

The respondents were asked to indicate the challenges affecting ASYCUDA. The summary of the major challenges as highlighted by the respondents include erratic power supply, lack of adequate training on the use of ASYCUDA by users, falsification of documents by importers and agents, concealment of goods by the importers, under declaration of goods by importers, under invoicing, wrong description and classification of goods by importers, inadequate funding, inadequate accommodation, network failure and poor connectivity of internet services, poor telecommunication infrastructure, high cost of bandwidth and subscription of the internet services, connivance between officers

and stake holders in clearing process., environmental factors, in adequate skills among officers, inadequate skills among agents, inadequate skills among importers, cost of maintaining generating set, lack of maintenance, high connection cost for agents/importer and system security.

The identified challenges faced by ASYCUDA in the NCS can deprive the organization from maximizing the full potential of ASYCUDA despite the progress made in automating Customs operations. This can lead low revenue generation, delay in clearance, inefficiency and ineffectiveness as well as lack of control.

4.7 Measures to be taken to overcome the challenges

To achieve the full potentials of ASYCUDA in the NCS, the respondents suggested the following measures:

- Provision of frequent and adequate training and retraining of officers and men as well as Clearing Agents;
- Provision of adequate funding;
- Provision of infrastructural facilities (i.e. accommodation, power, telecommunication etc.;
- Inauguration of regular seminars and workshops on the use of ASYCUDA;
- Maintenance of equipments and facilities;
- Provision of modern and up to date scanners, computers, printers and other equipments;
- Proper monitoring, supervision and evaluation; and
- Attitudinal change among officers and stakeholders.

It clears that measures advanced by the respondents to address the identified challenges if properly implemented could improve the situation and enhances the operation of the ASYCUDA towards achieving its full potentials in NCS.

4.8 Presentation and Analysis of the Quantitative data using Inferential Statistics

The second part of the quantitative analysis is inferential analysis, which was used to identify the relationship that existed among the variables using the Pearson Product Moment Correlation analysis. The Pearson product-moment correlation coefficient was used for the analysis in this study because it measures the strength and direction of association that exists between two variables measured on at least an interval scale. For this study, Pearson's correlation was used to understand whether there is a relationship between:

1. ASYCUDA objectives and ASYCUDA use
2. ASYCUDA use and the demographic characteristics of the respondents
3. ASYCUDA user satisfaction and the demographic characteristics of the respondents.

Also it draws a line of best fit through the data of two variables, and the Pearson correlation coefficient, *r*, indicates how far away all these data points are to this line of best fit.

4.8.1: Hypothesis 1: There is statistically significant relationship between ASYCUDA objectives and ASYCUDA use

There were two outcome variables for testing this hypothesis i.e. ASYCUDA objectives and ASYCUDA use.

Table 4.7 Correlations between ASYCUDA Objectives and ASYCUDA Use

		ASYCUDAUSE	ASYCUDAOBJS
ASYCUDAUSE	Pearson Correlation	1	.767(**)
	Sig. (2-tailed)		.000
	N	442	428
ASYCUDAOBJS	Pearson Correlation	.767(**)	1
	Sig. (2-tailed)	.000	
	N	428	435

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

The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was a strong positive correlation (relationship) between ASYCUDA objectives and ASYCUDA use, which was statistically significant (r = .767, n = 442, p = .000, i.e. less t4an .05). Therefore, the study accepts the alternative hypothesis and rejects the null hypothesis. This shows that, there was high level of ASYCUDA use which led to the attainment of its objectives.

4.8. 2 Hypothesis 2: There is statistically significant relationship between ASYCUDA use and the demographic characteristics of the respondents

There were three outcome variables for this test i.e. highest qualification, gender and years in service. Each of these tried to establish a relationship with the ASYCUDA use.

Table 4.8 Correlations between ASYCUDA use and Demographic Characteristics

		ASYCUDA Use	Highest Educational Qualification	Gender	Years in Service
ASYCUDA Use	Pearson Correlation	1	-.008	-.018	.108(*)
	Sig. (2-tailed)		.869	.704	.023
	N	442	442	442	442
Highest Educational qualification	Pearson Correlation	-.008	1	-.042	-.109(*)
	Sig. (2-tailed)	.869		.374	.021
	N	442	452	452	452
Gender	Pearson Correlation	-.018	-.042	1	.032
	Sig. (2-tailed)	.704	.374		.494
	N	442	452	452	452
years in service	Pearson Correlation	.108(*)	-.109(*)	.032	1
	Sig. (2-tailed)	.023	.021	.494	
	N	442	452	452	452

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

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA use and HEQ. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was a strong negative correlation (relationship) between ASYCUDA use and HEQ, which was statistically significant (r = .869, n = 442, p = - .008, i.e. less than 0.05). Therefore, the study accepts the alternative hypothesis and rejects the null hypothesis even though the relationship found was negative. These findings showed that adequate knowledge of users in terms of their HEQ led to high level of ASYCUDA use.

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA use and Gender of the respondents. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was no correlation (relationship) between ASYCUDA use and Gender, which was statistically insignificant (r = .704, n = 442, p = - .018, i.e. greater than 0.05). Therefore, the study accepts the null hypothesis and rejects the alternative hypothesis. This finding showed that gender has no any influence on the use of ASYCUDA.

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA use and years of service. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was no correlation (relationship) between ASYCUDA use and years of service, which was statistically insignificant (r = .023, n = 442, p = - .108, i.e. greater than 0.05). Therefore, the study accepts the null hypothesis and rejects the alternative hypothesis. This finding showed that years of service has no any influence on the use of ASYCUDA.

4.8.3 Hypothesis 3: There is statistically significant relationship between ASYCUDA user satisfaction and the demographic characteristics of the respondents

The relationship between ASYCUDA user satisfaction and demographic characteristics of respondents was determined using Pearson's correlation. There were three outcome variables for this test i.e. highest qualification, gender and years in service. Each of these tried to establish a relationship with the ASYCUDA user satisfaction.

Table 4.9 Correlations between ASYCUDA user Satisfaction and Demographic Characteristics

		Highest Educational Qualification	Gender	Years in Service	ASYCUDA Satisfaction
Highest Educational Qualification	Pearson Correlation	1	-.042	-.109(*)	.011
	Sig. (2-tailed)		.374	.021	.819
	N	452	452	452	438
Gender	Pearson Correlation	-.042	1	.032	-.018
	Sig. (2-tailed)	.374		.494	.708
	N	452	452	452	438
Years in service	Pearson Correlation	-.109(*)	.032	1	.091
	Sig. (2-tailed)	.021	.494		.057
	N	452	452	452	438
ASYCUDA SAT	Pearson Correlation	.011	-.018	.091	1
	Sig. (2-tailed)	.819	.708	.057	
	N	438	438	438	438

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

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA use and HEQ. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was no correlation (relationship) between ASYCUDA use and HEQ, which was statistically insignificant (r = .819, n = 438, p = .011, i.e. greater than 0.05). Therefore, the study accepts the null hypothesis and rejects the alternative hypothesis. This finding showed that HEQ has no any influence on the user satisfaction with the use of ASYCUDA.

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA user satisfaction and Gender of the respondents. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was no correlation (relationship) between ASYCUDA use and Gender, which was statistically insignificant (r = .708, n = 438, p = - .018, i.e. greater than 0.05). Therefore, the study accepts the null hypothesis and rejects the alternative hypothesis. This finding showed that gender has no any influence on the user satisfaction with the use of ASYCUDA.

A Pearson product-moment correlation was run to determine the relationship between ASYCUDA user satisfaction and years of service. The data showed no violation of normality, linearity or homoscedasticity and the results showed that there was no correlation (relationship) between ASYCUDA use and years of service, which was statistically insignificant (r = .091, n = 438, p = .057, i.e. greater than 0.05). Therefore, the study accepts the null hypothesis and rejects the alternative hypothesis. This finding showed that year of service has no any influence on the user satisfaction with the use of ASYCUDA.

4.9. Presentation and Interpretation of the Interview Data

This section presents and discusses the results of the interview conducted with the management staff of the NCS. The interviews were conducted in order to explore the perception of the management staff on the attainment of ASYCUDA objectives. The interviews were conducted in a small group setting of three management staff of the NCS. The interview was recorded, transcribed, and reported using narrative based qualitative analysis. This type of analysis permits

systematic identification and comparison of individual issues and their meanings as reported in the verbatim expression of the participants in line with the objectives of the study. Hence, the qualitative data were treated and reported separately to explore the perception of the management of NCS on the attainment of ASYCUDA objectives.

4.9.1 Background Information about the participants

The interview was conducted in January, 2013 with three management staff of the NCS. A detailed description of how the interviewees were selected for the interview is provided in section 3.8.1 of this study. The interview enables the researcher to explore the perception of the management staff on the attainment of ASYCUDA objectives. Table 4.7 provides background information about the interviewees.

Table 4.10: Information about the participants

S/N	Name of Unit	Gender	Educational Qualification	Rank	Date and Time of the Interview
`1	ICT UNIT HQ ABUJA	Male	First Degree	Deputy Controller	6th November. 2013 11.30 am - 12.50 pm
2	ICT UNIT HQ ABUJA	Male	First Degree	Assistant Controller	6th November. 2013 11.30 am - 12.50 pm
3	ICT UNIT HQ ABUJA	Male	First Degree	Assistant Superintendent II	6th November. 2013 11.30 am - 12.50 pm

The information about the participants indicates that all the participants were from the ICT Unit of the HQ who are directly involved in the management of ASYCUDA as an information system of the NCS. This means that right qualitative data was obtained from the right source. In addition, all the three participants were males who hold a minimum of first degree which signifies their qualification as senior officers of the NCS with different ranks of Deputy Controller, Assistant Controller and Assistant Superintendent of Custom II.

4.9.2 Interview Responses on the Attainment of ASYCUDA objectives:

a) **Participants opinion on how ASYCUDA achieve its objective in facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedures to accelerate the clearance of goods.**

In response to the question above, the participants agreed and mentioned that, ASYCUDA achieved its objective through ensuring that National Trade Processing are in line with world best practices through the use of e-SGD; streamlining procedure and documentation by reducing the number of forms and documents in clearance process which brought normalization of forms and documents; Prompt and timely e–remittance of revenue between CBN and designated banks has simplified clearance procedures; and ensuring e – Transit which has simplified clearance procedure.

In addition, the result of the interview findings revealed that ASYCUDA Exit of goods through risk selectivity lanes has simplified clearance of goods, prompt and timely e-reconciliation of all duties and taxes between customs and designated banks thereby standardizing and simplifying clearance procedure; ASYCUDA also ensures that profiling importers and scanning of goods, and generating/Self-assessment by traders

online for payment of duties and taxes electronically has simplified clearance of goods; and that Electronic payment of Duties and Taxes brought standardization, simplification and computerization. The participants reported that; Transmission of e-manifest by shipping lines and Airline operators has simplified and standardized clearance process; automated calculation of duties and taxes; flexibility of ASYCUDA for Post modification to recover underpayments of duties and taxes has simplified clearance procedure.

The interview result also indicates that the use of ASYCUDA ensures electronic lodging of Single Goods Declaration (SGD) by traders using electronic interface; Automated processing and information sharing with stake holders; Transparency in customs clearing procedure thereby minimizing human contact and reducing tendency of fraud and corruption through the use of DTI brought about simplification in clearance; Transmission of Risk Assessment Report (RAR) online to stakeholders thereby ensuring simplification, standardization and computerization in clearance. In terms of risk management also, ASYCUDA Risk selectivity lanes of Blue, Yellow, Green & Red toward trade facilitation through profited compliance brought standardization and simplification. The participants also reported that, Cargo control through e – manifest brought about simplification and computerization in clearance which is achieved through ASYCUDA.

From the findings of the interview, it can be seen that ASYCUDA has provided strong support on facilitation of trade and acceleration of clearance of goods.

b) Participants opinion on ways ASYCUDA achieved its objectives of strengthening customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations.

When asked to express their opinions on (b) above, participants expressed their opinions by reporting that the different ways which includes the Provision of Computers and other peripheral device in clearance process is a sound procedure that eliminates human contact between customs and stake holders and serves as a mechanism for controlling customs operation. In addition, they also reported that the breaking of ASYCUDA program into modules and installing relevant modules for all the stakeholders serve as an important means through which ASYCUDA has achieved its objectives because that has helped to prevent hacking into ASYCUDA system. ASYCUDA also achieved its objectives by providing scanning machines in NCS as modern tools provided for achieving efficiency and control in clearance procedure, integration of form M in clearance process as a tool for efficiency & control, provision of central server at NCS Headquarters connected to commands as a tool that strengthens networking customs operations. In addition, ASYCUDA selectivity lanes of Blue, Yellow, green & Red are techniques that brought about efficiency and control in clearance procedure, system audit ensure control and efficiency in customs operation, security access through the use of Username and Password thereby serving as audit trial in customs clearance procedure, and providing data access control through dedicated network for stakeholders, thereby serving as sound procedure in clearance. Cargo control through e – manifest is a sound procedure and serves as audit trial and it also provided strong support for information management and control with ECOWAS member states.

The participants further reported that ASYCUDA profiling of importers is a sound procedure in NCS clearance that enhanced efficiency and control. While, Alert sent on delayed or risky SGD is a sound procedure in customs clearance and enhanced efficiency and control, participants also agreed that, ASYCUDA valuation data base is sound procedure that provides opportunity for bench making and which has strengthened customs operational efficiency for control. Scanning of goods is non-intrusive form of examination that serves as a mechanism for controlling customs operations; transmission of RAR provides customs with audit trial and control of operations in clearance. Payment of duties and taxes online provides mechanism for controlling customs operation and serves as audit trial as well as electronic lodgment of single Goods Declaration (SGD) using Direct Trader Inputs (DTI) is also a sound procedure that minimized human contact between customs and stakeholders and serves as a mechanism for controlling customs operations. All these serve as important ways through which ASYCUDA is said to achieve its objectives as reported by the participants.

Other areas highlighted by participants as critical in this regard focused on post clearance audit as a sound procedure that provides customs with full audit trial and mechanism for controlling customs operations, and the introduction of inspection act which provides an opportunity to see details of inspection as a mechanism for controlling customs operations, transmission of RAR and alert on risky or delayed SGD are mechanism for controlling Customs operations. In addition, participants reported online payment of duties and taxes and cargo control through e manifest to monitor movement of goods as additional areas that ASYCUDA has achieved its objectives in providing

audit trials and mechanism for customs operations. It is obvious that ASYCUDA has strengthened customs operational efficiency for controlling customs operations.

c) Participants opinion on ways in which ASYCUDA has achieved its objectives of strengthening customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes

All the participants in this study indicated that, these objectives were achieved through provision of data or statistics reports which in real time allow for analysis and planning by the NCS and Federal government of Nigeria as well, through provision of reliable, efficient and effective data which helps in reconciliation with other stockholders such as Banks, (all payments relating to duties and taxes), CBN Central Bank of Nigeria and Bureau of Statistics (on data relating to import and export in Nigeria). Furthermore, they also testified to the fact that ASYCUDA has achieved its objective of strengthening customs management and control by providing central data base platform which brought an end to the era of regional servers that were characterized by data distortion during collection. From the submission of the respondents it is clear that with introduction of ASYCUDA in NCS, generation of statistic on trade and revenue has greatly improved.

4.10 Challenges facing ASYCUDA in the Attainment of its Objectives

Major challenges reported by the participants include inadequate funding which all the participants considered as a catalyst for meaningful development without which ASYCUDA will not achieve its objectives. They also reported Technical nature of ASYCUDA where all participants considered technology itself as a source of challenge in terms of obsoleteness so frequently, and that can equally course hazard to human eyes. Other challenges highlighted by the participants focused on lack of adequate skilled

manpower agreeing that for any ICT based facility to provide functional services, there must be adequate as well as trained personnel. Environmental Factors was also considered as another challenge for the adoption of ASYCUDA as an information system in Nigeria. This is because according to the participants Nigerian environment is characterized by wind, dust and sometimes natural disasters and all these are bound to be harmful to computers and can cause lost of valuable data especially to a valuable information system like ASYCUDA.

The cost of Bandwidth, erratic power supply and human factors were also identified and described by the participants as major challenges to the adoption of ASYCUDA as an information system in the NCS. According to the participants while electricity in Nigeria is grossly inadequate and stakeholders in trade and supply chain are sometimes not honest in their declaration. For example, the participants highlighted that the connivance of some officers pose a challenge to the efficiency and effectiveness of ASYCUDA. The interviewees identified serious challenges that could adversely affect the effective operations of ASYCUDA in NCS. This may lead to delay in clearance of goods, lost of revenue and lack of control.

4.11 Ways in which the identified challenges could be overcome

The researcher explores the areas of emphasis for addressing the challenges highlighted by the participants. The verbatim expression of the participants suggested the provision of adequate funding to enable the NCS to update, maintain, and upgrade its ICT infrastructure, employ adequate skilled personnel as well as train and retrain its personnel regularly. They also suggested for adequate storage devices that can be used as back up to guard against lose of data as a result of harmful effects of environment and equipment.

Other possible measures highlighted by participants centered on the need for the NCS to consider the use of fiber optic which is cheaper and faster than bandwidth, provision of standard generating set or another alternative power like inverters to serve as a backup in the event of electricity failure, attitudinal change on the part of officers and men of NCS and stake holders in trade and supply chain will go a long way in making ASYCUDA effective.

4. 12. Discussion of the findings of the study

The preceding pages provided data about the units of analysis being studied. The discussion is presented below in line with Neuman's (2000) (as cited in Ngulube, 2003) suggestion that the discussion be separated from the results so that readers can examine the data and arrive at their own interpretation. The discussion is based on the survey questionnaire analysis, interviews with selected members of NCS management and a review of the literature. The discussions are presented according to the objectives and research questions of the study as presented in chapter one.

4.13. Use of ASYCUDA

The findings of this study indicated that both officers and men of the NCS and Clearing Agents are users of the ASYCUDA system. It is being used to clear imported goods, payment of duties and taxes, post clearance audit, generation and transmission of assessment report and transmission of duties and taxes among others. As these functions are being carried out, vast amount of information are generated which are stored, preserved and disseminated electronically for the benefit of the organization, stakeholders and the government. Terpsiadou & Economides (2009) collaborated this finding where they reported the use of Canadian online database called Net File, an electronic tax filing

system where millions of Canadians use in paying their taxes. They further quoted Hahamis et al (2005), Terzis & Economides (2006) and Pant et al (2004) who reported that in Greece tax payers can use a computer or another electronic device over public switch or via the internet to fill their tax obligations.

The findings also revealed the achievement of technical efficiency of NCS personnel in the area of profiling of importers, interface, scanning of goods, selecting of lanes, and transmission of RAR. Nannyonjo, Abuka & Okot (2010) concur with this finding where they confirm the adoption and use of ASYCUDA has improved technical efficiency of Uganda Revenue Authority (URA). The study also indicated the use of ASYCUDA in NCS for fraud detection, risk analyses, performance analyses, checking of manifest, SGD, checking of HS cord and post clearance audit. Just as Chen et al (2000) indicated the used of data warehousing for risk analysis, forecasting, performance analysis and fraud detection in their study.

Clearance of imported goods, lodgment of single goods declaration, and processing valuation declaration as other usage of ASYCUDA in NCS as reported in this study is in agreement with the findings of Maldives Customs Service (n.d) that reported fully web based, centralized system used throughout the Customs for processing valuation declarations, import/export declarations, archives etc.

The implication of ASYCUDA utilization shows that, the ASYCUDA as a tool is a simpler technology that present itself, for processing and clearing of imported goods in the country without compromising control and it has an added advantage of revealing shady deals both at physical and documentary stages and as a results it will have a

multiplying effect of facilitation, control and enhanced revenue generation in clearance of imported goods.

4.14. The attainment of ASYCUDA Objectives

With regard to the findings of the study on whether ASYCUDA has achieved its objectives, the discussion is presented based on the three general objectives of ASYCUDA in terms of:

a). Facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedures to accelerate the clearance of goods;

b) Strengthening Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations; and

c) Strengthening customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

ai. Trade Facilitation through Normalization of forms and documents

From the analysis of the study, it could be observed that the objectives of ASYCUDA on normalization of forms and documents in clearance has been achieved through harmonization of commodity description and cording system with corresponding national laws, ensuring national trade processing are in line with world best practices by the use of e-SGD in clearance of goods and streamlining procedure and documentation by reducing the number of documents in clearance. This has been corroborated by NCS (2011) where it was stated that vast improvements have taken place since 2006, thanks to

ASYCUDA ++ and other ICT factors with time dropping from 53 day to 39 and documents needed from 13 to 9.

The findings on normalization of forms and documents in clearance through harmonization of commodity description and cording system in clearance of goods also confirmed the assertion made by Muryawan (2011) that the system tests the commodity code against the national tariff file. This file holds the necessary duty/taxes rate, including preferential master file, full or partial, are determined through the CPC master file. ASYCUDA takes into account international codes and standard developed by ISO (International Organization for Standardization), WCO (World Customs Organization) and the United Nations.

Just as the findings of this study revealed that ensuring national trade processing are in line with world best practices through the use of e-SGD. Before the introduction of automated system in customs operation across the world, trade transactions were tedious, labourious and repetitive. This is in line with UNCTAD's estimation that the average transaction involves up to 30 different parties, 40 documents, 200 data elements (30 of which are repeated at least 30 times) and the re – keying of 60 – 70% of all data at least once. This is particularly true of Africa not only due to lack of adequate infrastructure in many countries, but also due to a past characterized by poor national governance structures (Buyonge & Kireeva, 2008).

aii. Trade facilitation through Data Standardization

As regards data standardization, the study shows that a lot has been achieved as it reveals that international best practices are followed in clearance procedures in the NCS. This assertion was supported by UNCTAD in its document title ASYCUDA ++ Description of Application Software - Functional Overview who inferred that the system

uses all international standards for trade under the conventional and recommendations of such bodies as the World Customs Organizations. The ASYCUDA system has simplified as well as harmonized customs procedures as lay down by the Kyoto convention and other international instruments. It went further to add that, freight, insurance and other cost which are attributable to the calculation of the customs value are captured into the system from information entered to fields at header level where these cost need to be spread against individual items in the goods declaration, the system automatically spreads the values according to weights/volume or value. These costs may be entered into different currencies for automatic conversion by the system.

ASYCUDA has ensured smoother, faster and transparent processing of goods in the NCS. This was made possible through e – manifest. And this was in agreement with submission of Inde (2013) that in order to ensure smoother, faster and transparent processing of goods, we further develops the ASYCUDA system of operations in the NCS. Similarly, data standardization in customs clearance was achieved through data validation and control which is a two part process that ensures the integrity of the data and validation of the customs process as outlined by UNCTAD in its document title ASYCUDA ++ Description of Application Software - Functional Overview. The document further stated that, release of goods is authorized by the clearance function after verification that all controls specified in the system have taken place and that payment has been received or secured. The system has internal controls that will not allow premature release. The system prints a release note, which is used by the declarant to remove goods from the transit shed or customs area. It also writes off ultimately the line in the manifest.

aiii. Trade facilitation through Simplification of Customs Clearance Procedures

From the findings of the study, it is worthy to note that ASYCUDA has achieved its objective on the simplification of clearance procedure as a result of modifications made, innovations introduce and easy ways followed in custom clearance procedures in NCS. The achievements have provided simplified procedures, reliable and efficient environment for Customs itself as well as for the business community involved in international trade through lodging of Single Goods Declaration (SGD) by traders using Direct Trader Input (DTI). This was in line with the opinion of the respondents that simplification of clearance was achieved. Inde (2012) supported this where he reported that the essence of trade facilitation is to make the processes and procedure of international trade as simple and efficient as possible for traders, concerned public authorities and government. This has also been collaborated by UNCTAD in its document title ASYCUDA ++ description of application software - Technical overview. The procedure put in place has enhanced the operation of NCS in the area e- declaration through DTI (Abdulkareem, 2013).

The main objectives of DTI policy include ensuring the trade community uses DTI in submitting declarations to Customs offices. (Federal Republic of Nigeria, n.d). With the introduction of DTI, NCS will realize the following benefit: facilitate trade by significantly reducing the cost and time of clearance. (Federal Republic of Nigeria, n.d). The simplification of Custom procedures was further supported by the Jonathan administration in 2012 where he stated that “my government has provided the enablement for full automation of customs processes, so as to ensure the simplification of procedures, speedy documentation, and the promotion of transactional transparency”.

aiv. Trade facilitation through Computerization of Customs Clearance Procedures

As regards the computerization of Custom clearance procedure, the study shows that NCS has recorded huge success in areas of generating assessment report, payment of duties, lodging of SGD, calculation of duties and taxes electronically. In support of Customs computerization Dang (n.d) submits that, the implementation of paperless clearance is an important breakthrough in China Customs reform by which any segments in the clearance process that can undergo paperless are all electronicalised as a result, the time for release of goods has been greatly shortened and the enterprises have gained unprecedented benefits.

Collaborating this also, Nigeria Customs service (2011) submit that the use of electronic rather than paper methods has also increased and now includes:

1. Electronic payment through designated banks
2. Electronic submission to customs of two key customs documents, "form M" and Risk Assessment Report.
3. Electronic submission from outside Nigeria of cargo manifest (the e – manifest)
4. Submission by SMS to NAFDAC of information on regulated cargoes required for certification, and
5. Electronic remittance on – line in real time from duty – collecting Banks to CBN.

The computerization of the NCS operation has indeed brings substantial time saving in clearance procedure in line with the postulation of (UNTACD, 2011) that the electronic lodging of customs declarations, document processing and goods clearance brings substantial time savings and predictability to all aspect of cross – border trade and limit the room for maneuver by traders and customs officials alike to circumvent the

system. The success recorded in the computerization was further confirmed by the NCS itself in its monthly order of June - August 2013. The operation of NCS has became electronic in all ramification and has just been enhanced leading to an increase of more than 50% in the revenue profile of the service (Atte, 2013). Atte, further add that NCS has acquired the status of e- customs by which every operations of the NCS has been configured and computerized in various platform such as:

1. e- transmission of Manifest
2. e- declaration through DTI
3. e- release of cargo
4. e – payment (Makarfi, 2013)

Another success story confirming the achievement of computerization of NCS is that, all Customs area commands are linked to the Customs integrated information system, automated system for Customs data which can be accessed both at the command levels and the headquarters (Akhuctie, 2013). Abdulkareem (2013) collaborated that, with the adoption of ASYCUDA in NCS all core operation of the service are carried out online and can be accessed by other relevant regulatory agencies like CBN, NAFDAC, and SON.

From the findings of the interview data it can be deduced that the verbatim expressions of the participants indicated convergence on the attainment of ASYCUDA objectives in line with the findings of the quantitative data. The convergence can be seen in the area of ASYCUDA objectives as it pertains to normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedure to accelerate the clearance of goods. In particular, the participants reported that

ASYCUDA has achieved its objective through ensuring national trade processing in line with world best practices through the use of e-SGD; streamlining procedure and documentation by reducing the number of forms and documents in clearance process which brought normalization of forms and documents; prompt and timely e–remittance of revenue between CBN and designated banks has simplified clearance procedures; and ensuring submission of single goods declaration (SGD) using DTI which has also simplified clearance procedure. Furthermore, ASYCUDA Risk selectivity lanes of Blue, Yellow, Green and Red toward trade facilitation through profited compliance brought standardization and simplification. The participants also reported that, Cargo control through e – manifest, e-payment and e-release of cargo brought about computerization in clearance which is achieve through the use of ASYCUDA.

The implication of the findings regarding facilitating trade through normalization of forms and documents, data standardization, simplification and computerization of Customs clearance to accelerate the clearance of goods is that since guidelines governing rules and regulations regarding importations are dully followed in terms of international best practices therefore, such importation can be cleared without delay thereby attaining trade facilitation for complaint trader which would translate to clearing more import with minimum delay since free movement of goods is important for economy to flourish and trade itself is a catalyst for growth and enhanced revenue generation into the federal government coffers, and the revenue generated are usually shared among the three tiers of government i.e. federal, state and local governments which in turn can be used to execute developmental project that can have direct bearing on the community.

b.i. Strengthening Customs Operational Efficiency for Control by Providing Modern Tools

The findings on the provision of modern tools and technique for Custom operations in NCS have been achieved. This is in agreement with submission of Kadiri (2013) that the recognition given to technology as the driver of many successful projects, which led NCS to invest heavily in modern equipment (tools) and human capital development and forge ahead with its preparation to handle the destination inspection services through expansion of its existing technological base and development of new technologies. One of the advantage of technological innovation put in place by the NCS is that it have greatly mitigated revenue risk and leakages which resulted in average monthly revenue of 70 billion Naira as against N30 billion naira at a point (Julius, 2013). All this has been made possible through the provision of computers and other peripherals and networking tools which has greatly impacted the capabilities of NCS.

O'Brien (2003) supported this where he assert that, the rapid growth of the Internet, intranets, extranet and other interconnected global networks of the 1990's has drastically changed the capabilities of information system in business at the beginning of the twenty first century. And this has greatly assisted users of ASYCUDA to increase their efficiency and effectiveness resulting in an increased professionalism and competence in discharging their responsibilities without delay. Also the interview reveals that scanning machines has been provided in NCS as part of modern tools and techniques. That the introduction of cargo scanners is to complement the effort of NCS in:

1. Reducing percentage of physical examination
2. Taking full cognizance of all items loaded in containers or package

3. Security of public goods & safety
4. Reducing smuggling & increase compliance level
5. Meting initials standard in the clearance of goods
6. Building of capacity & enhance professionalism
7. Combine control with facilitation of trade
8. Decongesting the ports
9. Increasing volume of import (Ekpenyong, 2014)

Collaborating this also, the NCS (2014) annual report, reported the creation of Scanner center of excellence at Apapa port for bench marking and establishment of adequate Scanner usage capacity for trade facilitation and security as well as establishment of centralized image inspection center. Similarly, Ghana Customs has reported acquiring a scanner at the major sea port, this is used in scanning container and heavy load trucks. This procedure enables customs to undertake a comprehensive inspection of imported goods whiles ensuring security in the supply chain by detecting dangerous commodity (Gidisu, 2012). The study also reveals that, DTI an important tool has been put in place by the NCS which is one of the most versatile tools that ASYCUDA ++ system offers in the field of trade facilitation. (Federal Republic of Nigeria, n.d).Duncan et al (2009) collaborated the findings of the study were they inferred that the use of DTI and clearance based on risk assessments has Created a positive image for Customs. The ASYCUDA itself has been identifies as powerful trade tool in promoting the exchange of goods across borders (UNCTAD Technical Overview).

b.ii. Strengthening Customs Operational Efficiency and Control by Provision of Techniques

On the aspect of the provision of modern techniques which NCS has achieved as revealed by the findings of the study through scanning of goods, alert system, ASYCUDA selectivity lanes and e-payment system. This has reduced delays in clearance and provides transparency and accountability in custom operations. Ekpenyong (2014) collaborated this where he submitted that the introduction of scanning machines into the Nigeria Customs Service cargo examination process is an innovation that facilitates trade and helps in the detection of concealments, excess quantity, arms & ammunition and other hazardous goods like toxic waste and explosive.

The interview also reported ASYCUDA selectivity lane as a technique that brought efficiency and control in clearance procedure in NCS. Similarly, risk management techniques are useful means to ensure enforcement of security and trade facilitation at the same time. Chikan (2013) supported this where he submits that managing risk is therefore, critical to the operations of NCS if the objectives of the trade control and trade facilitation often seen as being mutually exclusive could be achieved.

b.iii. Strengthening Customs efficiency for control by Implementing Sound Procedures

It was clearly evident from the findings of this study that ASYCUDA has achieved its objective on the implementation of sound procedures in clearance and has no doubt enhanced the operational efficiency in clearance in NCS through the application of ASYCUDA selectivity lanes, lodgment of SGD through the use of DTI that minimized human contact, the use of data bank as a risk management tool, profiling of importers, scanning of goods, alert system on delayed or risky SGS, transmission of RAR and

online payment also serve as sound procedures in NCS clearance. The sound procedures put in place has enhanced the operation of NCS in number way such as:

1. e- transmission of Manifest
2. e- declaration through DTI
3. e- release of cargo
4. e – payment (Abdulkareem, 2013).

b.iv. Strengthening Customs Operational efficiency for control by Providing full Audit Trials and Mechanisms for Control

From the findings of this study, it is worthy to note that ASYCUDA has achieved its objective of providing full audit trials and mechanism for control in clearance through transmission of RAR online, alert on risky or delayed SGD, post clearance audit, system audit, and online payment of duties. Abdulkareem (2013) collaborated this where he reported that, the introduction of risk management and post clearance audit (PCA) in the clearance process and fast track clearance for compliant traders Authorized Economic Operators (AEO) has drastically reduced the hitherto upsurge sharp practices among maritime operators. The post clearance audit would unearth any dubious transaction no matter how long. In support of the above achievement of objective of ASYCUDA in providing full audit trials and mechanism for control were it was stated that by automating revenue collection, service providers have better audit trail since all transactions captured can be detailed by time, whom and where. This prevents revenue loss through abuses as all moves are recorded electronically.

Abdulkareem (2013) collaborated this where he submits that the introduction of self assessment and up – front e-payment in 2010 was to control serial avenues of

revenue leakages by making sure that all import duties are properly paid up – front and risk assessment report (RARs) freely utilized. This is in agreement with Gidisu's (2012) findings that, after interviewing forty (40) officials from the Customs Division (CD) with specific duties and responsibilities in automation system management at the Ghana Revenue Authority (GRA) it can be said that the automation is a powerful monitoring tool for GRA. Similarly, Greenwood et al (2008) supported this where they reported that ASYCUDA as cargo control mechanism to monitor all movements of importation, transit and exportation and ensure that all goods are dully cleared before release, and declaration processing, to capture and process data for duty and revenue collection. It is worthy to note that ASYCUDA has achieved its objective of providing full audit trials and mechanism for control in clearance by turning lapses into success and loses into profit, thereby achieving transparency and accountability.

From the above analysis it can be said that there is concurrence with the qualitative findings. This is because the verbatim expression of the interviewees identified those ways ASYCUDA achieved its objectives of strengthening Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations, similar to the ones reported from the quantitative findings which includes the Provision of Computers and other peripheral devices, alert system, ASYCUDA selectivity lane, lodgment of SGD through the use of DTI, and the introduction of risk management and post clearance audit (PCA).

Implication that can be deduced from the findings on strengthening Customs operational efficiency for control by providing modern tools and techniques,

implementing sound procedures and providing full audit trials and mechanism for controlling Customs operations is that awareness, skills, competencies and professionalism gained from ASYCUDA resulted in apt supervision and control from both the management, Customs officers and stakeholders involved in clearance process and this can be achieved through ability to detect concealed or false declared goods in order to recover lost revenue, confiscate/seized the goods and even prosecute the offenders. And that will result to control of influx of contraband, absolute prohibited items which invariably may have social and economic consequences to individuals and the nation at large.

c. With regard to ASYCUDA objective which stipulate ways in which ASYCUDA has achieved its objectives of strengthening Customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes, the findings of the interview reveals that all the participants indicated that, such objectives were achieve through provision of data or statistics reports which in real time allow for analysis and planning by the NCS and federal government of Nigeria as well through provision of reliable, efficient and effective data which helps in reconciliation with other stockholders such as Banks, (all payments relating to duties and taxes), Central Bank of Nigeria(CBN) and Bureau for statistics (on data relating to import and export in Nigeria) it was equally reported that electronic remittance online in real time from – collecting bank to CBN as collaborated by NCS (2011). This has been confirmed in NCS Annual report of 2014 which stated that compliance level to trade regulations and transparency has tremendously increased,

thereby boosting importer integrity leading to generation of more accurate trade data for national planning.

Graham & Wendy (2003) collaborated this where they reported that, statistics and reporting, to extract data for dissemination of foreign trade statistics and to generate management report for Customs efficient communication between Customs, traders, and other government agencies. In a related development Jordan embraced the technology in 1987, ten years after, the project was evaluated by UCTAD, UNDP and Custom department in August 1999 and reported that trade statistics are more complete accurate and up to date, among their findings. In addition, the participants also testified to the fact that ASYCUDA has achieved its objective of strengthening customs management and control by providing central data base platform which brought end to the era of regional servers that was characterized with data distortion during collection. Nannyo, Abuka & Okot (2010) concur that the introduction of ASYCUDA has improved technical efficiency of Ugamda Revenue Authority (URA) and that the completion of trade statistics was substantially improved benefiting the trading community as well as national authorities responsible for trade policy and economic surveillance (De Wulf & McLinder,, 2005).

In discussing the implication of strengthening Customs management and control by providing government with timely statistics on foreign trade and revenue for trade policy and decision making purposes, it's obvious to report that since government fiscal policies sometimes rely on trade and revenue statistics to give policy makers direction the implication is that statistics generated will impact greatly on government policies on either to ban or unbanned certain categories of goods from importation into the country.

In addition, rates of import duty and taxes also sometimes depend on these statistics which in turn have consequences on revenue and the economy in general and the society.

4.15 ASYCUDA Satisfaction

The finding of this study shows that the respondents who used ASYCUDA for custom operations indicated that they are satisfied with its functions. Just as Terpsiadou & Economides's (2009) study on the use of information system in Greek public financial services shows that the respondents were pleased with the system. The users of ASYCUDA in NCS are satisfied with the system in terms of its (i) accuracy in confirmation of duty, scanning of goods, (ii) ease of use in interface with banks, profiling, selecting lanes and post clearance audit (iii) format in examination of goods, generating assessment report and lodgment of SGD,(iv) timelessness in transmission of duties and taxes, RAR and interface with terminal operators and (v) content in providing information, checking of HS code and checking of manifest. Somers et al (2003) collaborated this finding where they reported that content, format and ease of use as the top three contributors of end-user computing satisfaction.

This has also been collaborated further by Terpsiadou & Economides's (2009) findings in Greek public financial services. Also Gidisu (2012) reported 75% satisfaction with performance of the automated system in revenue collection in Ghana. This is not surprising, as it was reported that an information system which meets the needs of its users will reinforce satisfaction with the system leading to information system success (Ives, Olson & Baroudi (1983) quoted Cyert & March (1963). The satisfaction level reported in the study by implication will translate into speedy clearance of goods in NCS

clearance procedure, thereby enhancing trade facilitation as well as control and revenue generation for the service.

4.16 Challenges faced by ASYCUDA in NCS

This study has shown that ASYCUDA in the NCS as it relate to trade facilitation to accelerate clearance of goods is not without some challenges, despite reasonable high response in the attainment of ASYCUDA objectives as assessed by the users. They described some of the challenges to include inadequate funding, inadequate ICT facilities, lack of skills, and connivance for corrupt practices. Atte (2013) collaborated that the challenge of funding is like a recurring decimal. Inde, (2013) collaborated this where he reported poor funding, poor gadgets and corruption. With the vastness of land and sea borders, the present state and level of equipments available to the Nigeria customs service cannot be considered adequate. They are grossly ill – equipped for the volume of business that is conducted through importation and the kind of terrain in which the service operates. In this regards, Jamuda (2012) concur that the equipment such as scanning machines, patrol van with installed radar, helicopters, patrol marine boats, fire arms are lacking etc.

Buyonge & Kireeva, (2008) confirmed this where they observed that incidentally, processing at airports, which is normally expected to be more efficient due to the higher freight charges and value of goods, is also not better as it routinely takes days to clear goods. The airports experience lack of inspection equipment like scanners. They also reported that in Kenya most of the employees of the clearing agent's organization did not have the knowledge and ability to use computers and technology efficiently. So, understandably, it was quite a challenge for most of the Clearing Agents

to comply with the requirements for exchange of electronic information with customs while learning basic IT skills. The situation is the same in Nigeria as indicated by Taiwo (2007) who reported that the project is characterized by lack of adequate and trained personnel.

The study also indicated some form of corrupt tendencies which according to WCO (2014) occurred as a result of long term collusion between a small numbers of Customs officers at the airport to facilitate the importation of illicit drugs in Australia. According to WCO, the officers used their inside knowledge to defeat surveillance and interdiction systems including information about law enforcement techniques and system vulnerabilities. WCO further stated that the officers had privileged access to databases and to the secure border environment. By working together they exploited weaknesses in the supervision system and manipulated rosters and job placements. It was against this background that the officers used their official positions and exploited friendships and other connections that they had developed in the workplace to gather information, and to cover their tracks.

Collaborating the above Buyonge & kireeva, (2008), reported that very often, Clearing Agents connive with customs officials to demand fees and other payments from importers and exporters, especially when all documentation are not in order. Monthly order, December – 2013), supported this, that some unpatriotic customs officers made it impossible for the ASYCUDA to perform as expected thereby frustrating the customs reforms which are aimed at minimal/ no physical contact at customs processing centre as duties are to be paid online. Magaji (2014) was also in agreement with this submission where he reported that the major challenge faced by the Port Harcourt command is in the

aspect of making the stakeholders do the right thing and also make them key into the service ICT innovations especially now that the service has fully taken over from the service providers.

Another challenge facing ASYCUDA system in NCS is the frequent power failure as reported in the study. Kubie's (2010) confirms that lack of adequate electricity and telecommunication facilities not only make the system failed which creates very big problem in goods declaration process but it also deprived the organization to maximize the full potential of ASYCUDA. On the aspect of falsification of document reported in this study, Duncan et al (2009) who quoted FICS (2005) provides information about attempts to underpay Customs duties and other taxes and about illegal behavior by Customs officers. In 2005, a total of 50,000 SADs (the single administrative documents upon which agents/importers and individuals pay their duties) were audited by the Post Audit Section.

The auditing resulted in 829 queries about possible misrepresentation (including incorrect tariff classification, incorrect exchange rate, incorrect valuation, and incorrect extension of values). As a result of the audits, an additional FJ$897,016 was collected in the form of customs duties, excise, and VAT. Penalties imposed amounted to FJ$244,992. However, of the penalties imposed, only around FJ$929 was collected. Gidisu (2012) reported that declarations made by a number of importers, for instance, in terms of the description, quantities or values of their consignments tendered to be questionable. Under the circumstance, it was challenging for some Compliance Officers to accept innovations proposed such as risk selectivity and consignment targeting,

designation of certain Declarants as Gold Card bearers who need not be subject to intrusive examinations, and post clearance reviews in order to facilitate trade.

The interview data indicates both convergence and divergence features with quantitative data. Some of the areas of convergence on challenges facing ASYCUDA relate to lack of adequate skilled manpower, funding, and connivance for corrupt tendencies. While, areas of divergence with the quantitative data has to do with environmental factors such as wind, dust, and natural disaster that are harmful to ICT and can cause lost of valuable data. In addition, the participant reported the cost of bandwidth as a challenge in the interview and obsolescence of the technology which has not been reported in the quantitative part of the study. The implication of the identified challenges is that the desired change in the old clearance procedure that was characterized as cumbersome, repetitive, time consuming and prone to corrupt practices will ever remain an issue for the NCS thus, the dream for facilitation of trade, control and enhanced revenue generation attainment to the fullest will remain a dream for NCS, if the identified and reported challenges are not addressed.

4.17. Measures to be taken to addressed the identified challenges

As indicated in the study, the officers and men of NCS and clearing agents having appreciated and reported some challenges of ASYCUDA, are optimistic that, all these challenges are surmountable, and they suggested ways of addressing the challenges as thus:

1. Provision of adequate funding
2. Provision of adequate ICT facilities
3. Provision for seminars and workshops on the use of ASYCUDA

4. Attitudinal change among officers and stakeholders

It is hopeful that if these suggestions are taken seriously and implemented could lead to efficient and effective function of the ASYCUDA system in NCS. On the issue of inadequate funding of the ASYCUDA project, there has been intervention from international agencies such as UNDP, World Bank, IMF among others. For example UNTACD (2011) reported since in the 1980s, most UNCTAD technical projects, including ASYCUDA project, benefited substantially from UNDP funding out of the national or regional IPFs. As the availability of funds decreased, UNCTAD looked increasingly for contributions from other international donor agencies. Thus there is now a growing number of projects which are either partially or totally funded from the World Bank, the international monetary fund and Regional Development Banks. UNDP still remains involved in many cost sharing arrangements.

Adding to the discussion on the provision of adequate ICT facilities effort made in addressing the infrastructural challenges Buyonge & Kireeva (2008) inferred that the new trade facilitation initiatives in Africa address both physical infrastructure (roads, ports, telephone connectivity, etc.) and administrative hurdles. UNCTAD (2010) collaborated Buyonge & Kireeva submission that, it will provide technical solutions for implementing the interconnectivity of the Customs operation visible electronically and be part of a Global Network Customs (GNC) which is an inclusive interconnected customs to customs information sharing system which support and improve the functioning of the international trading system, national economic performance and the protection of society and fiscal management (UNCTAD, 2010).

Regarding the need for seminars and workshops on the use of ASYCUDA to build the capacity of users Kubie (2010) was also in agreement with this where he reported that in Ethiopian Revenue and Customs Authority (ERCA) understandably it was quite a challenge for most of the clearing agents to comply with the requirements for exchange of electronic information with Customs while learning basic IT skills. An important lesson that should be learned is to invest in developing the IT skills of the staff of companies if customs technological developments are to lead to improved levels of trade facilitation.

On the issue of attitudinal change for corrupt practices as suggested by users of ASYCUDA, Dhungana (20105) asserts that the change only in technology cannot be accepted as significant change in reality, there should be change in structure with proper attribution of power, as well as clearly defined communication mechanism and efficient reporting scheme equally functional change need to define working procedure including the responsibility and role of each functional element. Dhungana further, stated that the major transition required to successful change management is the behavioral change that demands change in culture, value, attitude, willingness and interpersonal relationship.

The ASYCUDA system in NCS despite the challenges has gone a long way in providing the efficiency and effectiveness of clearance of goods this include the speed of activities, reduction of service delivery cost, decreased in human involvement and shortening of work processes. The adoption of ASYCUDA in customs service delivery has yielded these benefits at least partly to users, especially with dramatic decrease in the time taken for the service delivery has been achieved due to the decreased in human involvement and shortening of work flow process (steps) (Kubie, 2010). Finally, with

regard to the ways in which the identified challenges could be overcome, the interview data also indicates similar characteristics with that of the quantitative findings. Some of which focused on attitudinal change among officers and stakeholders, provision of adequate funding, provision of adequate ICT facilities, training of staff through seminars and workshops on the use of ASYCUDA and provision of alternate power supply among others. While areas of divergence with quantitative findings includes, provision of storage facilities as back up to avoid lost of data, the need to consider the use of fiber optic which is cheaper and faster than bandwidth and provision of alternative power supply like inverters to serve as back up in the event of power failure.

References

Abdulkareem, B. (2013). Effective leadership: The giant strides of Comptroller General of Customs Abdullahi Dikko Inde. *Nigeria Customs Service Monthly Order*, June August, 2013: 14 - 17

Akhuctie, O. A. (2013). Developing statistics in Nigeria Customs Service (NCS). *Nigeria Customs Service Monthly Order*, February, 2013: 25 - 26

Atte, J. (2013). Voices of the management; how we fared. *Nigeria Customs Service Monthly Order, June - August*, 2013: 9

Buyong, C. and Kireeva, I. (2008). Trade facilitation in Africa: Challenges and possible solution. *World Customs Journal*, 2(1): 41 - 54

Chen, L., Solimanb, K. S., Maoc, E., Frolic, M. N. (2000). Measuring user satisfaction with data warehouses: An explanatory study. *Information and Management,* 37: 103 - 110

Chikan, E. D. (2013). Risk management as a tool for trade control and facilitation in the Nigeria Customs Service (NCS). *Monthly Order*, April, 2013: 32 - 33

Dang, Y. (n.d) Customs General Administration of China, China achieved greater facilitation through improved Customs procedure. Retrieved from: http://www.apeccp.org.tw/doc/APEC-OECD/2002-4/004.pdf

Dhungana, C. M. (2010). Automation in Customs: Status and prospect in national IT arena: In Dahal, S. P. et al (eds.). *Customs 58th international Customs day special issue*. Nepal: Department of Customs. Pp.1 – 7

Duncan, R.; Raikua, B. and Achary, P. (eds.) (2009) Feasibility study on Sub-Regional approaches to targeted Customs Services. Retrieved 12th January, 2015

Ekpenyong, P.E. (2014). Operational roles and responsibilities in a scanning facility. *Monthly Order*. January - March, 2014: 10 -13

Federal Republic of Nigeria (n.d). Nigeria Customs Service Destination Inspection Project Direct Trader Input DTI policy. Retrieved from: https://www.customs.gov.ng/downloads/DTI_Policy_Oct_2007.pdf

Gidisu, T. E. (2012). Automation system procedure of the Ghana Revenue Authority on the effectiveness of revenue collection (Unpublished master's thesis) Kwame Nkrumah University of Science and Technology

Graham, S. and Wendy, L. P. (2003). Harmonization of international taxation: The case of inter-listed stocks. *Management Finance*, 29 (1), 779 – 799

Greenwood, C. L., Jr. Thapan, A., Ahmed, J., Kertzman, D., Kelly, B. B. (2008). Enhancing revenue collection and strengthening the criminal prosecution of tax evasion cases.

Inde, A. D. (2012). The Address delivered during the single window stakeholders international conference held at the Customs Command and Staff College Gwagwalada, on the 23 April, 2012. *Monthly Order*, September 2012, 10 -11

Inde, A. D. (2013a). Looking backward with pride, looking forward with optimism. *Monthly Orde*r, June - August 2013, 7 - 8

Inde, A. D. (2013b). Border security, Arms proliferation and terrorism in Nigeria: Challenges and containment measures. Lecture delivered at the State Servicers Academy Lagos on 30th September, 2013. *Monthly Order*, October - December 2013: 18- 24

Ives, B., Margrethe, M. and Baroudi, J. J. (1983). The measurement of user information satisfaction. *Communication of the ACM,* 28 (10), 785 - 793

Jonathan, G. E. (2012). The keynote address delivered at the 119th/120th Sessions of the Customs Cooperation Council/World Customs Organization Brussels, Belgium. 28th - 30th June 2012. *Monthly Order, September,* 2012, 5 - 8

Julius, N. (2013). Dikko dwarfs his predecessors. *Monthly Order*, June - August, 2013: 10

Jamuda, K. (2012). Stakeholder's obligation and expectation in a modern Customs environment. *Monthly Order*, December, 2012: 35 -38

Kadiri, A. O. (2013). A new era of Destination Inspection in Nigeria as Nigeria Customs Service (NCS) takes over from service providers. *Monthly Order, October - December*, 2013, 5 - 9

Kubie, K. (2010). Efficiency of electronic service delivery: A case study in Automated Systems for Customs Data (ASYCUDA) IN: Ethiopian Revenue and Customs Authority (ERCA) (Unpublished master's thesis). Addis Ababa University.

Magaji, M. (2014). Nigeria Customs Service, Area II Command, Onne Port, Port Harcourt-Special Report. *Monthly Order*, January - March, 2014: 14 - 20

Makarfi, G. B. (2013). Dikko is the best thing that ever happen to the Customs. *Monthly Order*, June - August, 2013: 13

Maldives Customs Service (n.d). Customs modernization. Retrieved from http://www.wcoomd.org/en/topics/capacity-building/resources/cb_committee_resultsdocuments/~/media/77DCB0B469E44BF08056 4E3D21663EB3.ashx

Marcolin, B. L., Compeau, D., Munro, M. C., & Huff, S. L. (2001). Assessing user competence conceptualization and measurement. *Information Systems Researc*h, 11(1), 37 - 60

Mohamed, N., Hussin, H. &Hussein, R. (2009) Measuring users' satisfaction with Maleysia's electronic government systems. *Electronic of E-Government,* 7 (3), 283 – 294.

Muryawan, M. (2011). *ASYCUDA: Introduction and eurotrace extraction module*. Presented at a regional seminar on IMTS organized by United Nations Conference on Trade and Development (UNCTAD), Addis Ababa, November, 2011.

Nannyonjo, J., Abuka, C. A. & Okot, N. (2010) Customs automation initiatives and their impacts on efficiency and production: Case study on Uganda – A final report

Ngulube, P. (2003). Preservation and access to public Records and Archives in South Africa. (Unpublished PhD thesis). University of Natal, Pietermartzburg.

Nigeria Customs service (2011). Customs reforms and modernization in Nigeria towards comprehensive Vision p. 13

O'Brien, J. A. (2003). *Introduction to information systems: Essentials for the e-business enterprise* (11th ed.). Boston: McGraw-Hill

Taiwo, R. O. (2007). "An overview of Nigeria Destination Scheme: Practical experience of implementation at Apapa Area 1 Command". NCS Quarterly Order No 4 – 6 April – June: 2 – 13

Terpsiadou, M. H. and Economides, A. A. (2009) The Use of information systems in the Greek public financial services: the case of TAXIS. *Government Information Quarterly*, 26

UNCTAD (2010). ASYCUDA programme, division on technology and logistics. ASYCUDA Newsletter UNCTAD/WEB/DTL/TLB/2011/2. Retrieved from www.unctad.org

UNTACD (2011). Trust fund for trade facilitation negotiations technical note No. 3 use of Customs automation systems January, 2011

UNCTD (n.d). ASYCUDA ++ description of application software (Functional Overview). Retrieved 23rd March, 2012 from: https://www.asycuda.org/pdf%20docs/sffunct.pdf

UNCTD (n.d). ASYCUDA ++ Description of application software (Technical Overview). Retrieved 23rd March, 2012 from https://www.asycuda.org/pdf%20docs/sw+tech.pdf

World Customs Organization (WCO) (2014). Snapshot of members best practices: Case study - Australian Customs Border Protection. *WCO Integrity Newsletter*, Mach 2014: 4 - 11

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents and discusses summary of the study, major findings, conclusion and recommendations based on the findings as revealed by the study, and also suggests areas for further studies.

5.2. Summary of the Study

The main objectives was to investigate the perception of users of ASYCUDA on the attainment of its objectives in terms of facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedures; strengthening Customs operational efficiency for control by providing modern tools and techniques; implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations, and strengthening customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes. To achieve success in this direction, the research was divided into five chapters.

Chapter One dealt with the background to the study and highlights on the impact of ICTs on the development of information systems such as ASYCUDA. It also discussed the modernization and reform measures in NCS leading to the adoption of the ASYCUDA system. Problems that informed this study were also presented in this chapter. Other issues discussed that guided the study include the research questions, research objectives, and the research hypothesis. Also discussed in this section are the

significance of the study, scope and limitation, the justification for the study and definition of some key concepts that were frequently referred to throughout the study.

Chapter Two reviewed relevant and related literature to the subject of this research. The literature review begins with discussion on the theories and concepts on IS evaluation. The theoretical framework that focused on IS success and goal-based were reviewed to give this research work a base. The review captured the historical development aspect of the NCS. It also analyzed the perspective of writers and commentators on the development of ASYCUDA as information management system, utilization of information system, evaluation/assessment of information system in modern organization, information user satisfaction and the challenges facing ASYCUDA in the attainment of its objectives in NCS. The review concluded that, none of the reviewed literature talked about ASYCUDA in NCS as an information system and its evaluation to determine if the objectives of the system are fulfilled or not as perceived by users, which explains and justifies the present study.

Chapter Three outlined the methodological approach adopted in this study. Quantitative research methodology was used. The study employed questionnaire and interview as a tool to collect data from the respondents. Respondents were drawn from the top level management of the NCS, officers and men as well as clearing agents. To ensure appreciable responses from the research subjects, the questionnaire were personally administered and, where necessary, research assistants were employed to help in the administration of the questionnaires. On the other hand, the researcher conducted the interview with the selected management staff.

In Chapter Four the data collected were presented, analyzed and discussed. A total of 534 set of questionnaires was send to officers and men (working in ASYCUDA) and clearing agents. The Statistical Package for the Social Sciences (SPSS) was used for the analysis of the data generated from the questionnaire. On the other hand, data collected from the interview with management of the NCS was transcribe, coded and analyzed. The chapter also reported the analyzed data collected through the interview. The analysis was done using narrative based qualitative data analysis. In addition, the interview data was triangulated with the quantitative findings in order to explore more on the area of investigation. Chapter Five of the study presents the summary and conclusion of the study as well as recommendations on how to improve the ASYCUDA database system in NCS as suggested by the respondents of the study.

5.3 Summary of Major Findings of the Study

The major summary of the study are as follows:

1. The study found that offices and men as well as clearing agents used ASYCUDA for generating, organizing, storing and preserving information in the course of discharging their routine activities.
2. The study found that users of ASYCUDA for Custom operations are satisfied with the functions of ASYCUDA because it has provided strong support for automation especially in areas of accuracy, ease of use, format, content and the reduction of clearance time considerably.
3. The study has found out that ASYCUDA has achieved its objectives in terms of facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance

procedures to accelerate the clearance of goods. Another achievement is on the strengthening of custom's operational efficiency for control through the provision of modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations. It has also brought about the strengthening of customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

4. The study also observed that although progress was made in automating Customs operations through ASYCUDA, there exist some challenges which can deprive the organization to maximize the full potentials of ASYCUDA.
5. The study also established that there are tendencies of connivance between officers and men and clearing agents to bypass ASYCUDA system to defraud the agency.
6. It was also discovered that ASYCUDA system was not made available in some NCS formation in Nigeria.

5.4. Conclusion

It is clear from the findings and discussions of the study that, ASYCUDA has not only achieved the objectives for which it was initiated but it has also improved the essence of the Custom Service as it has stimulated efficiency, effectiveness and satisfaction of its users in their service delivery and heightened the overall effective control mechanism of the NCS. The study also identified some challenges affecting the organization in maximizing full potential of ASYCUDA. The observed challenges in the study, if properly addressed, will further improve the achievement level of ASYCUDA.

This is so because enormous investment has gone into computerization of NCS ASYCUDA as an information system to bring about simplification, standardization of international trade and strengthening of customs operational efficiency and control. Since Information Communication Technologies are moving at accelerated growth, ASYCUDA has to rise to the occasion. The research concluded that ASYCUDA was intended as a tool for reconciliation of interests between trade facilitation on the part of various stakeholders and revenue generation and control on the part of the NCS.

The study developed and presented conceptual framework for assessing ASYCUDA objectives in the NCS. The framework and the instrument can be used to assess ASYCUDA objectives from a holistic perspective. Finally, the study concluded with the need for the NCS to implement ASYCUDA in those commands that are yet to operate ASYCUDA as revealed by the study. Implementing ASYCUDA in such commands will further strengthen the NCS operational efficiency and control.

5.5. Recommendations

From the findings of this study, the following recommendations are hereby advanced based on the findings of the study:

1. The users of ASYCUDA reported that they used the system to generate information which assists them in the discharge of their routine activities in the area of clearance of goods. It is, therefore, recommended that the use level should be maintained.

2. It recommended that, the automation of the NCS in terms of accuracy, ease of use, format, content and timelessness of the system should be maintained since users are satisfied with the system.
3. Majority of the respondents reported higher response rate on the attainment of ASYCUDA objectives, while the minority indicates disagreement with the achievement of ASYCUDA. The minority report is too good to be ignored; as such it is recommended that their position be taken into consideration. This will further improve on the achievement level of ASYCUDA objectives.
4. It is recommended that the NCS management should, as matter of urgency, provide adequate funding to address issues of inadequate personnel, inadequate ICT facilities, alternative source of electricity power supply etc. Both NCS personnel and clearing agents should be sensitized on the issue of connivance for corrupt practices,
5. The research also recommends punishment for erring staff, while registered agents should be black listed and be made to face the law. This will serve as deterrent to others.
6. It is also recommended that the NCS should expedite action to deploy ASYCUDA to those commands that do not have ASYCUDA after 19 years of its existence as revealed by the study.

Suggestions for Further Studies

The following areas for further research are hereby suggested especially looking at the wide coverage of ASYCUDA**.** The research suggests **t**hat a study be conducted on the:

1. Assessment of Automated System for Customs Data (ASYCUDA) as Risk Management Tool in Nigeria Custom Service

2. An Assessment of Automated System for Customs Data (ASYCUDA) impact on Trade facilitation in Nigeria Customs Service (NCS)

3. Customs Automation and Trade Facilitation: The Experience Nigeria Customs Service (NCS)

Bibliography

Abdulkareem, B. (2013). Effective leadership: The giant strides of comptroller general of Customs Abdullahi Dikko Inde. *Nigeria Customs Service Monthly Order*, June - August, 2013: 14 - 17

Adeogun, M. (2005). Resource sharing services and constraints in selected seventh-day adventists university libraries in Sub-Saharan Africa. *Information Development*, 21 (2): 152 - 160

Adeoti-Adekeye, W. B. (1997). The importance of management of information systems. *Library Review*, 46 (5), 318 - 327

Agbolluaje, S. A. (2004). Nigeria free zones, Customs service and micro service Development. *Paper presented at the 2004 Comptroller-General Conference, Calabar*, 14th December, 2004

Ajayi, I. A., & Omirin, Fadekemi F. (2007). The use of management information Systems (MIS) in decision making in the South-West Nigerian Universities, *Educational Research and Review*, 2 (5), 109-116.

Ajayi, S. A. (1988). The true Custom man: An outline history of Nigeria Customs and Excise Department 1889 – 1984. Lagos: Joe Tolala and Associate.

Akhuctie, O. A. (2013). Developing statistics in Nigeria Customs Service (NCS). *Nigeria Customs Service Monthly Order*, February, 2013, 25 - 26

Al-adaileh, R. M. (2008) Essentials of management information systems. Yazeed Publications Karak –Jodan

Al-adaileh, R. M. (2009) An evaluation of information systems success: User perspective – the case of Jordan telecom group. *European Journal of Scientific Research*, 37 (2), 226- 239

Al-adaileh, R. M. (2009) An evaluation of information systems success: User perspective – the case of Jordan Telecom Group. *European Journal of Scientific Research*, 37 (2), 226- 239

Alkahtaini, M. M. (1998) Computer-based information systems and their use by managers in Saudi Arabia and the UK. (Unpublished PhD thesis). Loughborough University

Allegbeleye, G. B. (1990) Studies on user information needs: A critic and suggestions. *Nigerian Library and Information Science Review,* 8(1), P8

Almutairi, H., & Subramanian, G. H. (2005). An empirical application of the DeLone and McLean model in the Kuwaiti private sector. *The Journal of Computer Information Systems*, *45*(3), 113.

Amdii, I.E. S. (ed.) (1991). *100 years of Nigeria Custom and Excise 1891 – 1991*. Zaria: Ahmadu Bello University Press.

Ango, S. O. G. (1998). *The role of Nigeria Customs Service in the realization of vision 2010.* Ibadan: Spectrum Books

ASYCUDA Information Sheet – AW-IS/BG

Atte, J. (2013). Voices of the management; How we fared. *Nigeria Customs Service Monthly Order, June - August*, 2013: 9

Bailey, J. E. & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. *Management Science*, 29 (5), 530 - 545

Barki, H., Titah, R. & Boffo, C. (2007). Information system use-related activity: An expanded behavioral conceptualization of information system use. *Information Systems Research,* 18 (2), 173 - 192

Baroundi, J. J., Olson, M. H. & Ives, B. (1986). An empirical study of the impact of user involvement on system usage and information satisfaction. *Communication of the ACM*, 29 (3), 232 - 238

Bashar, Y. U. (2011). ASYCUDA and new clearance procedure (import, export, transit and transshipment*). Being a Lecture Delivered at Customs Training College, Ikeja-Lagos for CIU 2011 Training Programme,* 14 - 28 March, 2011.

Beale, I. (1996). Why information systems fail: A case study. *Internal Auditor*, *53*(4), 12-14.

Bhattacherjee, A. (2001). Understanding information system continuance: An expectation-confirmation model, *MIS Quarterly,* 25 (3), 351 – 370

Booze, R, Allen, J, & Hamilton, M. E. (2007). Customs automation in Sub Saharan Africa.

Bless, C. and Higson-Smith, C. (1995). *Fundamentals of social research methods* (2nd ed.). Cape Town: Juta

Brown, A. (2005) IS evaluation in practice. *Electronic Journal of Information Systems Evaluation.* 8 (3), 169 -178

Brynjolfsson, E. & Mendelson, H. (1993) Information systems and the organization of modern enterprise. *Journal of Organizational Computing*. December 1993. Retrieved from http://ccs.mit.edu/papers/CCSWP200/

Burton-Jones, A. & Grange, C. (2008). Using information systems effectively: A representational perspective. *Proceedings of JAIS Theory Development Workshop. Sprouts: Working Papers on Information System*, 8 (21). Retrieved from: http://sprouts.aisnet.org/8-21

Buyong, C. & Kireeva, I. (2008). Trade facilitation in Africa: Challenges and possible solution. *World Customs Journal*, 2(1), 41 - 54

Cantens, T., Raballand, G. & Bilangna, S. (2011) Reforming Customs by measuring performance: A Cameroon case study. *World Customs Journal,* 4(2): 55 - 74

Castro, J., Kolp, M. & Mylopoules, J. (2002). Towards requirements – driven information systems engineering: The tropos project. *Information Systems*, 27, 365 – 389

Chen, L., Solimanb, K. S., Maoc, E., Frolic, M. N. (2000). Measuring user satisfaction with data warehouses: An explanatory study. *Information and Management,* 37: 103 - 110

Chen, S., Osman, N. M., Nunes, M. B. & Peng, G. C. (2011). Information system evaluation methodologies. In: *Proceedings of the IADIS International Workshop on Information Systems Research Trends. Approaches and Methodologies (ISRTAM)*, 20th July, 2011, Rome, Italy

Chibbabbuka, S. (2007). The interface between ICT and service delivery in public sector organizations: An analysis of the Customs Service in Zambia (Unpublished master's thesis). International development department, school of public policy, university of Birmingham.

Chikan, E. D. (2013). Risk management as a tool for trade control and facilitation in the Nigeria Customs Service (NCS). *Monthly Order,* April, 2013, 32 - 33

Chung, S. H. & Snyder, C. A. (2000). ERP adoption: A technological evolution approach. *International Journal of Agile Management Systems*, 2(1), 24 – 32

Cohen, L. & Manion, L. (1992). *Research method in education*, (3rd ed.). London: Rutledge

Creswell, J. W. (2008). *Educational research: planning, conducting, and evaluating Quantitative and qualitative research* (3rd ed.). New Jersey: Pearson

Cronholm, S. & Goldkuhl, G. (2003). Strategies for information systems evaluation – six generic types. *Electronic Journal of Information Systems Evaluation*. 8 (2), 65 -74

Crossman, A. (n.d). In: Babbie, E. (2001). The practice of social research (9th ed.). Belmont, CA: Wadsworth Thomson.

Customs and Excise Management Act (CEMA) No. 55 of 1958.

Cyert, R. and March, J. (1963). *A behavioural theory of the firm*. Englewood Cliffs, New Jesse: Printice-Hall.

Dang, Y. (n.d) .Customs general administration of China, China achieved greater facilitation through improved Customs procedure. Retrieved from: http://www.apeccp.org.tw/doc/APEC-OECD/2002-4/004.pdf

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13, 319 - 339

De Wulf, L. (2005) Trade net in Ghana best practice in the use of information technology. *Background paper for the World Development Report*

Delone, W. H. & McLean, E. R. (1992). Information systems Success: The quest for the dependent variable. *Information Systems Research*, 3 (1), 60 – 95

DeLone, W. H., & McLean, E. R. (2002). Information systems success revisited. In: *System Sciences, 2002. HICSS. Proceedings of the 35th Annual Hawaii International Conference,* IEEE (pp. 2966-2976).

DeLone, W. H. & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten year update. *Management Information Systems*, 19 (4), 9 – 30

DeSeanctis, G. & Poole, M. S. (2003). Capturing the complexity in advanced technology user: adaptive structuration theory. *Organization Science*, 5 (2), 121 - 147

Dhungana, C. M. (2010). Automation in Customs: Status and prospect in national IT arena: In Dahal, S. P. et al (eds.). *Customs 58th International Customs day special issue*. Nepal: Department of Customs. pp.1 - 7

Diniz, E., Porto, R. & Adachi, T. (2005) Internet banking in Brazil: Evaluation of functionality, reliability and usability. *Electronic Journal of Information Systems Evaluation.* 8 (12), 41 - 50

Doll, W. J. & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly,* 12 (2), 259 - 274

Doyle, B. C. (1975). *Information retrieval and processing*. California: A Wiley-Becker Hayes Series.

Droper, C. (2004) Reforming Customs Administration: The Unlikely Case of Bangladesh? World Bank Report

Duncan, R.; Raikua, B. & Achary, P. (eds.) (2009). Feasibility study on sub-regional approaches to targeted Customs Services.

Ekpenyong, P.E. (2014). Operational roles and responsibilities in a scanning facility. *Monthly Order.* January - March, 2014, 10 -13

Eveleens, J. L. & Verhoef, C. (2009). The rise and fall of the chaos report figures, *IEEE Software*, 27(1), 30 - 36

Federal Republic of Nigeria (n.d). Nigeria Customs service destination inspection project direct trader input DTI policy. Retrieved: https://www.customs.gov.ng/downloads/DTI_Policy_Oct_2007.pdf

Ferguson, S., Hider, P. & Kelly, T. (2005). Information systems evaluation and the search for success: Lessons for LIS research. *Australian Library Journal.* Retrieved from:http://www.alia.org.au/publising/ali/54.3/full.text/ferguson.hilder.kelly.html

Franklin,I., Pain, D., Green, E., & Owen, J. (1992). Job design within a human centre (system) design framework. *Behaviour and Information Technology*, 11(3), 141 - 150

Garrity, E. J. & Sanders, G. L. (1998). *Information system success measurement*. London: IDEA Group Publishing.

Gatian, A. W. (1994). Is user satisfaction a valid measure of system effectiveness? *Information Management*, 26 (3), 119 - 131

Gebeyehu, M. (2012?) Customs automation and trade facilitation (in the case of Ethiopian Customs). Retrieved from: www.uneca.org/codi/codt4/ICT/Day2.../MekonnenGebeyehu.ppt

Gidisu, T. E. (2012). Automation System Procedure of the Ghana Revenue Authority on the effectiveness of revenue collection. (Unpublished master's thesis). Kwame Nkrumah University of Science and Technology,

Graham, S. &. Wendy, L. P. (2003). Harmonization of international taxation: The case of inter-listed stocks. *Management Finance*, 29 (1), 779 – 799

Greenwood, C. L., Jr. Thapan, A., Ahmed, J., Kertzman, D., & Kelly, B. B. (2008). Enhancing revenue collection and strengthening the criminal prosecution of tax evasion cases.

Griffiths, J., Johnson, F. & Hartliey, R. (2007). User satisfaction as a measure of system performance. *Journal of Librarianship and Science*, 39 (3), 142 - 152

Gwardzinska, E. (2012). The standardisation of Customs services in the European Union. *World Custom Journal*, 6 (1), 93 - 100

Harter, S. P. & Hert, C. A. (1997). Evaluation of information retrieval systems: Approaches, issues, and methods. *Annual Review of Information Science and Technology (ARIST),* 32, 3 -94

Heidarkhani, A., khomami, A. A., Jahanbazi, Q. & Alipoor, H. (2013). The role of management information systems (MIS) in decision-making and problems of its implementation universal. *Journal of Management and Social Sciences*, 3 (3), 78-89

Hildreth, C. R. (2001). Accounting for users' inflated assessments of on-line catalogue search performance and usefulness: an experimental study. *Information research*, *6*(2), 6-2.

Hirschheim, R. & Smithson, S. (1988). A critical analysis of information systems evaluation. In: Bjorn-Anderson, N. & Davis, G. G., (eds.). *Information systems assessment: Issues and challenges*. Amsterdam: Elsevier, pp. 17 - 37

Hsu, F. M., Lin, Y. T., Fang, C. T., & Chiu, C. M. (2012). A framework for users' satisfaction of information systems in e-government. *Proceedings of the Pacific Asia Conference on Information System (PACIS 2012).paper 111.* Retrieved from *http://aisel.aisnet.org/pacis2012/111*

Ikhilae, M. F. (2001). *The birth of Nigeria Custom Service*. Lagos: The Link Ultimate Ventures.

Inde, A. D. (2011). Nigeria Customs Service: Performance scorecard August 2009 to August 2011

Inde, A. D. (2012). The address delivered during the single window stakeholder's international conference held at the Customs Command and Staff College Gwagwalada, on the 23 April, 2012. *Monthly Order*, September 2012, 10 -11

Inde, A. D. (2013). Border security, Arms proliferation and terrorism in Nigeria: Challenges and containment measures. Lecture delivered at the State Servicers Academy Lagos on 30th September, 2013. *Monthly Order*, October - December 2013, 18 - 24

Inde, A. D. (2013). Looking backward with pride, looking forward with optimism. *Monthly Order,* June - August 2013, 7 - 8

Inmon,W. H., Welch, J. D. & Glassey, K. L. (1997). *Managing the data warehouse*. Wiley: New York.

Irani, Z. (2002) Information systems evaluation: Navigating through the problem domain. *Information Management*, 40 (1), 11 - 24

Isaac, N. N. & Lilian, L. (2010) Automation and Customs Tax Administration: Empirical evidence from Uganda. *African Journal of Business Management*, 4 (11), 2241 – 2246

Ives, B., Margrethe, M. and Baroudi, J. J. (1983). The measurement of user information satisfaction. *Communication of the ACM*, 26 (10), 785 - 793

Jamodu, K. (2012). Stakeholder's obligation and expectation in a modern Customs environment. *Monthly Order*, December, 2012: 35 -38

Jatau, M. D. (2001). *Combating smuggling: the Nigeria Customs service experience*. Lectured delivered at Nigeria Police Academy, Wudil – Kano on 29th June 2001

Jonathan, G. E. (2012). *The keynote address delivered at the 119th/120th Sessions of the Customs Cooperation Council/World Customs Organization Brussels*, Belgium. 28th - 30th June 2012. *Monthly Order,* September*,* 2012, 5 - 8

Julius, N. (2013). Dikko dwarfs his predecessors. *Monthly Order*, June - August, 2013, 10

Kadiri, A. O. (2013). A New era of Destination Inspection in Nigeria as Nigeria Customs Service (NCS) takes over from service providers. *Monthly Order,* October - December, 2013, 5 - 9

Kim, S. S. & Malhotra, N. K. (2005). A longitudinal model of continued IS use: An investigative view of four mechanism underlying postadoption phenomena. *Management Science,* 51(5): 741 – 755

Kiplangat, J., Kwake, A. & Kariuki, S. M. (2005). Information and Communication Technologies (ICT) adoption by Small and Medium Scale Enterprise (SME) tourism stakeholders in the Durbin region, South Africa. *African Journal of Library, Archives & Information Science,* 15 (2), 133 – 140

Kubie, K. (2010). Efficiency of electronic service delivery: A case study in Automated Systems For Customs Data (ASYCUDA) in Ethiopian Revenue and Customs Authority (ERCA) (Unpublished master's thesis). Addis Ababa University.

Kumar, R. (1999). *Research methodology: A Step-by-step guide for beginners*. London: Sage Publishers

Lagsten, J. & Goldkuhl, G. (2008) Interpretative IS evaluation: Results and uses. *Electronic Journal of Information Systems Evaluation.* 11 (2), 97 - 108

Laudon, K. & Loudon, J. (2006). *Management information systems: Managing the digital firms* (9th ed.). Prentice Hall

Locke, Silverman & Spirduso (2008). *Reading and undertaking research*. Thousand Oaks, CA: Sage

Luckey, E. A. (2005). *Nigeria Custom Service reform: The new challenges for stakeholders*. Being paper presented on the Nigeria International Ports Fair 2005 Roundtable. Organized by Marine Business International at Lagos Sheraton Hotel and Tower, Ikeja on Friday 18th November 2005

Lyon, S. (1998). Getting from here to there. *ASYCUDA Newsletter* no. 3 November

Mabera, S. U. (2003). Veterinary science collection evaluation: The case of Usmanu Danfodiyo University, Sokoto. *Sokoto Journal of Veterinary Sciences,* 5 (1), 25 - 29

Mackenzie, G. A. (1990). Performance measurement. In: Mauriec. L. B. ed. *Academic library managemen*t. London: The Library Association; 196 - 205

Magaji, M. (2014). Nigeria Customs Service, Area II Command, Onne Port, Port Harcourt-Special report. *Monthly Order*, January - March, 2014, 14 - 20

Maidabino, A. A. (2011). Assessing collection security management in Nigerian University libraries (Unpublished PhD thesis).

Makarfi, G. B. (2013). Dikko is the best thing that ever happen to the Customs. *Monthly Order*, June - August, 2013, 13

Maldives Customs Service (n.d). Customs modernization. Retrieved from: http://www.wcoomd.org/en/topics/capacity-building/resources/cb_committee_resultsdocuments/~/media/77DCB0B469E44BF08056 4E3D21663EB3.ashx

Malmgreen, C. (2005). Validating research instrument NNSDO National Nursing Staff Development Organization (NNSDO), National office, 7794 Grow drive, Pensacola, FL 32514 p: 800.489.1995/850.474.0995~f: 850.484.8762 Retrieved from: www.nnsdo.org.

Marcolin, B. L., Compeau, D., Munro, M. C., & Huff, S. L. (2001). Assessing user competence conceptualization and measurement. information systems research, 11(1), 37 - 60

Markus, M. l. & Keil, M. (1994). If we built it, they will come: Designing information systems that people want to use. *Slone Management Review*, 35(4), 11 - 25

Masrek, M. N. (2009). determinants of strategic utilization of information systems: A conceptual framework. *Journal of Software,* 4(6), 591 -598

McAulay, L., Keval, N. & Doherty, N. (2001*). The stakeholders dimension in information systems evaluation.* Oxford: MCIL

Metrailler, A. & Estier, T. (2012). EVOLIS: A framework for evaluating evolution of information systems. Retrieved from: www.aim2012.bem.edu/papers/s74-1pdf

Modupe, A., Oladele, A. M., Akanmu, A. W. & Oluremi, O. Y. (2010). Adoption of Management Information Systems (MIS) in LAUTECH Teaching Hospital Library: The effects and prospects of library service delivery. *Ozean Journal of Social Science*, 3 (1), 63 -72

Mohamed, N., Hussin, H. & Hussein, R. (2009). Measuring users' satisfaction with Maleysia's electronic government systems. *Electronic of E-Government,* 7 (3), 283 – 294.

Mohmood, M. A. (2000) Variables affecting information technology end-user satisfaction: A meta-analysis of the empirical literature. *International Journal of Human-computer Studies,* 52, 751 - 771

Molla, A. & Licker, P. S. (2001). E-commerce systems success: An attempt to extend and respecify the DeLon and MacLean model of IS success. *Journal of Electronic Commerce Research,* 2 (4), 131 - 141

Morse, E. L. (2002) Evaluation methodologies for information management systems. *D. Lib Magazine,* 8(9). Retrieved from http://www.dlib.org/dlib/september02/more/09morse.htm

Murdick, R. G., Ross, J. E. & Claggett, J. R. (2006). *Information Systems for Modern Organization*. (3rd ed.). New Delhi: Prentice-Hall

Muryawan, M. (2011). *ASYCUDA: Introduction and eurotrace extraction module*. Presented at a regional seminar on IMTS organized by United Nations Conference on Trade and Development (UNCTAD), Addis Ababa, November, 2011.

Mustapha, A. A. (2002). *Integrity and optimal performance in the Nigeria Custom Service. Address delivered at the opening ceremony of the 2002 Comptroller General* – Annual Conference. Held at Ibadan, Monday 28th October – 1st November 2002

Myers, M. D. (1994). Dialectical hermeneutics: A theoretical framework for the implantation of information system. *Information System Journal*, 5, 51 -70

Nannyonjo, J., Abuka, C. A. & Okot, N. (2010) Customs automation initiatives and their impacts on efficiency and production: Case study on Uganda – A final report

Newman, M. & Robey, D. (1992). A social process model of user – Analyst relationships, *MIS Quarterly,* 16(2), 249 - 266

Ngulube, P. (2003). Preservation and access to public records and archives in South Africa. (Unpublished PhD thesis). University of Natal, Pietermartzburg.

Ngulube, P. (2005). Research procedure used by master of information studies students at the University of Natal in the period 1982 – 2002 with Special Reference to their sampling techniques and survey response rate: A methodological discourse. *The International Information and Library Review,* 37, 127 - 143

Nigeria Custom Service (2011). *Nigeria Custom Service modernization from 2006 to date*. Presentation to the House of Representatives Ad-Hoc Committee on concession agreement between the federal ministry of finance and single window systems & technology limited, September, 2011

Nigeria Custom Service Quarterly Order No 1 – 3 January – March 2007

Nigeria Customs service (2011). Customs reforms and modernization in Nigeria towards comprehensive vision p. 13

Nkoma, A. (2012?) The experience with day to day management of a border post and main challenges encountered in facilitating trade. Retrieved form: trade.ec.europa.eu/docli6/html/134823.htm

Noaman, Q. G., Purdy, A. & Gharibeh, M. (2002). Joint evaluation mission: ASYCUDA program in Jordan. Retrieved from: http://www.unctad.org/en/docs/domepu20073_en.pdf

Obi, E. (2003). *Educational management: Theory and practice*. Enugu: JAMOE Nigeria Enterprises

O'Brien, J. A. (2003). *Introduction to Information Systems: Essentials for the e-Business Enterprise,* (11th ed.). Boston: McGraw-Hill

OECD (2005). The role of automation in trade facilitation. OECD trade policy working papers No. 22

Okolo, A. A. (2002). *Best practices in international trade: Customs perspective* – Paper Presented at 2002 Comptroller General of Customs Annual Conference Held at Premier Hotel Ibadan on 27th October – 2nd November, 2002.

Omale, GM (2014). Departmental reforms in the Nigeria Customs Service. *Monthly order*, October – December, 2014, 17-19.

Oz, E. (2002). *Management information systems* (3rd ed.). Australia: Course

Pant, V., Stiner, M. S. & Wagner, P. W. (2004) E – taxation: An introduction to the use of TXML for Corporate Tax Reporting. *Journal of Electronic Commerce in Organizations*, 2 (1), 29 - 41

Person, P. (2001). On rationality, technology and action in the modern organization:

Petter, S.; DeLone, W. & McLean, E. (2008). Measuring information systems success: Models, dimensions, measures, and interrelationships. *European Journal of Information Systems*, 17: 236 - 263

Pickard, A. J. (2007). *Research methods in information*. London: Facet Publishing

Powell, R. R. (1985). *Basic research methods for librarians*. Norwood: Ablex

Powell, R. R. & Connaway, L. S. (2004). *Basic research methods for librarians* (4th ed.) London: Greenwood Publishers

Pritchard, S. M. (1996). Determining quality in academic libraries, *Library Trends*, 44 (3), 572 - 594

Prythe, R. (1995). *Harrods librarians' glossary*, (8th ed.). Gower: Aldershot.

Rai, A.; Lang. S. & Welker, R. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. *Information Systems Research*, 13 (1), 50 - 69

Ramage, M. (1995). Information systems evaluation. Retrieved from: http://www.comp.1ancs.ac.uk/computing/research/cseg/projects/evaluation/1YR_ch222.html

Remenyl, D. & Sherwood-Smith, M. (1999). Maximise information systems value by continuous participative evaluation. *Logistics Information Management*, 12 (1/2), 145 - 156

Sackie, D. K. (2010). *Liberia's experience in the implementation of ASYCUDA world: Status, challenges and solution. Multi-year expert meeting on transport and trade facilitation: Emerging challenges and recent developments affecting transport and trade facilitation.* Geneva, 8 – 10 December 2010.

Salehi, M.; Alipour, M. & Yahyavi, M. (2010). E-customs challenges and clients' view points: Empirical evidence of emerging economy. *International Management Review*, 6(2), 64 – 76

Sandore, B. (1990). Online searching: What measures satisfaction? *Library and Information Science Review,* 12, 33 - 54

Sanusi, A. U. (2004). Promoting trade facilitation: The many obstacles of Nigeria

Seddon, P. (1997). A respecification and extension of Delone and McLean model of IS success. *Information System Research,* 8(3), 240 - 253

Seddon, P. B. & Kiew, M. Y. (1996). A partial test and development of DeLone and McLean's model of IS success. *Australian Journal of Information Systems*, 4 (1), 90 - 109

Seeddon, P., Staples, S., Patnayakuni, R. & Bowtell, M. (1999). Dimensions of information system success. *Communications of the Association for Information Systems*, 2(3), 5 - 61

Sori, Z. M. (2009). Accounting Information System (AIS) and knowledge management: A case study. *American Journal of Scientific Research.* Issue 4, 36 – 44 Retrieve from http://www.eurojournal.com/ajsr.htm

Swindly, D. G. (2007). Computerization of tax administration. *International Journal Fish Management*, 21 (3), 199 - 233

Taiwo, R. O. (2007). An overview of Nigeria destination scheme: Practical experience of implementation at Apapa area 1 Command. *NCS Quarterly Order* No 4 – 6 April – June: 2 – 13

Terpsiadou, M. H., & Economides, A. A. (2009). The use of information systems in the Greek public financial services: the case of TAXIS. *Government Information Quarterly*, *26*(3), 468-476.

Tsiknakis, M., & Kouroubali, A. (2009). Organizational factors affecting successful adoption of innovative eHealth services: A case study employing the FITT framework. *International Journal of Medical Informatics*, *78*(1), 39-52.

UNCTAD (2010). ASYCUDA programme, division on technology and logistics. *ASYCUDA Newsletter* UNCTAD/WEB/DTL/TLB/2011/2. Retrieved from www.unctad.org

UNCTAD (2012), UNCTAD technical assistance in trade facilitation. Retrieved from: http://www.asycuda.org/pdf%20docs/UNCTADTechnAssi.pdf

UNCTD (n.d). ASYCUDA ++ Description of application software (*Functional Overview*). Retrieved from: https://www.asycuda.org/pdf%20docs/sffunct.pdf

UNCTD (n.d). ASYCUDA ++ Description of application software (*Technical overview).* Retrieved from:. https://www.asycuda.org/pdf%20docs/sw+tech.pdf

UNTACD (2011). *Trust fund for trade facilitation negotiations technical note No. 3 use of Customs automation systems,* January, 2011

URA (2012) ASYCUDA ++ Trade Manual Edition ASY 12.05/5

USAID (2013). UNCTAD agreement to strengthen Jordan Customs e-processing – success story

Van Der Heijden, H. (2004). User acceptance of hedonic information system. *MIS Quarterly*, 28 (4), 695 - 704

Van House, N. A., Weil, B., & McClure, C. R. (1990). *Measuring academic library performance*. American Library Association

Vasilecas, O. Saulis, A. & Dereskevicius, S. (2006). Evaluation of information systems procurement: Goal and task-driven approach. *Information Technology and control,*35(3), 229 -234

Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. D. (2003). USER acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27 (3), 425 - 478

Walsham, G. (1993). *Interpreting information systems in organisation*, Chichester: John Wiley and Son

Wapa, M. (2001). Implementation of the ASYCUDA system in Jordan as means of facilitating trade. Retrieved from: www.wto.org/french/tratop_f/trafa_f/wkshop_2001/wapa.doc

Wiliamson, K. (2002). Research techniques: Questionnaires and interviews. In K.

Williamson, *Research methods for students, academics, and professional: Information management systems* (2nd ed.). Wagga Wagga, NSW: Centre for Information Studies, Charles Sturt University. pp. 235 - 249

Wiliamson, K. (2006). Research in constructivist frameworks using Ethnographic techniques. *Library trends,* 55 (1), 83 - 101

Wilson, T. (1985?) Evaluation strategies for library/information systems. Retrieved from: http://informationr.net/tdw/publ/papers/evaluation85.html 16/1/2012

Wood, F., Ford, N., Miller, D., Sobczyk, G. & Duffin, R. (1996). Information skills, searching behaviour and cognitive styles for student – centered learning: A computer – assisted learning approach, *Journal of Information Science*, 22(2), 79 - 92

World Customs Organization (WCO) (2014). Snapshot of member's best practices: Case study - Australian Customs border protection. *WCO Integrity Newsletter*, Mach 2014, 4 – 11

World Trade Organization (2007). Use of Customs automation systems, *Technical Note* 3

Appendix I: ASYCUDA User Countries

Afghanistan [++]	Albania [++] [(W)]	Anguilla [(W)]	Antigua & Barbuda	Armenia [++]
Aruba	Bangladesh [++]	Barbados [++]	Belize [(W)]	Benin [++]
Bolivia [++]	Bosnia & Herzegovina [++]	Botswana [++]	Burkina Faso [++]	Burundi
Cambodia [(W)]	Cameroon	Cape Verde [++]	Central African Republic	Chad [++]
Colombia	Comoros	Congo [++]	Cote d'Ivoire [(W)]	Cuba
Democratic Republic of Congo	Dominica [(W)]	El Salvador [++] [(W)]	Estonia [++]	Ethiopia [++]
Fiji [++]	Gabon [++]	Gambia	Georgia [++] [(W)]	Ghana
Gibraltar	Grenada	Guatemala	Guinea	Guinea-Bissau
Guyana	Haiti [++] [(W)]	Honduras [++]	Iran [++] [(W)]	Jordan [++] [(W)]
Latvia [++]	Lebanon [++] [(W)]	Lithuania [++]	Macedonia	Madagascar
Malawi [++]	Maldives [++] [(W)]	Mali	Malta	Mauritania [++]
Moldova [(W)]	Mongolia	Montserrat [(W)]	Namibia [++]	Nepal [++]
Netherlands and Antilles	New Caledonia [++]	Nicaragua [++]	Niger	Nigeria [++]
Palestine [++] [(W)]	Panama	Papua New Guinea [++]	Philippines [++]	Puerto Rico [(W)]
Romania [++]	Rwanda	Saint Kitts &Nevis	Saint Lucia	St. Vincent & the Grenadines
Samoa [++]	Sao Tome & Principe	Slovakia [++]	Sri Lanka [++]	Sudan
Suriname	Syria (W)	Tanzania	Timor-Leste ++	Togo
Trinidad & Tobago [(W)]	Tunisia [(W)]	Turks & Caicos Island [(W)]	Uganda [++]	Vanuatu [++]
Venezuela [++] [(W)]	Vietnam	Yemen [++] [(W)]	Zambia [++]	Zimbabwe [++] [(W)]

Source: ***ASYCUDA – www.asycuda .org***

Notes

[(W)] is for ASYCUDA World;

[++] is for ASYCUDA [++]

Those without symbol are for ASYCUDA v.2 and the ones shaded are African countries using ASYCUDA system

Appendix II

INTRODUCTION LETTER FOR ASYCUDA USERS

Department of Library and Information Sciences,
Faculty of Education,
Bayero University, Kano.
P. M. B. 3011, Kano.
Date……

Dear Sir/Madam,

INTRODUCTION LETTER

I am a PhD Student in the above named Department. I am currently conducting a research on "Assessment of User's Perception on the attainment of the Automated System for Custom Data (ASYCUDA) Objectives in the Nigeria Custom Service". You are chosen as one of the respondent for this study. You are therefore kindly requested to complete this questionnaire.

Be assured that information provided will be use for the purpose of this study only.

Thank you in anticipation of your kind cooperation.

Yours Sincerely,

Abubakar Dalhatu Zurmi
(**SPS/08/EDU/00471**)
adzurmi2@yahoo.com

Appendix III

AUTOMATED SYSTEM FOR CUSTOMS DATA ASSESSMENT QUESTIONAIRE (ASYCUDAQ) FOR USERS IN THE NIGERIA CUSTOMS SERVICE

Introduction: Please tick (√) or comment in the appropriate space provided as applicable.

SECTION A BACKGROUND INFORMATION OF RESPONDENT

A1. Please kindly indicate your command of operation _____

A2. Please indicate your profession _____

A3. Please indicate your years of experience

0 – 4 Years ( )

5 - 10 years ( )

11 – 15 Years ( )

16 – 20 years ( )

21 and above ( )

A4. Please indicate your gender

Male ( )

Female ( )

A5. Please indicate your Highest Educational Qualification

S.S.C.E

DIPLOMA

ADVANCED DIPLOMA/NCE

HND

BSC

MSC

PhD

SECTION B:

Please read each question carefully and using a 5 –point likert scale rate each question by ticking the point that in your opinion best describe whether ASYCUDA has meet its objectives in terms of normalization, data standardization and computerization of Customs clearance. (1= Strongly Disagree SD, 2= Disagree D, 3 = Undecided, UD, 4= Agree A, 5= Strongly Agree SA.

To what extent do you agree or disagree that ASYCUDA has met its objective in terms of normalization, data standardization and computerization of customs clearance.						
S/N	**STATEMENT**	**SD**	**D**	**UD**	**A**	**SA**
	Normalization of forms and documents					
B1.	Normalization of forms & documents in clearance procedure was achieved by the use of ASYCUDA through harmonizing commodity description and coding system (HS) with corresponding National Laws.					
B2.	Normalization of forms and documents was achieved by the use of ASYCUDA through ensuring National trade processing are in line with world best practices by the use of e- SGD in clearance of goods.					
B3.	Normalization of forms and documents was achieved by the use of ASYCUDA through streamlining procedure and documentation by reducing the number of document in clearance.					
	Data standardization					
B4.	Data standardization was achieved by the use of ASYCUDA through self assessment by traders for payment of duties and taxes in clearance of goods.					
B5.	Data standardization was achieved by the use of ASYCUDA through automation of customs procedures and regimes in clearing process.					
B6.	Data standardization was achieved by the use of ASYCUDA through transmission of RAR in clearance of goods.					
B7.	Data standardization was achieved by the use of ASYCUDA through calculation of duties and taxes electronically in clearing process.					
B8.	Data standardization was achieved by the use of ASYCUDA through submission of e-manifest by shipping lines and air operators in clearing process.					
B9.	Data standardization was achieved by the use of ASYCUDA through electronic filling and lodgment of SGD in clearance.					
B10.	Data standardization was achieved by the use of ASYCUDA through document verification to ensure correctness of the declaration in clearing process.					

B11.	Data standardization was achieved by the use of ASYCUDA through document validation, and assigning of unique customs reference number.					
B12.	Data standardization was achieved by the use of ASYCUDA through risk management selectivity in clearance.					
	Simplification of customs clearance procedure					
B13.	Simplification of clearance was achieved by the use of ASYCUDA through the introduction of inspection act.					
B14.	Simplification of clearance was achieved by the use of ASYCUDA through release order print out.					
B15.	Simplification of clearance was achieved by the use of ASYCUDA through risk management selectivity.					
B16.	Simplification of clearance was achieved by the use of ASYCUDA through prompt and timely e- remittance of revenue between CBN and Designated banks.					
B17.	Simplification of clearance was achieved by the use of ASYCUDA through profiling of importers.					
B18.	Simplification of clearance was achieved by the use of ASYCUDA through lodging of SGD by traders using DTI.					
B19.	Simplification of clearance was achieved by the use of ASYCUDA through post modification.					
B20.	Simplification of clearance was achieved by the use of ASYCUDA through post modification to achieved duty and taxes recovery.					
B21.	Simplification of clearance was achieved by the use of ASYCUDA through prompt and timely e - reconciliation of all duties and taxes between Customs and designated Banks.					
	Computerization of customs clearance					
B22.	Computerization of customs clearance was achieved by the use of ASYCUDA in generating assessment report online.					
B23.	Computerization of customs clearance was achieved by the use of ASYCUDA in making electronic payment of duties and taxes online.					
B24.	Computerization of customs clearance was achieved by the use of ASYCUDA in automating customs procedures and regimes.					
B25.	Computerization of customs clearance was achieved by the use of ASYCUDA in submission of e-manifest by shipping and air lines.					
B26.	Computerization of customs clearance was achieved by the use of ASYCUDA lodging of SGD by traders using DTI.					
B27.	Computerization of customs clearance was achieved by the use of ASYCUDA calculation of duties and taxes electronically.					

B28	Computerization of customs clearance was achieved by the use of ASYCUDA transmission of RAR online.					

7. please read each question carefully and using a 5 point likert scale rate each question by ticking the point that in your opinion best describe whether ASYCUDA has met its objective of strengthen customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations? (1. Strongly Disagree SD, 2=Disagree DA, 3= Undecided UD, 4= Agree A, 5 = Strongly Agree SA.

To what extent do you agree or disagree with ASYCUDA has meet its objectives in terms of strengthening customs, provision of modern tools and implementation of sound procedures and providing audit trials and mechanism for control.

S/N	STATEMENT	SD	D	UD	A	SA
	PROVISION OF MODERN TOOLS					
B28.	Provision of modern tools in customs clearance was achieved through the provision of computers and other peripherals.					
B29.	Provision of modern tools in customs clearance was achieved through the provision of scanning machines.					
B30.	Provision of modern tools in customs clearance was achieved through the provision of central server at NCS headquarters and network.					
B31.	Provision of modern tools in customs clearance was achieved through the provision of DTI to minimize human contact.					
	PROVISION OF TECHNIQUES					
B32.	Provision of modern techniques in clearance was achieved through the scanning of goods.					
B33.	Provision of modern techniques in clearance was achieved through alert sent on risky or delayed SGD.					
B34.	Provision of modern techniques in clearance was achieved through cargo control via e-manifest.					
B35.	Provision of modern techniques in clearance was achieved through the ASYCUDA selectivity lanes of blue, yellow, green and red.					
B36.	Provision of modern techniques in clearance was achieved through the payment of duties and taxes online to designated Banks.					

	IMPLEMENTING SOUND PROCEDURES					
B37.	Implementing of sound procedures was achieved in clearance through ASYCUDA selectivity lanes.					
B38.	Implementing of sound procedures was achieved in clearance through lodgment of SGD using DTI					
B39	Implementing of sound procedures was achieved in clearance through data bank as a risk management tool.					
B40	Implementing of sound procedures was achieved in clearance through profiling of importers.					
B41	Implementing of sound procedures was achieved in clearance through scanning of goods.					
B42	Implementing of sound procedures was achieved in clearance through alert send on risky or delayed sgd.					
B43	Implementing of sound procedures was achieved in clearance through inspection act.					
	PROVIDING FULL AUDIT TRIALS AND MECHANISM FOR CONTROL					
B44.	Provision of audit trials and mechanism for control in clearance was achieved through scanning of goods					
B47.	Provision of audit trials and mechanism for control in clearance was achieved through ASYCUDSA selectivity lanes.					
B48.	Provision of audit trials and mechanism for control in clearance was achieved through payment of duties and taxes online.					
B49.	Provision of audit trials and mechanism for control in clearance was achieved through ASYCUDA system audit trials.					
B50	ASYCUDA role base data access control.					
B51.	Provision of audit trials and mechanism for control in clearance was achieved through submission of e-manifest.					
B52.	Provision of audit trials and mechanism for control in clearance was achieved through role base security access via password					
B53.	Provision of audit trials and mechanism for control in clearance was achieved through post clearance audit.					
B54.	Provision of audit trials and mechanism for control in clearance was achieved through transmission of RAR.					
B55.	Provision of audit trials and mechanism for control in clearance was achieved through Alert send on risky or delayed SGD.					
B56.	Provision of audit trials and mechanism for control in clearance was achieved through transmission of RAR online.					
B57.	Provision of audit trials and mechanism for control was achieved through ASYCUDA role based					

	data access control.					

SECTION C: ASYCUDA USE

Please read each question carefully and using a 5 – point likert scale rate each question by ticking the point that in your opinion best describe the level ASYCUDA is used. (1= Strongly Disagree SD, 2= Disagree D, 3 = Undecided, UD, 4= Agree A, 5= Strongly Agree SA.

To what extent do you agree or disagree with the statements on the use of ASYCUDA in customs operation and clearance of goods.

S/N	STATEMENT	SD	D	UD	A	SA
C1.	I always use ASYCUDA database in clearing of imported goods.					
C2.	I use ASYCUDA for confirmation of customs duty/payments					
C3.	I use ASYCUDA for checking of Manifest for goods that are to be cleared.					
C4.	I use ASYCUDA for lodging of Single Goods Declaration.					
C5.	I use ASYCUDA for release goods that have cleared.					
C6.	I use ASYCUDA for checking harmonizing commodity description and coding system.					
C7.	I use ASYCUDA for scanning of imported goods.					
C8.	I use ASYCUDA for making payments of duties of duties and taxes to Banks.					
C9.	I use ASYCUDA for selecting lanes (Blue, Yellow, Green and Red)					
C10.	I use ASYCUDA for post clearance audit.					
C11.	I use ASYCUDA for transmission of RAR online.					
C12.	I use ASYCUDA for transmission of generating assessment report online.					
C13.	I use ASYCUDA for transmission of duty and taxes.					
C14.	I use ASYCUDA for profiling of importers registered with NCS					
C15.	I use ASYCUDA to interface between terminal operators and concessionaires in clearance procedure.					
C16.	The use of ASYCUDA has made customs operation difficult and slower					
C17.	After the introduction of ASYCUDA it takes few days to clear goods					
C18.	The use of ASYCUDA has made customs operations easier and faster.					

SECTION D: ASYCUDA SATISFACTION

Please read each statement carefully and using a 5 – point likert scale rate each question by ticking the point that in your opinion best describe the level at which you are satisfied with the use of ASYCUDA (1= Strongly Disagree SD, 2= Disagree D, 3 = Undecided, UD, 4= Agree A, 5= Strongly Agree SA.

To what extent do you agree or disagree with the following statements on the use of ASYCUDA in customs operations and clearance.						
S/N	**STATEMENT**	**SD**	**D**	**UD**	**A**	**SA**
D1.	I am satisfied with the accuracy of ASYCUDA for confirmation of Customs duty					
D2.	I am satisfied with the accuracy of ASYCUDA for scanning.					
D3.	I am satisfied with the accuracy of ASYCUDA for release of goods					
D4.	I am satisfied with the ASYCUDA ease of use in interface with Banks.					
D5.	I am satisfied with ASYCUDA ease of use for profiling.					
D6.	I am satisfied with ASYCUDA ease of use in selecting lanes.					
D7.	I am satisfied with ASYCUDA ease of use in post clearance audit.					
D8.	I am satisfied with ASYCUDA format of examination of goods					
D9.	I am satisfied with ASYCUDA format in Generating Assessment Report					
D10.	I am satisfied with ASYCUDA format in lodging of SGD.					
D11.	I am satisfied with ASYCUDA timeless in transmission of duty and taxes online.					
D12.	I am satisfied with ASYCUDA transmission of RAR online					
D13.	I am satisfied with ASYCUDA timeless in interface between terminal operator and concessessionaire.					
D14.	I am satisfied with ASYCUDA content for providing information need for my activities.					
D15.	I am satisfied with ASYCUDA content in checking of harmonized system.					
D16.	I am satisfied with the content of ASYCUDA for checking manifest.					

SECTION E: CHALLENGES FACED BY ASYCUDA IN NCS

Which among the following constitute challenge to the Success of ASYCUDA in NCS? (Tick as applicable)		
E1.	Erratic power supply.	
E2.	Lack of adequate training on the use of ASYCUDA by users	
E3.	Falsification of documents by importers and agents	
E4.	Concealment of goods by the importers.	
E5.	Under declaration of goods by importers.	
E6.	Wrong description and classification of goods by importers.	
E7.	Inadequate funding.	
E8.	Inadequate accommodation.	
E9.	Network failure and poor connectivity of internet services.	
E10.	Poor telecommunication infrastructure	
E11	High cost of bandwidth and subscription of the internet services	
E12	Connivance between officers and stake holders in clearing process.	
E13.	Environmental factors	
E14.	In adequate skills among officers	
E15.	In adequate skills among agents	
E16.	In adequate skills among importers	
E17.	Cost of maintaining generating set	
E18.	Lack of maintenance	
E19.	Under invoicing	
E20.	High connection cost for agents/importer	
E21.	System security	

SECTION F: ASYCUDA MEASURES

The following are Measures to Address the Identified Challenges to Achieve the stated Objectives of ASYCUDA.?		
S/N	**STATEMENT**	
E26.	Provision of frequent and adequate training and retraining for officers and men as well as clearing agents.	
E27.	Provision of adequate funding.	
E28.	Provision of infrastructural facilities (i.e accommodation, power, telecommunication e.t.c).	
E29.	Provision for seminars and workshops on the use of ASYCUDA	
E30.	Maintenance of equipments and facilities.	
E31.	Provision of modern and up to date scanners, computers, printers and other equipments.	
E32.	Proper monitoring, supervision and evaluation.	
E33.	Attitudinal change among officers and stakeholders.	

Appendix IV

Invitation/Acceptance for Interview

Telephone No.....
E-mail:.....
Fax

Reference NCS/ABJ/HRD/185/C/T

CUSTOMS

Headquarters
Nigeria Customs Service,
Office of the Deputy Comptroller General
Human Resources Development Dept.
.....Abidjan Street, Zone 3 Directorate
.....Wuse, Abuja.....Department
Date.....8th October, 20.....13.....Division

Svc. No: ***40139***
Rank: ***SC***
Name: ***Abubakar, D.***

ufs: *The Customs Area Controller,*
Nigeria Customs Service,
Custom House, KD/KT Area Command,
Katsina, Nigeria.

RE: REQUEST FOR INTERVIEW IN RESPECT OF SVC. NO. 40139, SC ABUBAKAR, D.

I am directed to refer to your letter NCS/KAT/008/S.7/VOL. IV dated 12th September, 2013 on the above subject matter and kindly request you to inform the above named officer to report to the Headquarters and present his request before the Comptroller (ICT), please.

Mamman, B.
Comptroller Admin. (HRD),
For: Comptroller General of Customs.

Appendix V

INTERVIEW QUESTIONS FOR NCS MANAGEMENT

I am a PhD student currently conducting a research on **"**Assessment of user's perception on the attainment of the Automated System for Customs Data (ASYCUDA) objectives in the Nigeria customs service.**"**

SECTION A: ASYCUDA OBJECTIVES:

1. Sir, in what ways does ASYCUDA achieved its objective of facilitating trade through the normalization of forms and documents, data standardization, simplification and computerization of customs clearance procedure to accelerate the clearance of goods?.
2. Sir, in your opinion what are the ways in which ASYCUDA achieved its objectives of strengthening customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trials and mechanisms for controlling customs operations?.
3. Sir, what are the ways in which ASYCUDA has achieved its objective of strengthening customs management and control by providing governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes,?

SECTION B: CHALLENGES AND RECOMMENDATIONS

1. Sir, what are the challenges facing ASYCUDA in NCS?.
2. Sir, in your opinion, what are the ways through which the identified challenges could be overcome?
3. Sir, can you comment freely on any issue about success or otherwise on the attainment of ASYCUDA objectives in NCS?.

Thank you

Abubakar Dalhatu Zurmi
SPS/08/EDU/00471