



**USE OF ELECTRONIC SECURITY SYSTEMS IN ACADEMIC LIBRARIES:
EXPERIENCES OF SELECTED UNIVERSITIES IN SOUTH-WEST NIGERIA**

Osayande, Odaro

BSc. (Ed.) (NAU, Awka), MLIS (U.I., Ibadan), CLN

Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy (Information Studies) in the School of Social Sciences, College of Humanities, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

Supervisor


Professor Stephen Mutula

November, 2019

DECLARATION

I, Osayande, Odaro declare that:

- i) The research reported in this thesis, except where otherwise indicated, is my original work;
- ii) This thesis has not been submitted for any degree or examination at any other university;
- iii) This thesis does not contain other persons' data, pictures, graphs or other information unless specifically acknowledged as being sourced from other persons;
- iv) This thesis does not contain other persons' writing unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
 - a. their words have been re-written but the general information attributed to them has been referenced;
 - b. where their exact words have been used, their writing has been placed inside quotation marks, and referenced;
- v) Where I have reproduced a publication of which I am an author, co-author or editor, I have indicated in detail which part of the publication was actually written by myself alone and have fully referenced such publications;
- vi) This thesis does not contain text, graphics or tables copied and pasted from the Internet, unless specifically acknowledged, and the source being detailed in the dissertation and in the references section.



Osayande, Odaro

Date: November 2019



Professor Stephen Mutula

Date: Date: November 2019

ABSTRACT

This study investigated the use of electronic security systems in academic libraries in selected universities in South West, Nigeria. The study in particular, examined the different library security systems that are in use to curb theft and mutilation of library materials; the extent to which electronic security systems (ESS) are used in the academic libraries; how electronic security systems are used to discourage patrons from pilfering information resources from the library; the extent of loss of library materials through theft, mutilation and vandalism; the effectiveness of electronic security systems in curbing the menace of theft, mutilation and vandalism of library materials; and the factors influencing/motivating the use of ESS in the library.

The population of the study was made up of 205 librarians and para-professional library staff, including the heads of libraries (University Librarians) and Information Technology personnel at the University of Lagos, University of Ibadan, Covenant University and Babcock University, in South West, Nigeria. These Universities were purposively selected for the study and a total enumeration method (census) was employed as the sampling technique. The research instruments used to elicit information from the respondents included survey questionnaires and structured interview guides. A response rate of 83.2% was recorded and use of frequency counts, percentages (%), mean (\bar{x}) and standard deviation (SD) were used to analyse the data collected. The quantitative and qualitative data obtained from the main study were coded and organised, using the Statistical Package for the Social Sciences (SPSS) and thematic content analysis to generate descriptive and inferential statistics. Cronbach's alpha coefficient was used to determine the internal consistency and reliability of the items in the questionnaire.

The Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Vankatesh, Morris, Davis, and Davis (2003) was used to underpin the study, and to investigate the factors influencing the use of ESS in academic libraries. The study also employed the post-positivist research paradigm as the theoretical lens to illuminate the research problem. The study further engaged a combination of quantitative and qualitative methods as well as the survey design. The study adhered strictly to the ethical protocols of the University of KwaZulu-Natal (UKZN) and permission was acquired from the relevant authorities of the Universities which were surveyed.

The findings revealed that the universities in South West geopolitical region of Nigeria had implemented one form of electronic security systems or the other in their libraries. Findings further revealed how electronic security systems (ESS) are used to discourage patrons from pilfering information resources from the library. Additionally, the findings exposed the extent of loss of library materials through theft, mutilation and vandalism; the effectiveness the use of electronic security systems (ESS) in curbing the menace of theft, mutilation and vandalism of library materials; and the factors influencing/motivating the use of ESS in the library.

The originality of this study lies in the fact that, extant studies carried out in Nigeria, as it relates to the security of materials in academic libraries, only investigated and recommended how library materials can be safeguarded manually (through the traditional methods); and therefore, only a few of the studies suggested the use of electronic devices to secure library materials. However, none have investigated how these modern technologies (electronic security systems) could be used to secure library materials from theft, mutilation and vandalism. Furthermore, no prior studies have employed the use of research paradigms or theory such as UTAUT to underpin their investigations.

The study recommended among others, that university libraries in South-West, and Nigeria in general should enhance and encourage the maintenance of the electronic security systems (ESS) regularly; the heads of the libraries (University Librarians) should also ensure that the University Management is well educated and apprised on the importance of the use of electronic security systems (ESS) in the libraries and how adequate funds should be made available through the annual library budgets. It is also recommended that the heads of the libraries should solicit external funding to regularly upgrade the electronic security systems (ESS). The study further recommended that user education programmes should be carried out regularly. These findings are significant and have implications for policy, practice and theory in the field of library and information sciences.

ACKNOWLEDGEMENT

“So then it is not of him that willeth, nor of him that runneth, but of God that sheweth mercy” (Romans 9:16)

I am very grateful to God Almighty, the Owner of my soul and spirit, for seeing me through the Phd programme, by giving me grace for endurance even when it seemed I was about giving up due to varied challenges. I am most grateful to God for raising men and women who supported me materially and financially. To Him alone be all the glory. Meanwhile, work of this nature could not have been completed without the unalloyed influence and contributions of so many people.

I am indebted to several persons who contributed in one way or another towards the successful completion of my programme. Special and profound thanks go to my amiable and indefatigable supervisor, Professor Stephen Mutula for believing in me, for his constructive criticism, guidance, contributions and corrections that led to the successful completion of this study. I wish to also appreciate all the staff members in the School of Social Sciences, University of KwaZulu-Natal, Pietermaritzburg Campus, especially Mrs Nancy Mudau, the Postgraduate Administrator, for their support. My special thanks also go to Dr. Nkiko Christopher, the former University Librarian, Covenant University, who stood by me and made special recommendations that led to the approval of my study leave to proceed on the PhD programme. My profound appreciation also goes to the Chancellor, Dr. David O. Oyedepo, and Management of Covenant University for granting me permission to proceed on my PhD research, my colleagues at the Covenant University library, (CLR) Dr. Idiegbeyen-Ose Jerome (immediate past University Librarian), Dr. (Mrs) Ilo (current University Librarian), Dr. (Mrs.) Yusuf, Mrs Iroaganchi Mercy, Mrs Ilogho Julie, Pst Ifijeh Goodluck Israel, Mrs Asaolu Aderonke, Mrs Adebayo Oyeronke, and many others.

Furthermore, my heartfelt gratitude goes to my beautiful wife, Barrister (Mrs.) Ayodele Justina Odaro-Osayande who stood by me in prayers, provided both material and financial support all through the duration of this programme. Our lovely children, Praise Uyiosa and Triumphant Aisosa are not left out; thank you for your understanding all through the period of my absence from home. I sincerely thank my colleagues as well (both those who have graduated and those yet to graduate) in the department of Information Studies, Pietermaritzburg campus of UKZN:

Dr. (Mrs.) Okite-Amughoro Faith, Dr. (Mrs) Adeleke Olateju Abayomi, Dr. (Mrs) Tamunotonye Idoniboye-Obu, Dr. Tunde Omopupa, Dr. Israel Odede, Dr. (Mrs) Nike Alabi, Dr Bunmi Bakare, Wilson Ochonogor, Jacob Kutu, Oluwaseyi Quadri, Dr Omo Eyaufe. Others include Faluyi Olumuyiwa, Okunade Samuel, Pst Oni Ebenezer, and Dr. Efe Orumwense. It was a pleasure having you as colleagues. I sincerely appreciate Dr Amoo Emmanuel and Dr. Adebowale Ojo who painstakingly helped in the analysis of the data for this thesis.

This acknowledgment will be deficient, if I fail to appreciate Winners Chapel International, Durban, South Africa, Local Assembly's family, which include the former Resident Pastors: Pastors Stanley Nkwoji, Elijah Olufemi Adeniyi, and Muyiwa Kolawole Joshua. Others include the current Resident Pastor, Emmanuel Igben, Pastors Kester C. Onor, Akinola Ikudayisi, Kayode Akindeji. I remain also sincerely grateful to the family of Mr and Mrs Ife Emmanuel Adegunloye, Abraham Obakpolor, members of the Pastorate/Ministers forum, Evangelism unit, as well as Ushering and Follow-Up units. Finally, I am grateful to the Management and staff of the Universities of Lagos, Ibadan, Covenant University and Babcock University for their support and cooperation during my fieldwork (data collection exercise).

May God bless you all.

DEDICATION

This thesis is dedicated to the Almighty God, my Source of inspiration throughout the duration of the study, and for raising up 'human angels' who were of immense assistance to me all through the programme.

LIST OF ABBREVIATIONS AND ACRONYMS

ACWA	Adventist College of West Africa
ASWA	Adventist Seminary of West Africa
AKA	Also Known As
ALA	American Library Association
BC	Behavioural Control
BSc. (Ed.)	Bachelor of Science (Education)
BU	Babcock University
CCTV	Closed Circuit Television (Cameras)
CLN	Chartered Librarian of Nigeria
CLR	Centre for Learning Resources
C-TPB-TAM	Combined Theory of Planned Behaviour and Technology Acceptance
CU	Covenant University
DOI	Diffusion of Innovation Theory
EE	Effort Expectancy
ERIC	Education Resources Information Center
ESS	Electronic Security Systems
FBI	Federal Bureau of Investigation
FC	Facilitating Conditions
FGN	Federal Government of Nigeria
ICT	Information and Communication Technology
IS	Information Systems
IT	Information Technology
KDL	Kenneth Dike Library
LOM	Laz Otiti Memorial Library
LAUTECH	Ladoke Akintola University of Technology
LIS	Library and Information Studies/Science
MANUU	Maulana Azad National Urdu University
MLIS	Master, Library and Information Studies/Science
MM	Motivational Model
MPCU	Model of PC Utilization

NAU	Nnamdi Azikiwe University
NCE	Nigeria Certificate in Education
NLA	Nigerian Library Association
NUC	National Universities Commission
NWLR	Nigerian Weekly Law Reports
NY	New York
PE	Performance Expectancy
PEOU	Perceived Ease of Use
RFID	Radio Frequency Identification (System)
SCT	Social Cognitive Theory
SI	Social Influence
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Theory
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UCI	University College, Ibadan
UDC	University Disciplinary Committee
UI	University of Ibadan
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UNILAG	University of Lagos
UNISA	University of South Africa
USA	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology

TABLE OF CONTENTS

DECLARATION	i
ABSTRACT.....	ii
ACKNOWLEDGEMENT	iv
DEDICATION	vi
LIST OF ABBREVIATIONS AND ACRONYMNS	vii
TABLE OF CONTENTS.....	ix
LIST OF TABLES.....	xiv
LIST OF FIGURES	xvii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background to the Study.....	1
1.2 Site of the Study.....	2
1:3 Statement of the problem.....	7
1.4 Objectives of the study	8
1.5 Research questions.....	8
1.6 Significance of the study.....	9
1.7 Scope and limitation of study	9
1.8 Preliminary literature of the study.....	10
1.9 Theoretical framework for the study	14
1.10 Methodology.....	16
1.11 Structure and organization of the thesis.....	18
CHAPTER TWO	20
THEORETICAL FRAMEWORK.....	20
2.1 Introduction.....	20
2.2 Technology Acceptance Model (TAM).....	21
2.3 Theory of Reasoned Action (TRA)	25
2.4 Theory of Planned Behaviour (TPB).....	28
2.5 Motivational Model (MM).....	31
2.6 Diffusion of Innovation Theory (DOI).....	34
2:7 Social Cognitive Theory (SCT).....	36
2.8 Combined TAM and TPB (C-TAM-TPB).....	38

2.9 Model of PC Utilization (MPCU).....	40
2:10 Gaps Identified in the Theories Reviewed.....	41
2:11 Unified Theory of Acceptance and Use of Technology (UTAUT).....	42
2.12 Summary.....	51
CHAPTER THREE	52
LITERATURE REVIEW	52
3.1 Introduction.....	52
3.2 Library Security and Electronic Security Systems	54
3.3 Electronic Security Systems (ESS) in Use in Academic Libraries.....	58
3.3.1 Video Surveillance or Closed Circuit Television (CCTV) Cameras.....	60
3.3.2 The Electronic Security Gates.....	62
3.3.3 Radio Frequency Identification System (RFID).....	63
3.4 How Electronic Security Systems are used in Academic Libraries.....	66
3.5 Use of ESS to Discourage Patrons from Pilfering Information Resources	68
3.6 Magnitude/Immensity of Loss of Materials	70
3.7 Effectiveness of the Use of Electronic Security Systems in Academic Libraries	75
3.8 Factors influencing/motivating the use of ESS in the library.....	79
3.9 Summary of Literature Review.....	80
CHAPTER 4	82
RESEARCH METHODOLOGY.....	82
4.1 Introduction.....	82
4.2 Research Paradigm	84
4.3 Research Approaches.....	86
4.4 Research Design	88
4.5 Population of Study	93
4.6 Sampling procedures.....	95
4.7 Data Collection Procedures	96
4.7.1 Questionnaire.....	97
4.7.2 Interviews.....	99
4.8 Data Analysis Strategies	99
4.9 Validity and Reliability.....	100
4.10 Ethical Considerations	102
4.11 Summary.....	103
CHAPTER FIVE	104
DATA ANALYSIS AND PRESENTATION	104
5.1 Introduction.....	104

5.2 Response Rate.....	105
5.3 Demographic Characteristics.....	107
5.3.1 Distribution According to Gender	107
5.3.2 Age Distribution of Respondents.....	107
5.3.3 Educational Qualification OF Patrons	108
5.3.4 Distribution of Respondents According to Designation	109
5.3.5 Distribution of Respondents According to Departments/Units	109
5.3.6 Work Experience Distribution of Respondents	110
5.4 Data Analysis based on Research Questions	111
5.4.1 Types of Library Security Systems in Use in Libraries.....	111
5.4.2 How ESS are used in Academic Libraries.....	112
5.4.3 ESS Use in Discouraging Patrons from Pilfering Information Resources	113
5.4.4 Magnitude/Immensity of Loss of Library Materials.....	115
5.4.5 Effectiveness of the Use of ESS in Academic Libraries.....	115
5.4.6 Factors Influencing/Motivating the Use of ESS in Libraries.....	116
5.5 Interview Responses	118
5.5.1 Profile Distribution of Interviewees.....	119
5.5.2 Interview responses from the Heads of Libraries (University Librarians)	119
5.5.2.1 Policy.....	119
5.5.2.2 Existence of Security Policy.....	120
5.5.2.3 How Policy Enhances Use of ESS.....	120
5.5.2.4 Position of Policy on Theft, Mutilation and Vandalism	121
5.5.3 Budgetary Provisions for Libraries.....	123
5.5.3.1 Budgetary Allocations.....	123
5.5.3.2 Regularity of Budgetary Provisions.....	124
5.5.3.3 Importance of Budgetary Provisions to Maintenance of ESS	125
5.5.3.4 Budget, Training and Re-training of Staff.....	126
5.5.4 Implications of High Cost of ESS Implementation	127
5.5.5 Criteria for Procurement of ESS.....	128
5.6 Capacity Building Programmes for Staff.....	129
5.6.1 Training organized by Manufacturers/Vendors	130
5.6.2 Skills of IT Personnel on General Maintenance of ESS	131
5.6.3 User Education Programmes for Patrons	132
5.7 Interview Responses from Information Technology Personnel	134
5.7.1 After Sales Support.....	134

5.7.2 Handling of Technical Issues.....	135
5.7.3 Training and Re-training Programmes for Staff.....	137
5.7.4 Update of Skills on the Job.....	137
5.8 Summary of chapter.....	138
CHAPTER SIX.....	140
DISCUSSION OF FINDINGS.....	140
6.1 Introduction.....	140
6.2 Demographic Characteristics of Respondents.....	141
6.2.1 Distribution of Respondents by Gender.....	141
6.2.2 Age Distribution of Respondents.....	142
6.2.3 Distribution of Respondents by Educational Level.....	143
6.2.4 Designation of Respondents.....	143
6.3 Characteristics (Types) of Electronic Security Systems in Use in Libraries.....	144
6.4 How ESS are Used in Academic Libraries.....	148
6.5 Use of ESS to Discourage Patrons from Pilferage.....	150
6.6 Magnitude/Immensity of Loss of Library Materials.....	152
6.7 Effectiveness of the Use of Electronic Security Systems in Academic Libraries.....	157
6.8 Factors Influencing/Motivating the Use of ESS in Libraries.....	159
6.9 Discussion of Qualitative Findings from Interviews.....	161
6.9.1 Security Policy.....	161
6.9.1.1 Awareness of Security Policy in the Library.....	161
6.9.1.2 Policy and Use of ESS in Libraries.....	163
6.9.1.3 Policy Provisions on Theft, Mutilation and Vandalism of Library Materials.....	164
6.9.2 Budgetary Provisions and Regularity to the Libraries.....	165
6.9.3 Implications of High Cost of Implementing ESS in Academic Libraries.....	167
6.9.4 Criteria put into Consideration before Procuring ESS.....	167
6.9.5 User Education Programmes for Library Patrons.....	168
6.9.6 After Sales Service Support/Maintenance.....	169
6.9.7 Capacity Building for IT Personnel attached to the Library.....	171
6.10 Summary.....	172
CHAPTER SEVEN.....	174
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	174
7.1 Introduction.....	174
7.2 Summary of Chapters in Thesis.....	175
7.3 Summary of Findings.....	177

7.4 Conclusion.....	181
7.5 Recommendations.....	182
7.6 Originality and Contributions of the Study.....	185
7.7 Limitations and Suggestions for Further Research.....	186
REFERENCES	187
LIST OF APPENDICES.....	218
Appendix 1 Letter of Informed Consent.....	218
Appendix 2 Ethical Clearance from UKZN	220
Appendix 3 IP2 Form.....	221
Appendix 4 Contract with Supervisor.....	226
Appendix 5 Questionnaire for Librarians/Para-fessional Librarians.....	226
Appendix 6 Interview Guide for Heads of Libraries (University Librarians).....	235
Appendix 7 Interview Schedule for IT Personnel.....	238
Appendix 8 Letter of Introduction (UNILAG).....	240
Appendix 9 Gatekeepers Letter (UNILAG).....	241
Appendix 10 Letter of Introduction (UI).....	242
Appendix 11 Gatekeepers (UI).....	243
Appendix 12 Letter of Introduction (CU).....	244
Appendix 13 Gatekeepers (CU).....	245
Appendix 14 Letter of Introduction (BU).....	246
Appendix 15 Gatekeepers (BU).....	247
Appendix 16 Editor’s Report.....	248

LIST OF TABLES

Table 2.1 Self-Determination Continuum.....	32
Table 2.2 Summaries of Models.	49
Table 4.1 Population of Participants.....	95
Table 5.1 Response rate from the survey.....	106
Table 5.2 Gender.....	107
Table 5.3 Age Group.....	107
Table 5.4 Educational Level.	108
Table 5.5 Designation	109
Table 5.6 Department.....	109
Table 5.7 Work Experience.	110
Table 5.8 Characteristics of ESS Used in Libraries.....	111
Table 5.9 How ESS are Used in the Libraries.	112
Table 5.10 ESS Use for Discouraging Information Resources Pilferage.	114
Table 5.11 Magnitude/Immensity of Loss of Library Materials.....	115
Table 5.12 Effectiveness of Use of ESS.	116
Table 5.13 Factors Influencing/Motivating use of ESS.....	117
Table 5.14 Profile of interview.	119
Table 5.15 Responses on awareness of Security Policy.	120
Table 5.16 Responses on how Policy Enhance Use of ESS in Libraries.....	120
Table 5.17 Responses on what Policy says about Patrons Caught in the Act.	122
Table 5.18 Budgetary Provisions.....	123
Table 5.19 Summary of Interview Responses on how Regularity of Budgetary Provisions	124
Table 5.20 Importance of Budget to Maintenance of ESS	125
Table 5.21 Budgeting for the Regular Training and Re-Training of Library Staff	126
Table 5.22 Implications of High Cost of implementing ESS.	127
Table 5.23 Criteria for Procuring ESS.....	128
Table 5.24 Capacity Building Programmes.....	129
Table 5.25 Training Programmes Organized by Manufacturers/Vendors.....	131

Table 5.26 Encouraging IT Personnel on Skills.	132
Table 5.27 User Education Programmes for Library Patrons	133
Table 5.28 After Sales Service Support/Maintenance.	134
Table 5.29 Repairs of ESS on Technical Issues.	136
Table 5.30 Training and Retraining Programme.	137
Table 5.31 IT Personnel Skill Development.	138

LIST OF FIGURES

Figure 1.1 Map of Nigeria, showing the six geo-political zones.....	4
Figure 1.2 Map of Nigeria's South-West geo-political region.....	5
Figure 2.1 The Technology Acceptance Model.....	23
Figure 2.2 Theory of Reasoned Action	28
Figure 2.3 Theory of Planned Behaviour	31
Figure 2.4 The Motivational Model.....	33
Figure 2.5 Diffusion of Innovation Theory	36
Figure 2.6 Social Cognitive Theory.....	38
Figure 2.7 Combined TAM and TPB.. ..	40
Figure 2.8 Model of PC Utilization	41
Figure 2.9 Unified Theory of Acceptance and Use of Technology.....	44

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The library is the citadel, backbone and heart of any learning institution. It is the hub around which the activities of teaching, learning and research revolve. The library provides room for students and faculty to carry out their research activities and advance their knowledge; it is also an important ethnic institution use at every stage of life (Simmonds, 2001; Tekale, et.al, 2010; Urhiewhu, et. al., 2018). For this to happen, there is need to make available the requisite information resources (prints, non-print, e-resources, etc.) for teaching, learning and research.

According to Aina (2004) academic libraries are those attached to educational institutions at the post-secondary categories. Academic libraries are therefore part of the university and its institutional culture (Maponya, 2004). Rajendran and Rathinasapathy (2007) postulated that academic libraries should provide information resources to students, faculty and other researchers in order to enhance, teaching, learning, research, pleasure, self-discovery, personal growth, etc. These libraries play pivotal roles in the transmission of information and knowledge in higher education, with the main objective of facilitating teaching, learning and research in their respective institutions (Oyekisu, Buraimono, Olusanya, 2011). Academic libraries are therefore set up to enhance teaching, learning, research and community development. Academic libraries' managers are therefore expected to acquire, process, preserve and disseminate the relevant information resources that would satisfy the information needs of both present and future users of the libraries (Maidabino, 2010).

Academic institutions of higher learning invest a lot of financial resources to provide requisite information resources for their libraries in an environment of reduced budgetary provisions and inadequate funding (Mutula, 2008; Hoskins and Stilwell, 2011). There is therefore, the need to secure information resources from external intrusions such as theft, mutilation and vandalism.

The issue of security in academic libraries is increasingly being discussed in information literature. Security issues in academic libraries is not peculiar to developing nations, but it is a global phenomenon. Library security menace is a universal cankerworm that has eaten into the fabrics of academic libraries and information service delivery (Allen, 1997; Momodu, 2002; Ajegbomogun, 2004; Adewale and Oluwasanmi, 2007). Heads of academic libraries have been battling (and are still battling) with security challenges in their various libraries and have also made several attempts to address the security issues that relate to vandalism, theft and mutilation of library materials, using the traditional (manual) methods, but with limited success. McComb (2004); Uzuegbu and Okoro (2012) averred that different libraries have put various measures in place, ranging from employing more security personnel, to formulating security policies to alleviate wanton destruction of library materials by rogue users, yet, library materials are still being stolen and defaced regularly.

Many studies have been undertaken on library security in Nigerian academic libraries with regards to pilferage of library and information materials (Omotayo and Ajayi, 2006; Ogbonyomi, 2011; Uzuegbu and Okoro, 2012) but prior literature have revealed limited studies on the use of modern technologies in securing library materials (McComb, 2004; Ogbonyomi, 2011). The use of modern technologies has proven to be the solution to curbing the issues of security in academic libraries, as the manual or traditional methods have not been able to curb the menace. In the developed countries, modern technologies, and electronic security systems (ESS) have been installed and deployed in academic libraries to help secure library collections and monitor the activities of patrons and even library employees. For example, Kumar (2014) conducted a study on the use of electronic surveillance cameras (CCTV) in Sikkim University library, India. The result showed that there was reduction in the loss of library materials through theft and mutilation following the implementation of electronic security systems (ESS) by the library, compared to when electronic security systems were not implemented

1.2 Site of the Study

Nigeria as a country is in the Western part of Africa. It has a total area of 923,768 km², which is equivalent to 356,667 sq. miles. Nigeria shares borders with neighbouring countries, such as Cameroon in the East, Republic of Benin in the West, Niger Republic in the north and the Gulf

of Guinea in the South (The CIA World Fact Book, 2009:3). Nigeria is regarded as the 7th most populous country in the world (United Nations, 2015) after China, India, United States of America, Indonesia, Brazil and Pakistan which assume the 1st to 6th position respectively.

Nigeria is therefore made up of or divided into six geo-political zones, organised into 36 states and the Federal Capital Territory (FTC), Abuja. The six geo-political zones of Nigeria comprise of the North-Central (NC), North-East (NE), North-West (NW), South-East (SE), South-South (SS) and the South-West (SW). Additionally, Nigeria has a total of 774 local government areas (LGAs) in the 36 states. South-West geo-political zone of Nigeria has six states namely Ekiti, Lagos, Ogun, Ondo, Osun and Oyo. The zone is majorly a Yoruba speaking region, while there are other diverse dialects inside the same States. South-West region, according to Anyaeche (2007) has a total population of 27,581,992. It is bounded in the East by Edo and Delta States, in the North by Kwara and Kogi states, in the West by the Republic of Benin and in the South by the Atlantic Ocean (Durojaiye, Yusuf and Balogun, 2014).

The South-West geo-political zone of Nigeria has been purposively picked for this study because it has a larger percentage of the Universities available in Nigeria. According to the NUC Bulletin (2014), there are 129 Universities in Nigeria and 30% of these are situated in the South-West geographical zone.

Figures 1.1 and 1.2 below illustrate the map of Nigeria showing the South-West geo-political region.

NIGERIA GEO-POLITICAL ZONES

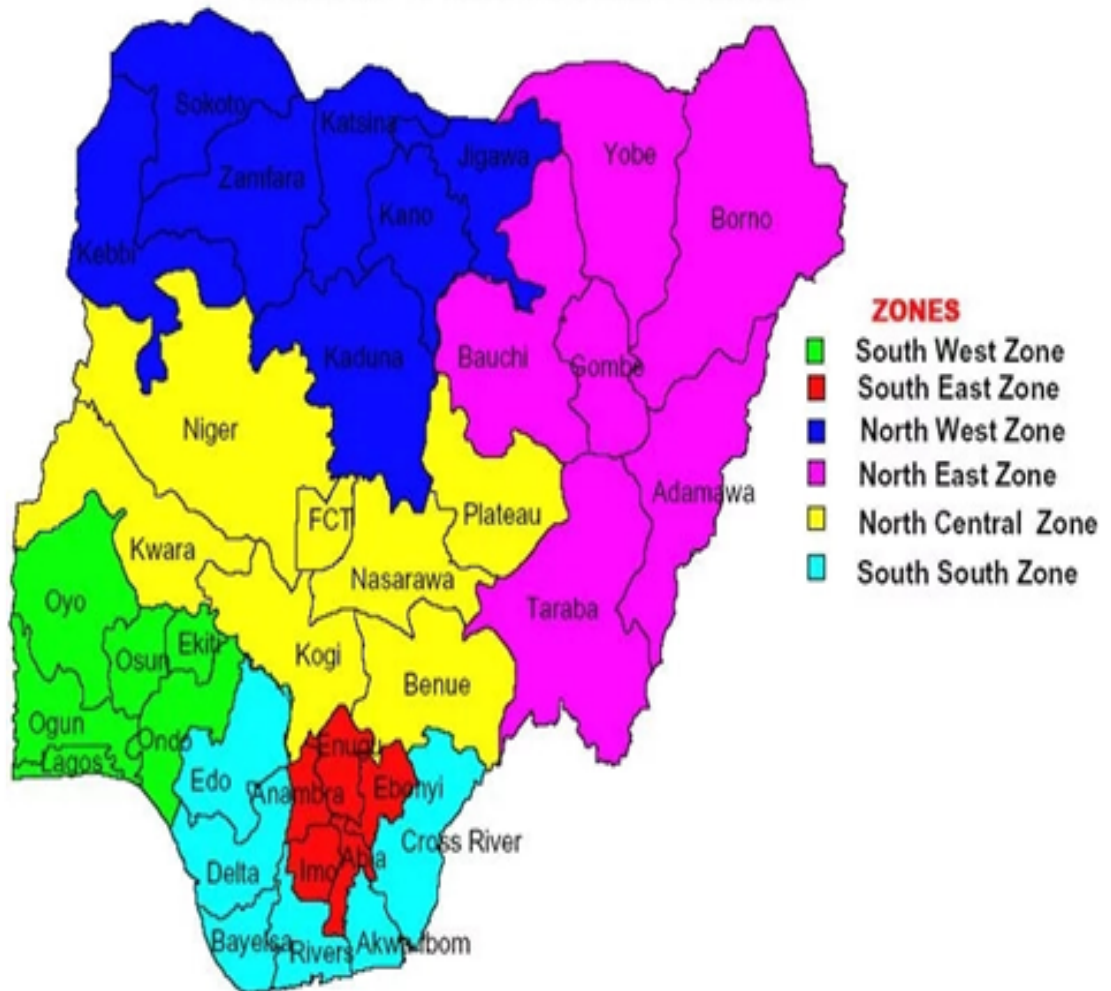


Figure 1.1: Map of Nigeria, showing the six geo-political zones (Source: Research gate, 2017).



Figure 1.2: Map of Nigeria's South West geo-political region (Source: Naija, 2017)

The study covers four (4) Universities: The University of Ibadan, University of Lagos, Covenant University and Babcock University. The University of Ibadan was established as the University College (UCI) Ibadan, Oyo State in January 1948. UI, as it is fondly referred to, is the first University in Nigeria. It was in the year 1962 that it became a full-fledged self-governing University, after being a College of the University of London in a special affiliation scheme. The University of Ibadan library is popularly referred to and known as Kenneth Dike Library (KDL), named after Professor Kenneth Dike, who was the first home-grown (indigenous) Vice Chancellor of the University. The library was set out to offer research and sound teaching in the University of Ibadan by the founding fathers of higher education in Nigeria. The library is ranked favourably among the comity of University (academic) libraries in the Commonwealth. The University of Ibadan falls within the category of the first generation Universities in Nigeria. First

generation Universities were the first set of Universities to be established by the Federal Government of Nigeria (FGN) between 1962-1975 (Akintola, Yusuf and Odutayo, 2017).

The University of Lagos, also among the first generation Universities in Nigeria (Akintola, Yusuf and Odutayo (2017) was established in April 1962 by an Act of the Federal Parliament. The University of Lagos has two campuses. The main campus is situated at Akoka, Yaba, while the second campus is the College of Medicine located in Idi-Araba, Surulere area of Lagos. The two campuses are located in the Mainland of Lagos, Nigeria. The main campus is built on 802 acres of land in the Akoka part of Yaba, Lagos and is surrounded largely by the picturesque view of the Lagos lagoon. The University of Lagos library was inaugurated alongside the establishment of the University, with the sole aim of providing library and information services to both members of the University community and beyond. The library has large volumes of books, journals and many other e-resources. This study investigated the use of electronic security systems at the main campus library in Akoka, Yaba, Lagos.

Covenant University is a Christian Mission University, a private institution located in Canaan Land, Ota, Ogun State, Nigeria. It was established in 2002 by the World Mission Agency, owned by the Living Faith Church, Worldwide, known as Winners Chapel, International. The institution has built a very viable reputation over a short period of its establishment, emerging as the best tprivate University in Nigeria on several occasions (Ifijeh, 2011) and has also recently, been ranked as the best university in Nigeria (Times Higher Education, 2018). The University library is known as the Centre for Learning Resources (CLR) and is meant to provide library and information services to the University's over 6000 students and other faculty and staff members. The Centre for Learning Resources has in stock many books, journals and other e-resources and the library operation is fully automated.

Babcock University, is also a private institution, owned by the Seventh day Adventist Church and is located in Ilishan-Remo in Ogun State. Babcock University Library used to be known as Adekunle Alalade Library. The Library has been in existence since the days of Adventist College of West Africa (ACWA) in September, 1959. In 1975, its name changed to Adventist Seminary of West Africa (ASWA). The Adekunle Alalade Library became well known in the year 1999,

when the University was established and was registered as a private University in Nigeria, having obtained a certificate of registration from the National Universities Commission, (NUC) Nigeria. Today, the library has an autra-modern edifice and has its name metamorphosed to Laz Otti Memorial Library (LOM).The library has well-represented book holdings and several journal titles, and e-resources. Its operations are automated.

1.3 Statement of the Problem

The academic library has been described as the heart of the university and the treasure of the campus (Kaufman, 2005). This emphasises its central role in the provision of information resources and services to support teaching, learning and research in the university. Due to the huge investments involved in procuring information materials from the slim budgets provided by the parent institutions (Mutula, 2008; Hoskins and Stilwell, 2011) the security of these materials becomes very apposite, since it (security) has been an issue of concern to librarians and academic libraries the world over. In addition, budgetary constraints hamper the provision of adequate and relevant materials for library users, as a result, they resort to pilfering, mutilation and vandalism of available materials. It is also believed that lack of user education is contributory to loss of library information resources through theft and mutilation (Mutula, 2008; Hoskins and Stilwell, 2011).

In the developed world, electronic security systems (ESS) have been successfully deployed to monitor the activities of library patrons and to also safe-guard library materials against theft, mutilation and vandalism. Gibb et. al (2011) citing the work of Engels (2006) which surveyed the benefits of ESS on 27 public libraries in the US and found that its implementation reduced the incidences of theft of library resources. Several other works show that electronic security systems (ESS) have been found effective in curbing theft, mutilation and vandalism of library materials in the developed world context (Singh, Brar, and Fong, 2006; Butters, 2007; Maidabino, 2012; Makori, 2013; Kumar 2014; Randell and Newell, 2014). This study sought to investigate the relevance and effectiveness of electronic security systems (ESS) in the security of library information resources in the context of a developing nation.

There is a dearth in literature in the area of library security, particularly the use of modern technologies in curbing the issues of thefts, mutilation and vandalism of library information resources in academic libraries in the developing nations of the world, Nigeria included. This is because, existing studies have always focused on the use of traditional/manual methods in curbing the excesses of library patrons which include thefts, mutilation and vandalism (among others) of library materials (Omotayo and Ajayi, 2006; Ajala and Oyeboade, 2008; Ogbonyomi, 2011; Uzuegbu and Okoro, 2012). Limited studies have only suggested the installation of electronic security systems (ESS) in curbing the issue of thefts, mutilation and vandalism of library information resources (McComb, 2004; Ogbonyomi, 2011). Therefore, this study aims to bridge this gap by investigating how the implementation of ESS effectively help in curbing thefts, mutilation and vandalism of library materials in selected university libraries in Nigeria.

1.4 Objectives of the Study

The study addressed three broad objectives which included, to:

1. Determine the extent of use of electronic security systems in academic libraries in South-West, Nigeria.
2. Identify the factors influencing the adoption and use of electronic security systems in academic libraries.
3. Establish the resultant effect of using ESS in curbing theft and mutilation of library materials.

1.5 Research Questions

The study addressed the following research questions:

1. What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?
2. To what extent are electronic security systems used in academic libraries in South West Nigeria?
3. How are electronic security systems used to discourage patrons from pilfering information resources from the library?

4. What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
5. How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South West Nigeria?
6. What are the factors influencing/motivating the use of ESS in the library?

1.6 Significance of the study

The study investigated the use of electronic security systems (ESS) in academic libraries in selected Universities in South-West Nigeria. The study has added to the body of knowledge in the field of librarianship and other cognate fields, as well as to theories and the society, how the use of modern technologies can help significantly, in safeguarding library information resources from external intrusions such as thefts, mutilation and vandalism. The study recommends the varied methods through which academic libraries in South-West, Nigeria and beyond can secure their materials using electronic security devices, against the manual/traditional methods which have many deficiencies. The study therefore provides a solid bedrock upon which requisite library security policy can be articulated for the security of library and information resources from the menace of thefts, mutilation and vandalism. The use of Unified Theory of Adoption and Use of Technology (UTAUT) model for the study will contribute to the existing literature on the features that enhance the use of electronic security systems (ESS) in academic libraries in a developing economy such as Nigeria.

1.7 Scope and Limitation of Study

The population for the study comprised Librarians, Paraprofessional library staff, Heads of Libraries (University Librarians) and Information Technology personnel from the University of Lagos (UNILAG), University of Ibadan (UI), Covenant University (CU) and Babcock University (BU), all in the South-West geo-political zone of Nigeria. The four universities were chosen for the study sequel to a preliminary survey carried out by the researcher which appeared to propose that these four universities have procured and implemented the use of electronic security systems in safeguarding the collections of their libraries. The study was conducted and restricted to three out of the six states that make up the South West geo-political zone. The three states are Lagos,

Ogun and Oyo respectively. The four Universities in the three states were selected purposively because they had procured and implemented the use of electronic security systems (ESS). Another reason for the choice of the four selected universities and the geopolitical zone was because of accessibility, the duration/time restraint, including the cost implications in conducting the study. Moreover, the researcher is familiar with the values and customs of the region of South-Western, Nigeria, which was also a contributory factor for the selection of the Universities from this region for the study.

Furthermore, this study was limited to only one geo-political region of Nigeria and three States out of the six States that make up the South-West region and drew its participants from different cadre of library staff that included professional librarians, para-professional library staff, heads of the university libraries (University Librarians) and the Information Technology personnel attached to the libraries surveyed. Further studies can be done to cover other States of the region. Similarly, the sample population or participants were the professional librarians, para-professional library staff, heads of the university libraries (University Librarians) and the Information Technology personnel attached to the libraries surveyed. A subsequent study can be done to include students, who are users of the libraries.

1.8 Preliminary Literature of the Study

This section provides a brief introductory review of preliminary literature. The substantive literature review is provided in chapter three of this thesis. The literature surveyed covers both developed and developing country contexts on the subject being investigated which includes: security practices in Nigerian University libraries, library security, theft and mutilation of print collections in University libraries; disruptive behaviours of users, the impact of ICT in Nigerian libraries; security issues in academic libraries, library and archival security, role of electronic surveillance, electronic theft detection, and more.

Academic libraries have been faced with security issues for a long time, the world over (Lorenzen, 1996; Strassberg, 2000; Rajendran and Rathinasabapathy, 2007). Rajendran and Rathinasabapathy (2007) asserted that, before the advent of the printing press, when books were all manuscripts written with hands, it was the practice to place a curse into the various books to

prevent them from theft. Despite the curses placed on books, there were no permanent solutions to book theft in academic libraries. In those ancient times, books also had chains placed or put on them to guard against theft. However, incessant theft of library books still persisted in the libraries unabated. The Federal Bureau of Investigation (FBI) in March 1990, arrested one Stephen Carie Blumerg in his home in Ottumwa, Iowa, USA, for stealing nineteen tons of rare library materials which included books, manuscripts, and other archival repositories from 45 American States and Canada (Strassberg, 2000). The installation of modern technologies (electronic security systems) in libraries reduce incidences of thefts, mutilation and vandalism of materials. Butters (2007) opines that the implementation of electronic security systems (ESS) in academic libraries in Australia helped to enhance the security of library materials from such acts.

Some electronic security systems (ESS) mostly in use by/in academic libraries include (but are not limited to) the following:

- Electronic surveillance cameras/Closed Circuit Television (CCTV) Cameras.
- Electronic library security gates
- Radio Frequency Identification (RFID) Systems.

Video surveillance or closed-circuit television (CCTV) cameras help to monitor happenings in the library; thus, enhancing safety of materials (Kumar, 2014). Randall and Newell (2014) embarked on a study of four (4) libraries in the US and UK. It was discovered from the study that the installation of CCTV cameras helped to safeguard the library collections from theft, mutilation and vandalism. From the findings of Randall and Newell (2014) the implementation of CCTV cameras in academic libraries enhance the security of library and information resources from theft, mutilation and even vandalism because they help the library personnel to monitor the activities of users within various sections of the libraries. The presence of CCTV cameras in the libraries also create a kind of consciousness in patrons to deter them from pilfering, mutilating and/or vandalising materials in the library.

The electronic security gates are implemented in the libraries for the security of the information resources; the security gates ensure that no library materials are taken out of the library without being duly checked out. The electronic security gate is a system that has a combination of audio

and visible alarms as well as sensors for magnetic strip or tattle tapes inserted into each library book. Tattle tapes are used to offer protection for all library materials, including books and non-book materials. They are electromagnetic (Iron containing strip) and have an adhesive layer. The magnetic strip is not easily removed but can only be desensitised when library materials have been duly checked out and re-sensitised when the materials are returned (Serfontein, 1995; Perrault, 2006).

Radio frequency identification (RFID) systems is the latest technology that is widely used by academic libraries in developed countries in combating the menace of theft and mutilation/vandalism of library materials and for other library activities. The radio frequency identification system tracks the movement of books and the library user(s) carrying them within the library (Molner and Wagner, 2004). Few University libraries in Africa have adopted the use of the RFID. Examples of such are the University of South Africa, the American University in Egypt and the United States International University as well as Catholic University of Eastern Africa both in Kenya (Makori, 2013). Lori (2004) states that the use of RFID systems in libraries began in the late 1990s. He pointed out that approximately 130 libraries in North America were using the radio frequency identification (RFID) systems and the number is on the increase as at the time of his findings. The radio frequency identification (RFID) system tracks the movement of books and the library user(s) carrying them within the library (Molner and Wagner, 2004).

Research in extant literature has recorded that many academic libraries in developing countries like Nigeria often, suffer from theft, mutilation and vandalism of materials (Obikoya, 1993; Momodu, 2002; Ajegbomogun, 2004; Omotayo and Ajayi, 2006). Omotayo and Ajayi (2006) aver that there was great increase in the number of books stolen and mutilated at the Hezekiah Oluwasanmi Library of Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria. Some of the causes of library crimes relating to theft, mutilation and vandalism are attributed to: limited copies of books available in the library; economic hardship on the part of the students; increased number in student's population against limited library information resources in the libraries; few photocopiers in the library to enable students photocopy materials; selfishness on the part of students to deny others access to the same information resources; the belief among students that the library materials can easily be replaced, and much more (Adewale and Oluwasanmi, 2007; Isebe, 2014).

The literature reviewed to this point shows that, virtually all research carried out on Nigerian academic libraries only identify security issues and proffered solutions based on manual (traditional) methods; only a few recommended the implementation of electronic security systems (ESS) in libraries, but none investigated the implementation of ESS and the impact such have had in libraries (Omoniyi, 2001; Oyekisu, Burair and Olusanya, 2011; Maidabino, 2012; Uzuegbu and Okoro, 2012; Okogwu and Nnam, 2013).

A preliminary survey by the researcher was able to identify only four universities in some parts of South-West, Nigeria that have implemented electronic security systems (ESS) in their libraries to monitor the activities of library clientele and to also safe-guard library materials. The survey was based on e-mails the researcher sent to the Nigerian Library Association Online Forum Listserv at nla-online-forum@yahoogroups.com, to find out the libraries in South West, Nigeria that have already implemented the use of electronic security systems (ESS). The universities that responded and submitted that such devices have been implemented in their libraries include: the University of Lagos, University of Ibadan, Covenant University and Babcock University. The survey was also useful in compiling the sampling frame for the libraries to be incorporated in the study. The literature reviewed revealed that there are very limited studies on the implementation of electronic security systems (ESS), as a strategy to curb loss of library materials through thefts, mutilation and vandalism in academic libraries in Nigeria. In addition, a user education programme has been ignored as a strategy to preempting theft and vandalism of library materials. Consequently, extant literature reviewed (on security issues in academic libraries) all based their findings on theoretical investigations and there are very limited empirical studies that have applied theories such as the Unified Theory of Acceptance and Use of Technology (UTAUT) to underpin research problems. The existing studies reviewed have also not applied research paradigm(s) to address research problems, meaning deep understanding of the problem is not achieved. The study, therefore, investigated the extent and impact of the implantation of electronic security systems (ESS) in academic libraries in South West, Nigeria with regard to monitoring patrons and safe-guarding library information resources against theft, mutilation and vandalism. Library materials being referred to in this study are only book (print) materials (hardcopy materials) and not e-resources. This is because the study only investigated the use of

electronic security systems (ESS) in curbing the menace of theft, mutilation and vandalism of book (print) materials in academic libraries.

Electronic security systems (ESS) have been implemented in academic libraries in developed countries such as the United States of America, United Kingdom, Australia, among others. In addition, some libraries in developing countries like South Africa and Kenya have already implemented electronic security systems (ESS) to enhance and safeguard their library collections from theft, mutilation and vandalism (Makori, 2013; Randall and Newell, 2014; Kumar, 2014).

1.9 Introduction to Theoretical Framework

This section gives a synopsis of the theoretical framework for this study; detailed information is provided in chapter 2 of this thesis. There are several theories and models of technology adoption for studying the use of information and communication technologies (ICTs) which includes: Technology Acceptance Model (TAM) proposed by Davis in 1986; Theory of Planned Behaviour evolved by Ajzen in 1991; Motivational Model (MM) developed by Davis, Bagozzi, and Warshaw in 1989; Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen in 1975, 1980; Social Cognitive Theory (SCT) proposed by Bandura in 1986; Diffusion of Innovation Theory (DOI) developed by Rogers in 1995; Combined Theory of Planned Behaviour and Technology Acceptance Model (C-TPB-TAM) propounded by Taylor and Todd, 1995; Model of Personal Computer Utilisation (MPCU) developed by Thompson, Higgins, and Howell in 1991 and Unified Theory of Acceptance and Use of Technology proposed by Vankatesh, Morris, Davis and Davis (2003).

This study was underpinned by the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Vankatesh, Morris, Davis and Davis (2003). UTAUT was developed after a critical review of the constructs of eight models that prior research had used to describe information systems usage behaviour. The models that Vankatesh et al. (2003) reviewed and incorporated in the Unified Theory of Acceptance and Use of Technology (UTAUT) are: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), a Combined Theory of Planned Behaviour/Technology

Acceptance Model (C-TPB/TAM), Model of Personal Computer Utilisation (MPCU), Diffusion of Innovation Theory (DOI), and Social Cognitive Theory (SCT).

UTAUT was developed to establish the intentions of using an information system and increase usage behaviour (Alshehri et al., 2012). UTAUT model has been used to study the use of information system (technology) by others. For instance, it was applied on the use of new technology by Taiwanese college students in using English e-learning website services. The study showed that performance expectancy, efforts expectancy, and social influence have positive effects on the students' behaviour and intentions to use technology (English e-learning websites), because it helped them to increase performance, ease of use and their intention to use them (Tan, 2013). Due to this major strength, the Unified Theory of Acceptance and Use of Technology (UTAUT) was utilised as the theoretical model for this study. Moreover, the Unified Theory of Acceptance and Use of Technology (UTAUT) is the most recent technology acceptance model formulated by Venkatesh, Morris, Davis and Davis (2003). Vankatesh et al. (2003) in using UTAUT, discovered that performance expectancy, effort expectancy, social influence and facilitating conditions all influence the use of information and communication technology (ICT) positively.

There are four major constructs that determine technology acceptance and use in the Unified Theory of Acceptance and Use of Technology (UTAUT) model which Venkatesh et al. (2003) identified:

- Performance Expectancy (PE): the degree to which an individual believes that the use of the system will enhance his/her job performance;
- Effort Expectancy (EE): the degree of ease associated with using the system;
- Social Influence (SI): the extent to which an individual perceives that other important persons believe he or she should use the system; and
- Facilitating Conditions (FC): the degree to which an individual perceives that an organisational and technical infrastructure are available to support use of the system.

The Figure 1.3 illustrates the relationship between variables in the UTAUT Model

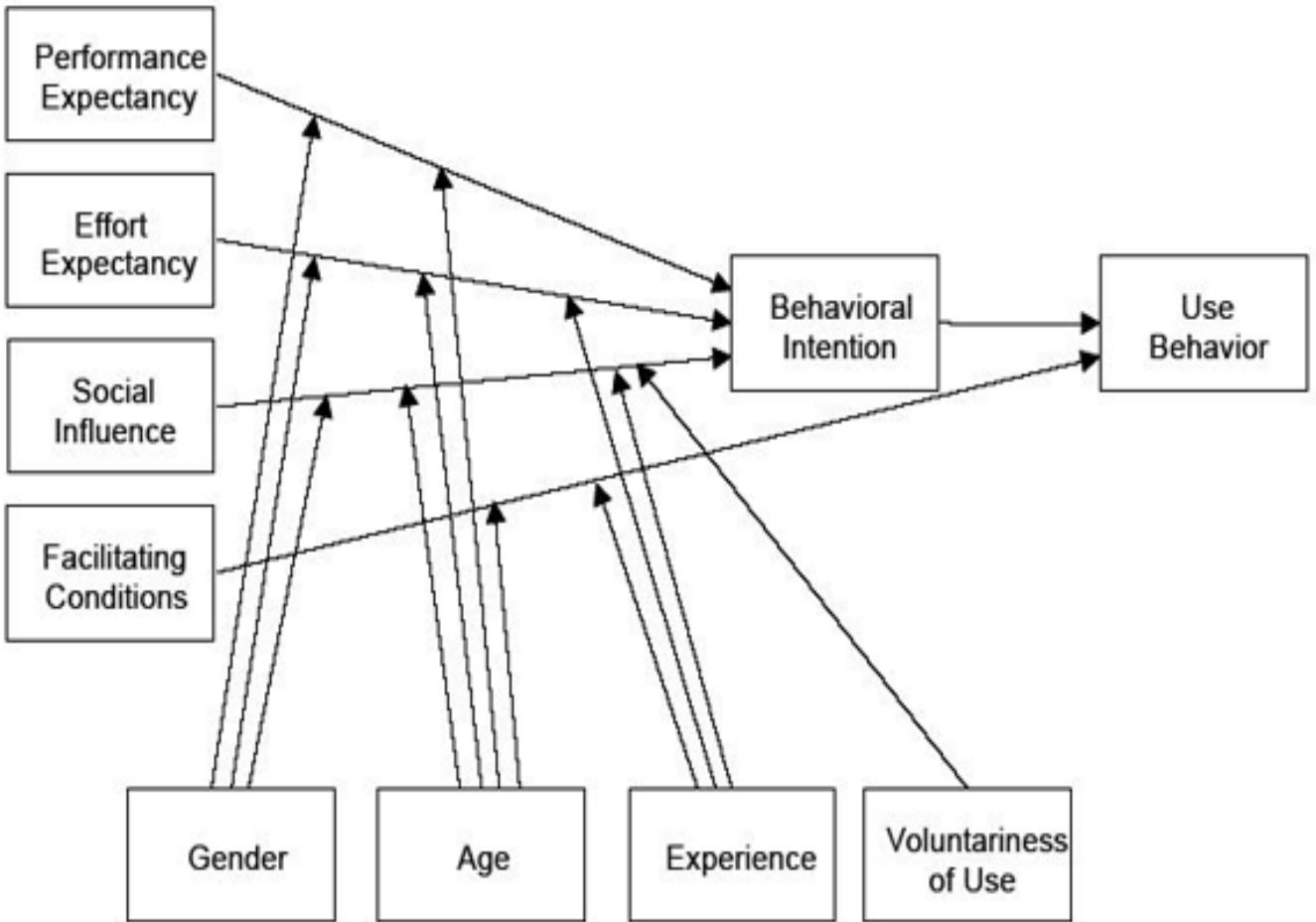


Figure 1:3: UTAUT Model (Source: Venkatesh et al., 2003)

1.10 Introduction to Methodology

The substantive methodology is presented in chapter 4 of this thesis. There are several paradigms that exist to underpin a research. A paradigm is a wide view or perspective of something (Taylor, Kermode, and Roberts, 2007). The three major research paradigms associated with the Social Sciences are positivism, post-positivism and interpretivism (Pickard, 2013). Positivism is anchored on the philosophical ideas of the French Philosopher, August Comte, which states that, observing and reasoning are the best methods of understanding human behaviour (Thomas, 2010). Interpretivism in contrast, is an approach to qualitative research while the post-positivism paradigm allows a combination of qualitative and quantitative approaches (Pickard, 2007, 2013). This study employed the post-positivism paradigm

which is also applicable to survey research that has been used in related studies (Perrault, 2006; Uzuegbu and Okoro, 2012) and several others.

The research design for this study was the survey (descriptive) design. It is the most convenient way of collecting data from a population of study (Ifidon and Ifidon, 2007). The population for this study comprised the Librarians, Para-professional library staff, heads of libraries (University Librarians) and the Information Technology personnel of selected universities in South-West geo-political region of Nigeria. The South-West region of Nigeria comprises of six states: Lagos, Ogun, Oyo, Ondo, Osun and Ekiti States. The South-West geo-political zone has forty-three (43) universities, the highest in any region in Nigeria according to the Nigerian Universities Commission (2015). The University of Lagos, Lagos State; University of Ibadan, Oyo State; Covenant University, Ota, Ogun State; and Babcock University, Ilishan-Remo, Ogun State were purposively selected for this study. This was because these universities have implemented the use of electronic security systems (ESS) in their libraries, based on the preliminary survey carried out by the researcher.

The office of the heads of the libraries (University Librarians) of the universities under study provided the list of respondents that formed the population. They are: University of Lagos (64), University of Ibadan (53), Covenant University (46), and Babcock University (42). The study employed a purposive sampling technique because the researcher has knowledge of, and deliberately selected the population. Purposive sampling involves the selection of certain units based on a specific purpose (Tashakkori and Teddie, 2010). A census or total enumeration method was employed for the selection of the respondents. A census is a study of every unit which has high level of accurate and complete statistical coverage over time and space (Lavrakas, 2008; Australian Bureau of Statistics, 2013). Data for the study was collected through use of research questionnaire and structured interviews. This means of data collection (questionnaire and interview) helps in getting qualitative, descriptive, and detailed data that is precise and able to reach large areas or population with a questionnaire (Pickard, 2013). Copies of the questionnaire were distributed among the Librarians and para-professional library staff while the structured interview was administered to the heads of the libraries (University Librarians) and the Information Technology personnel of the selected universities. The

quantitative data was sorted out, coded and analysed with the use of Statistical Package for the Social Sciences (SPSS). Also, the use of descriptive statistical method and inferential statistics of frequency counts, percentages (%), mean (\bar{x}) and standard deviation (SD) was used in analysing research data relating to the research questions, while the qualitative data was analysed using the thematic content analysis. The reliability and validity of instruments was realised by analysing and generating Cronbach alpha coefficient from the data collected through the pilot test. Only items with Cronbach value of >0.7 were used

The ethical aspect of the research was realised by strict adherence to the ethical protocols of the University of KwaZulu-Natal (UKZN), South Africa. Additionally, permission to carry out research was sought and given by the selected universities investigated.

1.11 Structure and Organisation of the Thesis

This thesis is structured into seven chapters, as follows: Chapter one: Introduction, Chapter two: Theoretical framework, Chapter three: Literature review, Chapter four: Methodology, Chapter five: Data analysis and presentation of findings, Chapter six: Discussion of findings, and Chapter seven: Summary, conclusion and recommendations.

Chapter One: Introduction

This chapter covers introduction and background to the research problem, statement of the problem, objectives of the study, research questions, significance of the study, scope and limitation of the study, and gives a brief discussion of theory, preliminary literature, the methodology and ethical issues.

Chapter Two: Theoretical Framework

This chapter provides the theoretical framework upon which the study was based. The Unified Theory of Acceptance and Use of Technology (UTAUT) was chosen to underpin this study.

Chapter Three: Literature Review

This chapter presents a detailed review of existing theoretical and empirical literature relating to the study. It highlights what has been done, existing gaps and the contribution of the study in addressing the gaps in literature.

Chapter Four: Methodology

This chapter focuses on and discusses the research methodology and methods employed in achieving the objectives of the study. It provides details on paradigms, approaches, research design, study population, sampling techniques/sample size, data collection methods, validity and reliability of the instrument, data analysis and ethical issues.

Chapter Five: Data Analysis and Presentation of Findings

The chapter analyses and presents both the quantitative and qualitative data obtained from survey research questionnaires and structured interviews respectively.

Chapter Six: Discussion of Findings

The chapter presents and discusses findings of the study, using relevant theory and extant literature.

Chapter Seven: Summary, Conclusions and Recommendations

This chapter provides a summary of findings, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

A theoretical framework is the collection of concepts that are related in determining what should be measured and what statistical relationships to look for. The central focus of this study is to investigate the extent and impact of the use of electronic security systems (ESS) in curbing the menaces of theft, mutilation and vandalism of print materials in academic libraries in the South-West geo-political zone of Nigeria. The theoretical framework offers a well-supported rationale to carry out one's study as a researcher and helps the reader to comprehend one's view. The theoretical framework is therefore seen as a group of related ideas that serve as guides to a research project or business endeavour. A theory could be viewed as a statement that stipulates the relationships between variables in order to explain phenomena like human behaviour (Welman et al., 2005:21).

Theory has several meanings, depending from which perspective one is looks. From the Social Sciences context, Mikkelsen (2005:157) defines theory as “a system of interconnected abstractions or ideas that condenses and organises knowledge about the social world”. In the same vain, Kerlinger (1979:64) sees theory as, “a set of interrelated constructs or variables, definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena”. Theory is therefore, what gives researchers the concepts, directions to queries and adequate suggestions that make data relevant, thereby making the researchers to put their brains to work as far as their researches are concerned. Theory serves as a guide to the researcher to achieve the purpose for which his research is being carried out. Researchers may decide to use theories for their works as their lenses that serve as guides to their works or studies (Creswell, 2003).

The purpose of this study is to investigate the *use of electronic security systems in academic (ESS) libraries in selected universities in South-West, Nigeria*. This chapter begins with the presentation of a general overview of use of technology models and the discussion of various

theories that are deemed relevant to information system/technology acceptance, adoption and use. The theories include:

- Technology Acceptance Model (TAM),
- Theory of Planned Behaviour (TPB),
- Motivational Model (MM),
- Theory of Reasoned Action (TRA),
- Social Cognitive Theory (SCT),
- Diffusion of Innovation Theory (DOI),
- Combined Theory of Planned Behaviour and Technology Acceptance Model (C-TPB-TAM)
- Model of PC Utilisation (MPCU)
- Unified Theory of Acceptance and Use of Technology (UTAUT)

This chapter is structured or divided into several sections for proper coordination. Section 2.2 presents explains Technology Acceptance Theory (TAM); Section 2.3 that discusses Theory of Reasoned Action (TRA); Section 2.4 elaborates Theory of Planned Behaviour (TPB); Section 2.5 focuses on Motivational Model (MM); Section 2.6 describes Social Cognitive Theory (SCT); Section 2.7 discusses Diffusion of Innovation Theory (DOI); Section 2.8 explains Combined Theory of Planned Behaviour and Technology Acceptance Model (C-TPB-TAM); Section 2.9 elaborates Model of PC Utilisation (MPCU). Section 2.10 discusses the gaps identified in the theories reviewed; and section 2.11 explains the Unified Theory of Acceptance and Use of Technology. Finally, the chapter provides a summary of the discussion.

2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was first propounded by Davis in 1989 and focuses more on prediction and acceptance of information systems. It was formulated on the hypothesis that acceptance and use of information systems is based on a user's internal beliefs, attitudes and intentions. The TAM was developed to study the acceptability of the technology by an individual, while considering both perceived ease of use and the actual usefulness of the technology.

The TAM suggests that when users are presented with a new technology, several factors come into play to determine their decisions about how and when they will use it. The TAM, to Davis (1989) is a model that proposes a connection between users' acceptance of a new technology/information system (IS) and the users' views of the ease of use and usefulness of technology/information system. The TAM is also a fundamental model, positing that actual information technology system use is affected by behavioural intentions that themselves are affected by attitudes toward use. Beliefs about the system, perceived usefulness, and perceived ease of use in the TAM directly influence attitudes toward the usage (Davis, 1989). In the TAM model, people who have the belief that technology are useful and easy to use will readily accept more than those who do not, with its usefulness being more significant than ease of using it.

According to Davis (1989), The TAM was proposed to examine technology impact on user behavior that is motivated by three key factors:

- Perceived ease of use;
- Perceived usefulness; and
- Attitudes towards use

The TAM is of the belief that perceived ease of use and perceived usefulness are very pertinent predictors that bring about the attitude of a user toward his or her intention to make use of a system/technology (Davis, Bagozzi and Warshaw, 1989:985).

Figure 2.1 below depicts the Technology Acceptance Model.

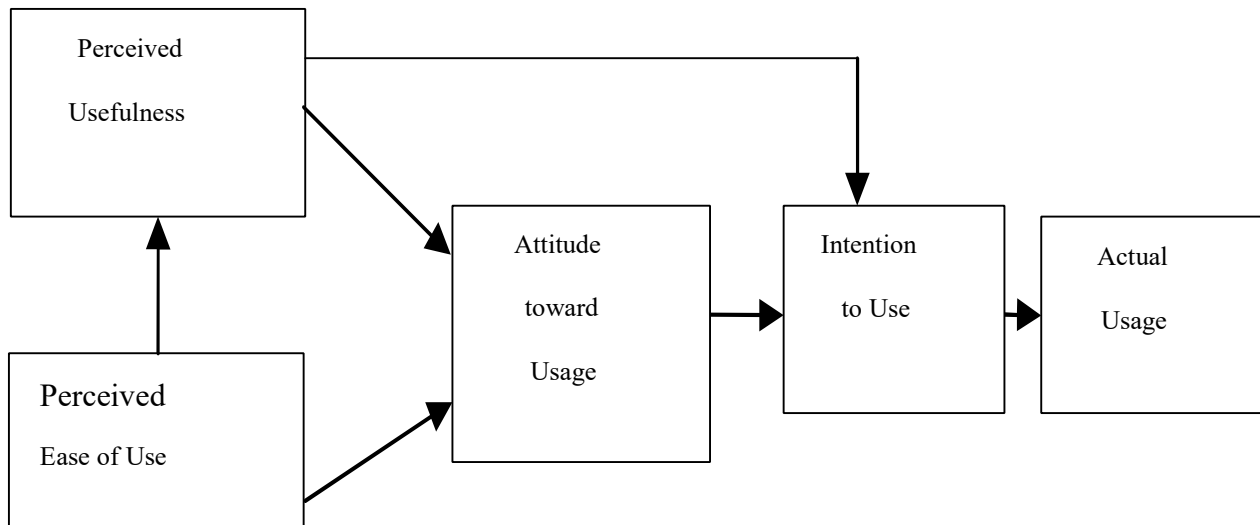


Figure 2.1: The Technology Acceptance Model (TAM) (Source: Davis, 1989)

The TAM's two main factors that influence information usage behaviour are Perceived Usefulness and Perceived ease of Use.

Perceived usefulness

Perceived usefulness is the subjective likelihood that a user that is using a system will have his or her job performance enhanced within the organization (Davis, Bagozzi and Warshaw, 1989:985). Perceived usefulness is also seen as being directly compressed by supposed ease of using a system.

Perceived ease of use (PEOU)

Perceived ease of use is the degree to which an individual using an information system accepts that the use of the system makes one free of physical and mental exercise (Davis et al. 1989:985). To social media, PEOU is defined as the degree to which a person trusts that using social media would be free of energy. On the other hand, perceived usefulness denotes to the degree to which a student considers that using social media will be helpful to him/her (Salman et al., 2014). In a similar vein, using electronic security systems (ESS) would be useful in curbing theft, mutilation and vandalism of information resources in academic libraries of selected universities in South-West, Nigeria.

Due to the availability of new technologies/systems and their complex nature, the level of acceptance of a system's ease of use may be influenced by the rate of adoption by the end users. For instance, when there is a new system for an individual to use and he finds it difficult to manipulate, he may probably not use the system. Approaches toward making use and aims to use the system may be lacking in principle or else may occur only after initial trials to learn to use the technology evolve. Therefore, definite usage may not be a direct or immediate consequence of such attitudes and intentions (Bagozzi et al., 1992)

The TAM has been used by other scholars to underpin their studies. For example, Salman et al. (2014) in their study of remodeling the TAM in explaining user acceptance of the use of ICT determined the factors that have relationship and effect actual usage of the system. The study revealed other factors which have not been explained or included in the TAM. It then proposed an extended model of the TAM to "include communication channels and personal factors in addition to behavioural intentions and perceived usefulness as the main motivating factors in using ICT" (Salman et al., 2014). The study, also revealed that those who use the information technology (IT) were encouraged to use it positively in their daily activities. When Internet is accepted and used in our daily lives and activities, it leads to development. The findings are crucial in shaping future ICT policies and strategising the steps in improving ICT implementation and in revealing the challenges that need to be addressed. Furthermore, the findings recommend that research on ICT need to be done continuously as ICT and the Internet are still evolving and it is through research that new insights on ICT will emerge, thus helping in understanding the variables which have relationship and effect on the utilisation of ICT which in turn can be used for development (Salman et al., 2014).

Behrens et al., (2005) in their study to "determine what makes an information system (IS) successful, an area of concern for both researchers and practitioners", reported that, despite the problems involved, the use of the system has become more acceptable in measuring the success of the system. Behrens et al. (2005) used the TAM to underpin the factors of the success of an online assessment system. Their findings suggest that "the TAM measures of perceived usefulness and perceived ease of use are effective predictors of systems success". Akinbobola and Adeleke (2016) postulate that the TAM developed by Davis (1989) is to provide a basis for

tracing the impact of external variables on internal beliefs, attitudes, and intentions. They went further to assert that Davis originated TAM to find out what factors cause people to either accept or reject an information system/technology.

TAM, according to some scholars is useful and widely applied in technology usage/acceptance (Venkatesh et al., 2003; Marler and Dulebohn, 2005 Jang and Noh, 2011). Numerous studies have revealed that TAM is useful for clarifying technology acceptance behaviours in an extensive variation of ICT situations (Gefen et al., 2003; Jang and Noh, 2011; Oh et al., 2012) Despite the strengths of TAM, studies have also shown that TAM has several weaknesses: that it does not explicitly include any social variables (Mathieson, 1991); its focus is solely on attitudes toward use, behavioural intentions to use, and actual use of ICT systems, while performance and post-adoption effects are ignored (Ka and Lorraine, 2015)

Another weakness of TAM as pointed out by researchers is its inability to explain the external variables affecting users' perceived usefulness and perceived ease of use (Legris et al 2003). These external variables depend largely upon the technology, users, and area of application. The TAM is considered inappropriate for explaining the objectives of this study which include: to determine the extent of use of electronic security systems in academic libraries in South-West, Nigeria; and to determine the factors influencing the adoption and use of electronic security systems in academic libraries in South-West, Nigeria; to find out the impact of ESS in curbing theft and mutilation of library materials. The Technology Acceptance Theory (TAM) was therefore not used to underpin this study. The Unified Theory of Acceptance and Use of Technology (UTAUT) model used to underpin this study captures all the variables/constructs of TAM, and other related theories of technology/systems adoption and use.

2.3 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) was developed by Martin Fishbein and Icek Ajzen (1975, 1980). Ghobakloo, Zulkiflu and Aziz (2010:10) state that, the TRA is an established model from the Social Psychology perspective and it is used for explaining and “interpreting the determinants of consciously intended behaviour”. The Theory of Reasoned Action (TRA) has three components which are behavioural intention, attitude and subjective norms. It is of the

belief that a person's behaviour is dependent on the person's attitude and subjective norms. The theory is used to predict the way individuals will behave depending on their pre-existing attitudes and behavioral intentions. Individuals exhibit a kind of behaviour based on their attitudes and intended behaviours. "Behavioural intentions are determined by attitudes to behaviours and subjective norms" (Sheeran, Norman and Orbell, 1999:403-406).

Theory of Reasoned Action (TRA) posits that attitude is influenced by belief which in turn determines behavioural intention to perform a behaviour. It is said that behavioural intention is the strongest determinant of behaviour. Md Nor., et al. (2008) in their study of "Internet banking acceptance in Malaysia based on the theory of reasoned action", tried to empirically test a research model that involved Theory of Reasoned Action (TRA). According to them, the results have supported the theory's proposition that individuals' behavioural intention to use Internet banking is influenced by their attitude and subjective norm. The results show the applicability and capacity of the TRA to predict adoption intentions, in this study's case within different sampling frame (i.e., in Malaysia) and target technologies (i.e., Internet banking).

The result of the study further revealed that it has practical implications, in that there is a positive relationship between the attitude and behavioural intention to use Internet banking. It also indicates that a "positive attitude about Internet banking could influence individuals to use information system; and also that banks boost attitude of customers to embrace the use of Internet banking (IS) which invariably promotes its usefulness, ease of use and adds to their value and image" (Md Nor et al. 2008:3). The Theory of Reasoned Action (TRA) is of the belief that people behave in a rational way and consider what they must gain or lose based on their attitudes. It then goes to show that people have pre-conceived intentions before exhibiting any behaviour(s). According to Ajzen and Fishbein (1980:26) "people think about their decisions and forecast the possible outcomes of their actions before they decide to perform or not to perform certain behaviours". Ajzen (1991:188), opined that subjective norm "refers to the perceived social pressure to perform or not to perform the behaviour". Subjective norm is therefore seen as the degree of social impact on an individual towards behaviour. It is invariably how an employee sees that individuals who are socially or skillfully close, perceive that he should carry out or not perform the behaviour (Dillon & Morris, 1996). In summary, the TRA opines that attitude is

basically influenced by conviction which in turn defines behavioural intent to carry out a behaviour. Behavioural intention is the greatest determining factor of behaviour. Theory of Reasoned Action (TRA) is said to be broad or wider in scope as far as application areas are concerned, it is the foundation for the invention of many other technology acceptance/adoption models.

The Theory of Reasoned Action (TRA) has the strength of enhancing the understanding of making decisions and the exercise of behaviour (Godin, 1994:1392). Furthermore, TRA, according to Silva and Dias (2007:75) helps to accurately predict human psychological choice from different alternatives. Examples of such choices are deciding who to vote for during elections, and the kinds of alcoholic drinks to consume if one is interested in alcohol, etc. The Theory of Reasoned Action (TRA) has been criticised for neglecting the significance of social issues, that in actual life, could be used to determine an individual's behaviour (Grandon and Mykytyn, 2004; Werner, 2004). The TRA is a model, according to Davis, Bagozzi and Warshaw (1989:984) that is about general behaviour and does not specify the beliefs that are intended for a particular behaviour (in this instance, technology adoption and the implementation of electronic security systems in academic libraries). The greatest limitation of the TRA stems from the postulation that behaviour has to do with volitional control. The theory invariably only applies to behaviour that focuses on conscious thought that is carried out beforehand. These limitations rendered the Theory of Reasoned Action (TRA) unfit for the current study on '*use of electronic security systems in academic libraries in selected universities in South-West, Nigeria*' as the underpinning theory. It could not be used to investigate or answer the research questions the study seeks to investigate; and for this reason, this model was not used as the underpinning theory for this study; instead, the Unified Theory of Acceptance and Use of Technology (UTAUT) was adopted for the study, as it is a more recent theory and has cleverly harnessed the constructs of other related technology/information systems adoption and usage.

Figure 2.2 below depicts the Theory of Reasoned Action.

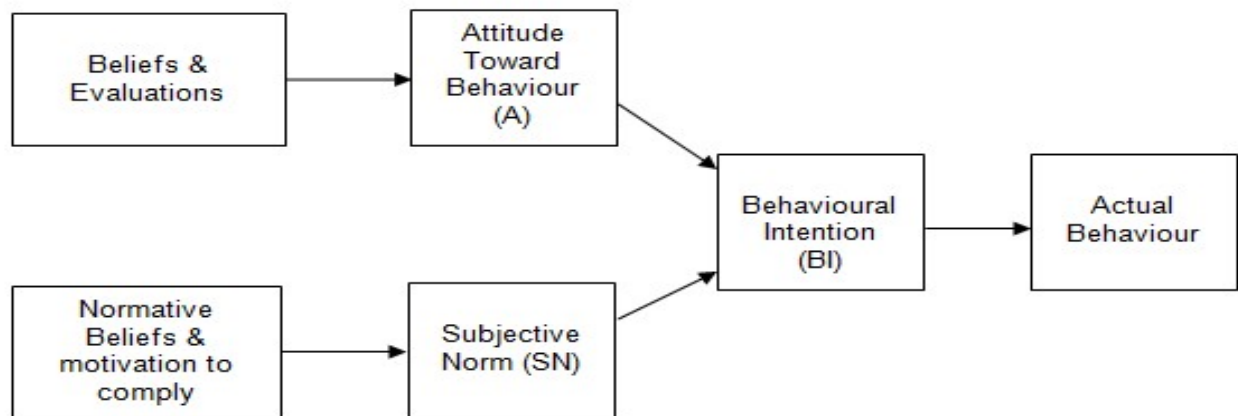


Figure 2.2: Theory of Reasoned Action (TRA) (Source: Fishbein and Ajzen, 1975)

2.4 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) was propounded by Ajzen in 1991. The Theory is essentially a modification of Theory of Reasoned Action (TRA). According to Ajzen, (1991); Ghobahloo, Zulkiflu and Aziz (2010) the Theory of Planned Behaviour (TPB) was formulated because behavioural intention cannot be the determining factor of behavioural influence as claimed by or obtained in the Theory of Reasoned Action (TRA). The TPB opines that, supposed behavioural control, and behavioural intention, can be used to determine either directly or indirectly human behaviour (Ajzen, 1991). Furthermore, the TPB contrasts from the TRA by the introduction of another variable, perceived behavioural control, to attitude towards a behaviour, and subjective norm as bases of behavioural intention. (Okon, 2013).

According to Chau and Hu (2001), the Theory of Planned Behaviour (TPB) is like the Theory of Reasoned Action (TRA) in that TPB also assumes that people are rational makers of decision. It has been stretched from TRA by including an additional construct called behavioural control (BC) or perceived behavioural control (PBC). The reason for this additional construct was the justification that it would be helpful in cases a person does not have the device or requisite means to carry out the intended behaviour at will. Kripanont (2007:50) asserts that the reason for the additional construct was “to account for situations where an individual lacks the control or

resources necessary for carrying out the targeted behaviour freely”. The inclusion of PBC provides information about potential constraints on action as perceived by the actor, and explains why intentions do not always predict behaviour. Perceived Behavioural Control comprises two main facets. Firstly, PBC depends on the degree to which individuals conceptualise themselves as sufficiently knowledgeable, skillful, disciplined, and able to perform some act, called internal control (Kraft, Rise, Sutton and Roysamb, 2005). Secondly, perceived behavioural control depends on the extent to which individuals feel that other factors, such as the cooperation of colleagues, resources, or time constraints, could inhibit or facilitate the behaviour, called external factors (Kraft, Rise, Sutton and Roysamb, 2005).

The Theory of Planned Behaviour (TPB) is a behavioural model used to research a wider acceptance situation than the Technology Acceptance Model (TAM) (Shih et al., 2011:125). The TPB has been used by researchers over the past 20 years and shown to be able to predict a variety of intentions and behaviours. Individuals assess perceived behaviour control using a method similar to the expectancy-value model. In a set of control beliefs, individuals multiply the belief’s strength by the perceived power of the control factor. The TPB has also been widely applied to understand the individual acceptance and use of different technologies (Kripanont 2007; Picazo-Vela, Chou, Melcher and Pearson, 2010). Unlike the TRA, the TPB has been extensively used in the study of information technology acceptance/usage by researchers. For instance, the following have used TPB to study information technology/information systems: Tan and Teo (2000), Venkatesh, Morris and Ackerman (2000), Bobbit and Dabholkar (2001), Venkatesh and Brown (2001), Riemenschneider and McKinney (2001), Chau and Hu (2002), Gentry and Calantone (2002), Limayen and Hirt (2003), Lwin and Williams (2003), Riemenschneider, Harrison and Mykytyn (2003), Taylor, Celuch and Goodwin (2004), George (2004), Grandson and Mykytyn (2004), Hansen, Jensen and Solgaard (2004), Hsu and Chiu (2004), Leonard, Cronan and Kreie (2004), Shih and Fang (2004), Bosnjak, Tuten and Wittman (2005), Brown and Venkatesh (2005), Morris, Venkatesh and Ackerman (2005), and Workman (2005).

According to Godin (1994:1393) TPB has a belief-based arrangement brought about by the perceived presence or absence of the necessary resources and prospects, the envisaged

impediments and challenges by the supposed power of a specific control system to enhance or impede performance of the behaviour. Godin further identified three kinds of beliefs that guide human behaviour:

Behavioural beliefs- this has to do with beliefs that link the behaviour of interest to likely outcomes of a behaviour. An individual may lay hold on several behavioural beliefs with regards to any kind of behaviour, but only a relatively little amount is readily reachable at a given moment.

Normative beliefs- these are beliefs on perceived behavioural outcomes of significant individuals such as managers, families, friends, spouses, etc.

Control beliefs- beliefs on the availability of factors that may enhance performance of behaviour and the envisaged power of these effects. Control beliefs ultimately give rise to envisaged behavioural control.

Evidently, the Theory of Planned Behaviour (TPB) became popular especially at the turn of the century. However, the use of the TPB became less popular following the introduction of another theory, the Unified Theory of Acceptance and Use of Technology (UTAUT). Some researchers have criticised the Theory of Planned Behaviour (TPB) and pointed out that from the addition of perceived behavioural control (PBC), the Theory of Planned Behaviour (TPB) still retains most of the limitations of the Theory of Reasoned Action (TRA) (Montano and Kasprzyk, 2002; Barnett and Presley, 2004). Armitage and Conner (2001) posit that intention to carry out some acts do not always end up in the envisaged behaviour as postulated by the Theory of Planned Behaviour (TPB). Perceived Behavioural Control is partially, but not totally, linked to definite behavioural control. This also has effects on the extent to which intentions are linked with the conforming behaviours. Perceived and actual behavioural control can sometimes deviate, such as when individuals are unmindful to reasons that hinder or enhance the intended behaviour. This goes to depict that some persons could display some kinds of behaviours without taking cognizance of the motives that will impede and/or improve the intended behaviour. The Theory of Planned Behaviour (TPB) was not used to underpin this current study as its constructs would not be used to answer the research questions that this study seeks to answer. The study therefore chose to use the Unified Theory of Acceptance and Use of Technology (UTAUT).

The Figure 2.3 depicts the TPB model and its constructs.

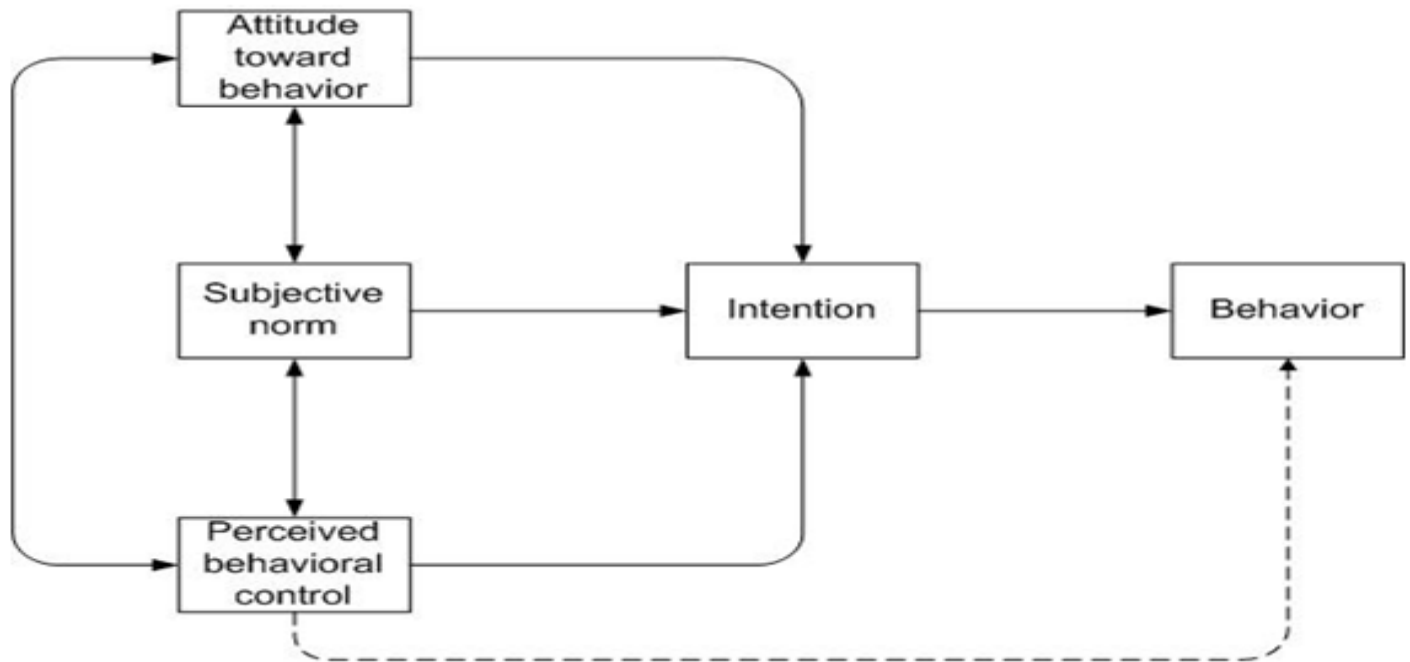


Figure 2. 3: Theory of Planned Behavior (Source: adopted from Ajzen, 1991)


2.5 Motivational Model (MM)

The Motivational Model (MM) by Davis et al. (1992), was formulated to study information technology adoption and use. The Motivational Model proposes that people’s behaviour or intention to use information system/technology is based on both extrinsic and intrinsic motivations. Extrinsic motivation is defined as the view that users want to execute an activity “because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions” (Davis et al., 1992:1112). Perceived usefulness, perceived ease of use, and subjective norm are examples of extrinsic motivation. Intrinsic motivation, on the other hand, involves opinions of pleasure and satisfaction from carrying out the behaviour (Vallerand, 1997). Users intend to carry out an activity “for no apparent reinforcement other than the process of performing the activity per se” (Davis et al., 1992:1112). This presupposes that users of information/system technology just

want to carry out an activity without any strings attached or intentions. Computer use and pleasures are examples of intrinsic motivation (Davis et al., 1992; Venkatesh, 2000).

The table 2.1 shows the self-determination continuum outlining types of motivation and their regulatory styles, behaviour and related processes

Table 2. 1: The self-determination continuum outlining types of motivation and their regulatory styles, behaviour and related processes (Source: Adapted from Ryan & Deci, 2000)

Motivation	Amotivation	Extrinsic Motivation				Intrinsic Motivation
Regulatory Style	Non-regulation	External	Introjection	Identified	Integration	Intrinsic
Perceived Locus Of Causality	Impersonal	External	Somewhat External	Somewhat Internal	Internal	Internal
Behaviour						Self-
Relevant Regulatory Processes	Lack of -competence -contingency -intention -activity value	Presence of external -constraints -rewards -compliance -punishments	Focus on approval (i.e. self or others) -Ego involvement -Internal rewards and punishment	-Activity valued -Personally Important -Consciously Pursued	Synthesis of Identified Regulations to self -Awareness -Congruence	Inherent -enjoyment -fun -satisfaction -pleasure

Intrinsic motivation, as posited by Deci and Ryan (1989) signifies the most self-determined rule and denotes partaking in events for their own sake, specifically, the state of mind of pleasure and fulfilment that stem from outright participation in an event. For instance, an individual who plays football as a result of the joy, fulfilment and pleasure he derives from such a game is said to be intrinsically motivated, since such participation is volitional and not due to any external motivation/rewards (such as fee/payment for being a participant).

Motivational Model (MM) has been criticised by some scholars that it is complex and depends on several influences and cannot be easily used for any simple analytical application in administrative (practices) or organizational activities (Vallerand, 2001; Venkatesh, brown, Maruping, and Bala, 2008). The Motivational Model has also been criticised for not originating a strong structure for information technology research. The MM was therefore not used for this study because of its deficiency, instead, the Unified Theory of Acceptance and use of Technology (UTAUT) was adopted.

The Figure 2.4 below shows the Motivational Model (MM) and its constructs.

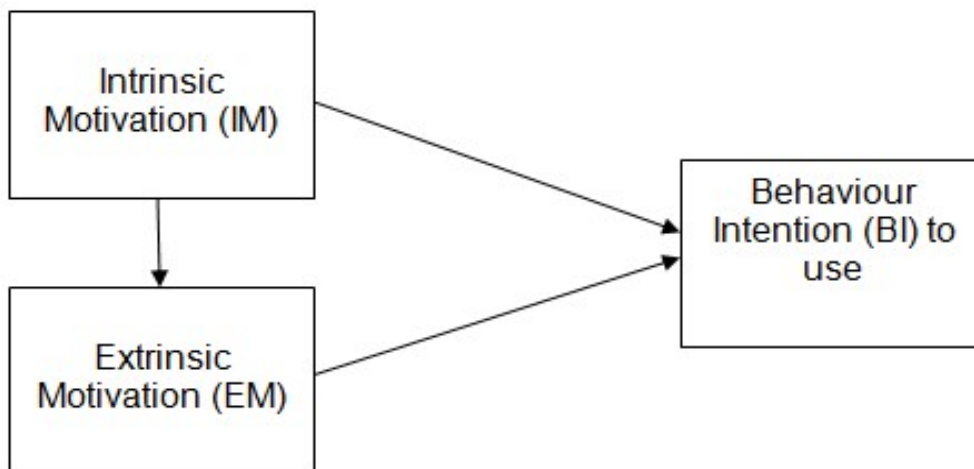


Figure 2.4: The Motivational Model (MM) (Source: Cocosila, Archer and Yuan, 2009:344)

2.6 Diffusion of Innovation Theory (DOI)

Diffusion of Innovation Theory (DOI) was developed by Everett Rogers (1995). It describes the modes of adoption, machinery, and helps find out if a new discovery will be successful. The Diffusion of Innovation Theory (DOI) is essentially a social process in which subjectively perceived information about a new idea is communicated. The theory believes that a new idea, practice or object has perceivable channels, time and mode of being adopted by individuals or organisations (Madu, 2010). According to Yusuf and Derus (2013) this theory is considered to be the permanent theory of acceptance of innovation and is suitable in both an individual or organisational context. Rogers (2003:10) postulated that “diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system”.

The four key components of the diffusion of innovations are:

- Innovation
- Communication channels
- Time, and
- Social system.

Agarwal (2000:90) is of the view that Diffusion of Innovation Theory (DOI) argues that potential users make the decision to either adopt or discard an innovation based on the beliefs they conceive about it. Instead of focusing entirely on individual decision-makers or social structures, the Diffusion of Innovation (DOI) theory “places its emphasis on innovation as an agent of behaviour change, with innovation defined as an idea, practice, or object perceived as new” (Rogers 2003:12).

Diffusion of Innovation Theory (DOI) has been used widely in research/study relating to information systems and technology adoption in organisations. Although the theory provides a decent instrument for descriptive investigation, its weakness is that “it does not provide adequate basis to predict outcome or provide guidance for accelerating adoption rate. The theory, which is of North American origin, appears to have a cultural influence” (Madu, 2010). This illustrates

that Diffusion of Innovation Theory (DOI) lacks the basis to pre-empt the aftermath or direction for the speedy acceptance or adoption rate.

Lee et al. (2011:126) posit that Diffusion of Innovation Theory (DOI) has five important innovation constructs: relative advantage, compatibility, complexity, trialability and observability. Lee et al. (2011:126) further defined the five important innovation constructs of DOI as follows:

1. *Relative advantage is defined as the degree to which an innovation is considered as being better than the idea it replaced. This construct is found to be one of the best predictors of the adoption of an innovation.*
2. *Compatibility refers to the degree to which innovation is regarded as being consistent with the potential end-users' existing values, prior experiences, and needs.*
3. *Complexity is the end-users' perceived level of difficulty in understanding innovations and their ease of use.*
4. *Trialability refers to the degree to which innovations can be tested on a limited basis.*
5. *Observability is the degree to which the results of innovations can be visible by other people.*
(Lee et al. (2011:126))

Meanwhile, several researchers have highlighted some of the limitations of the Diffusion of Innovation Theory (DOI). For instance, it is stated that the Diffusion of Innovation Theory (DOI), as far as information technology/information system (IS/IT) discipline is concerned, is “at its best a descriptive tool, less strong in its explanatory power, and less useful still in predicting outcomes and providing guidance as to how to accelerate the rate of adoption” (Clarke, 1999:17). Chen (2002) posits that the weaknesses of Diffusion of Innovation Theory (DOI) are related to those of the Technology Acceptance Model (TAM) such as disposition aimed at merely technological parts of technology acceptance. To Olasina (2014), the major shortcoming of the model is the lack evidence to back up the evolution of attitude to adoption and the use of technology. Due to the limitations identified with Diffusion of Innovation Theory (DOI) by different researchers, this study adopted the Unified Theory of Acceptance and Use of Technology (UTAUT).

Figure 2.5 below illustrates the five different important Diffusion of Innovation Theory (DOI) constructs.

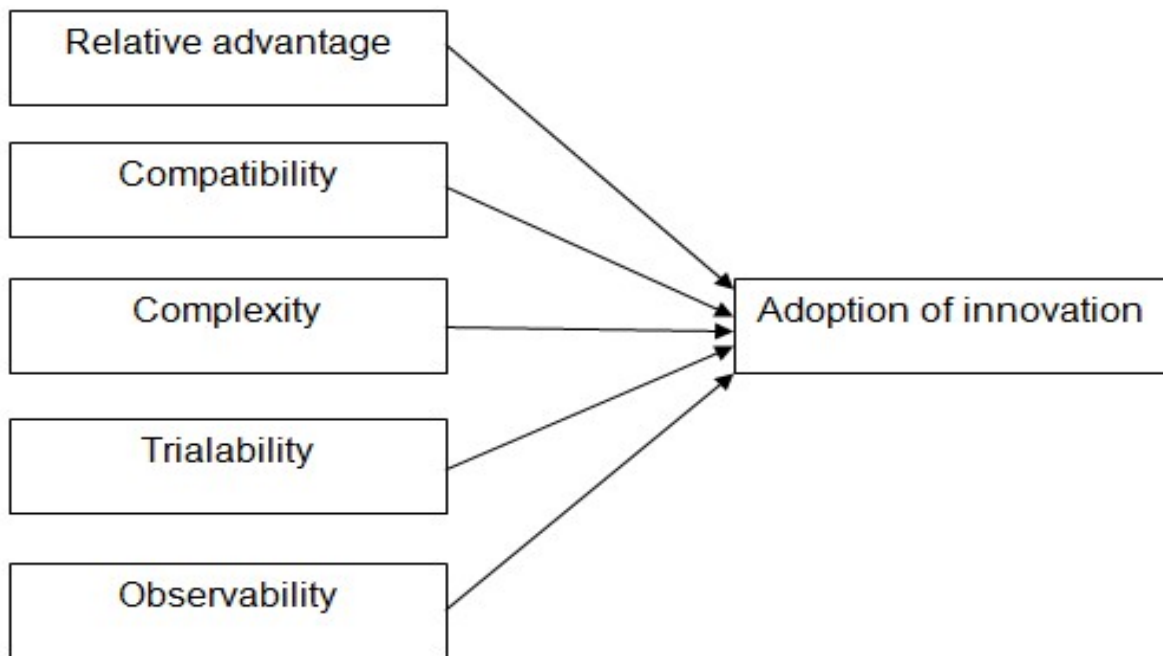


Figure 2.4: Diffusion of Innovation Theory (DOI) (Source: Rogers, 1995 in Lee et al., 2011:126)

2:7 Social Cognitive Theory (SCT)

Bandura (1986) propounded the Social Cognitive Theory (SCT). He averred that cognitive development is analysed according to the sets of cognitive competencies that govern the given domains of functioning, rather than distinct uniform methods of thinking. The SCT incorporates environmental factors, personal factors, cognition and behaviour as interacting determinants of one another. The aim of SCT is to clarify how people adjust their behaviour through control and support to realise goal-directed behaviour that can be upheld over time. The reasoning capabilities of individuals affect their acceptance of technology. Use of or engagement of technology is also largely determined by individuals' reasoning capabilities; this depicts that individuals' ability to engage their cerebral dexterity influence their acceptance of technology (Compeau, Higgins and Huff, 1999). The Social Cognitive Theory (SCT) places premium on the perception of self-efficacy. Self-efficacy is defined as the judgment of an individual's ability to use a technology to carry out a particular job or task, outcome expectations, including personal

and performance-related ones, as major cognitive factors in influencing users' behaviour (Compeau and Higgins, 1995; Compeau, Higgins and Huff, 1999). Social Cognitive Theory (SCT) defines individual associated end-results to be related with individuals having regard or honour and sense of achievement; these activities end in detailed results.

The social cognitive theory posits that people study not merely through their own skills, but also by observing others. Whether we act on what we have learned or not at all, is dependent on several elements. These include, how powerfully, according to Campbell (1963), one is able to recognise the model, their insight of the values of the behaviour, and philosophies regarding one's own capacity to amend old patterns. The Social Cognitive Theory (SCT) may also assist to describe the roots of several fears and social attitudes and can also be used to enhance the treatment of fears.

The Social Cognitive Theory (SCT) recognises that individual reasons such as behaviour dealings comprise the effect of the person's feeling and emotions, sex, cultural affiliation and dispositions (Bandura, 2006). It is also stressed that an individual's anticipations, views, self-perceptions, objectives, etc. help to form the individual's way of behaving (Bandura, 2005). Although the Social Cognitive Theory (SCT) has been used by researchers, it also has some limitations. The theory has been said to apportion very little attention to reasoning but gives ample prominence on environmental factors; while little devotion is given to age-related variations, it looks also too mechanical (Dombeck, 2008). Boston University School of Public Health, (2018) itemised the following as limitations of Social Cognitive Theory (SCT):

- *“The theory assumes that changes in the environment will automatically lead to changes in the person, when this may not always be true.*
- *The theory is loosely organised, based solely on the dynamic interplay between person, behavior, and environment. It is unclear the extent to which each of these factors into actual behavior and if one is more influential than another.*
- *The theory heavily focuses on processes of learning and in doing so disregards biological and hormonal predispositions that may influence behaviors, regardless of past experience and expectations.*

- *The theory does not focus on emotion or motivation, other than through reference to past experience. There is minimal attention on these factors.*
- *The theory can be broad-reaching, so can be difficult to operationalise in entirety”*

Based on the limitations identified with the Social Cognitive Theory (SCT), the theory was not used for this study.

Figure 2.6 depicts the Social Cognitive Theory.

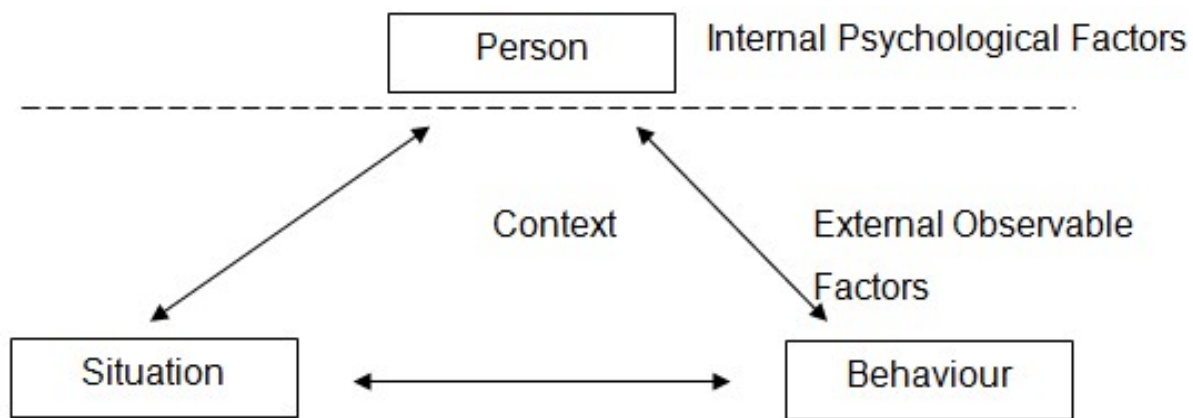


Figure 2.5: Social Cognitive Theory (SCT) (Source: Bandura, 1989)

2.8 Combined TAM and TPB (C-TAM-TPB)

This Combined TAM and TPB (C-TAM-TPB) theory, was propounded by Taylor and Todd, (1995). It is a hybrid model between Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB). Taylor and Todd (1995) developed a hybrid model by bringing together the predictors of Theory of Planned Behaviour (TPB) and the constructs of perceived usefulness and ease of use from Technology Acceptance Model (TAM). The combination of TAM and TPB is for a broader and better comprehension into the factors responsible for the intention to use technology (Chen and Chao, 2011).

This model (C-TAM-TPB), according to Li (2010) is also called the Decomposed Theory of Planned Behaviour due the belief structure is disintegrated in the model. The attitude is

decomposed to include perceived usefulness, perceived ease of use and compatibility. The normative belief structure includes peer influence and superior influence. The control belief structure includes self-efficacy, resource facilitating conditions and technology facilitating conditions.

The C-TAM-TPB also expects that “perceived behavioural control will have a direct effect on behaviour in addition to its indirect effect through intentions. Perceived usefulness and perceived ease of use are major determinants of attitude, whereas perceived ease of use directly affects perceived usefulness” (Taylor and Todd, 1995:144). According to Al-Mamary et al. (2016:143) the Theory of Planned Behavior belongs to the group of “rational choice models”. But in some cases the use of the system is compulsory. The users do not have options whether to use the system or not. This means this theory is more suited as an optional choice only”. C-TAM-TPB is said to have high fitness in explaining users’ behaviours of using new technology, according to Taylor and Todd (1995). Meanwhile, Alatawi, Dwevedi, Williams and Rana (2012) criticise C-TAM-TPB, highlighting that using a hybrid model such as C-TAM-TPB cannot be sufficient in representing various organisational facets. This is because the model is meant to examine the technical context of an organisation rather than individual behaviour. This hybrid model (C-TAM-TPB) was therefore considered weak in addressing the research questions of this study and was therefore not used.

Figure 2.7 depicts the Combined Technology Acceptance Model and Theory of Planned Behaviour (C-TAM-TPB)

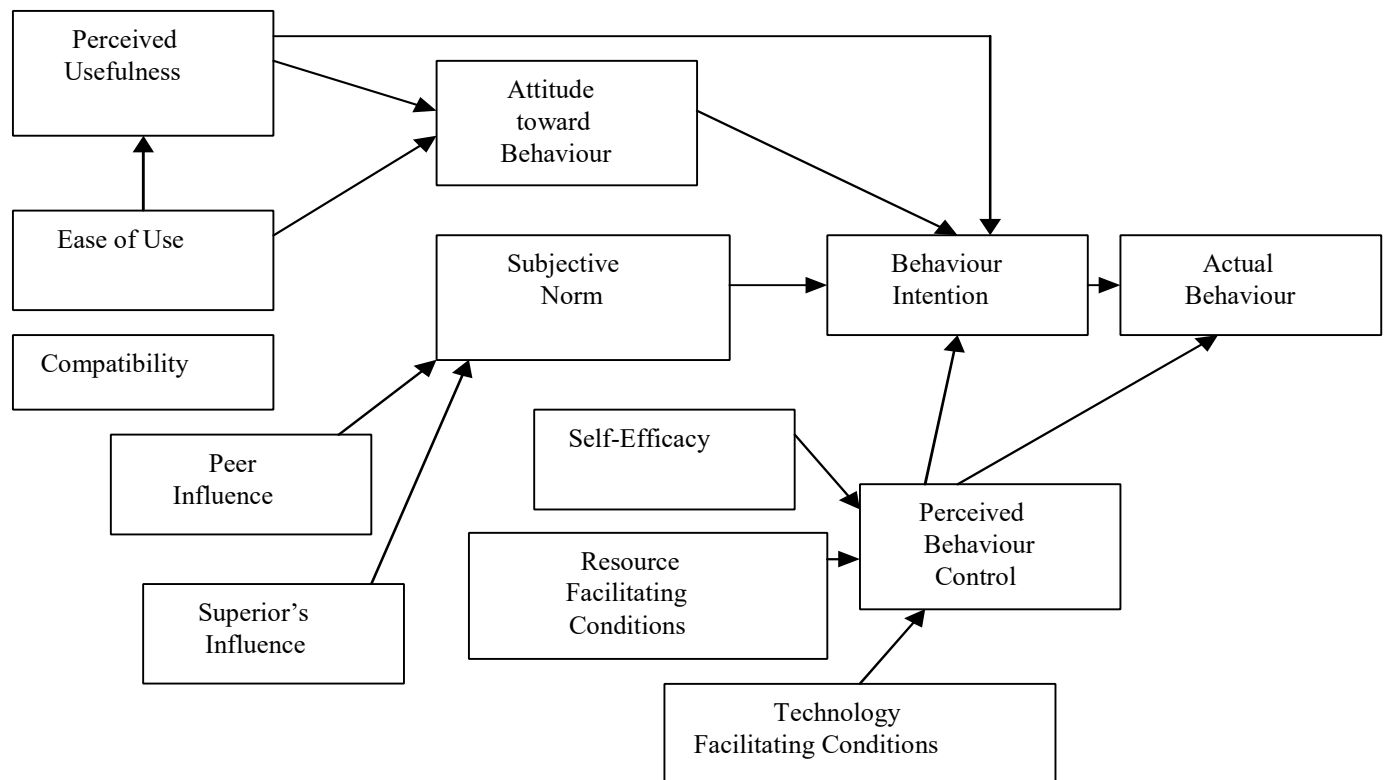


Figure 2.6: Combined TAM and TPB (Source: Taylor and Todd, 1995)

2.9 Model of PC Utilisation (MPCU)

The Model of PC Utilisation (MPCU) was developed by Thompson, Higgins, and Howell in 1991. Model of PC Utilisation (MPCU) came to the limelight from Triandis' (1977) theory of human behaviour. It grants a competing perspective to the ones proposed by TRA and TPB (Ventakesh *et al.*, 2003:430). Triandis (1980) also makes a difference between cognitive and affective components of attitudes. Beliefs belong to the cognitive factor of attitudes. According to Thompson *et al.*, (1991:126), "behaviour is determined by what people would like to do (attitudes), what they think they should do (social norms), what they have usually done (habits), and by the expected consequences of their behaviour". Ventakesh *et al.* (2003:430) posit that Thompson *et al.* (1991) modified Triandis' model to predict PC application behaviour. The major constructs in the model of PC Utilisation (MPCU) and their descriptions or meanings are highlighted below according to Li (2010), citing the work of Thompson *et al.* (1991:126-129):

- **Job-fit:** “the extent to which an individual believes that using [a technology] can enhance the performance of his or her job” (p. 129).
- **Complexity:** “the degree to which an innovation is perceived as relatively difficult to understand and use” (p. 128).
- **Long-term consequences:** “Outcomes that have a pay-off in the future” (p. 129).
- **Affect Towards Use:** “feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act” (p. 127).
- **Social Factors:** “individual’s internalization of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations” (p. 126).
- **Facilitating Conditions:** “provision of support for users of PCs may be one type of facilitating condition that can influence system utilization” (p. 129).

The Figure 2.8 shows the MPCU.

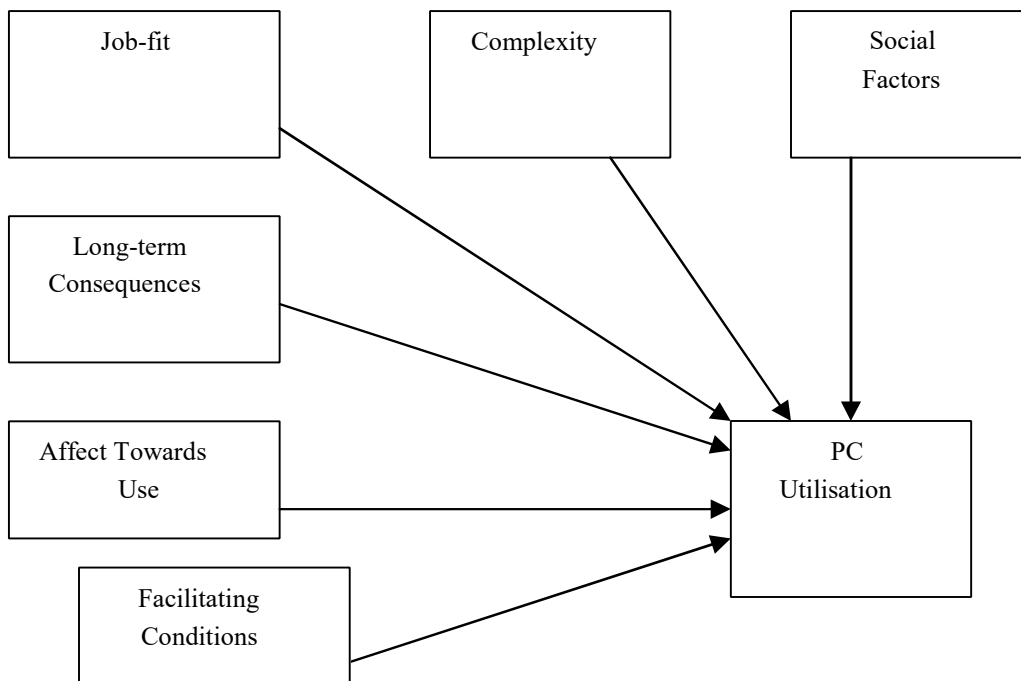


Figure 2.7: Model of PC Utilisation (Source: Thompson et al., 1991)

2.10 Gaps identified in the Theories Reviewed Above

The discussion of the various theories that involve technology acceptance has been concluded, including identifying the gaps, weaknesses/limitations associated with the theories. The researcher has explained why each theory discussed above could not be used to underpin this study. There is, therefore, no need to repeat the various points already elucidated. Conversely, there are some fundamental gaps that must be emphasised in the theories discussed above.

The various theories related to technology acceptance and use that have been discussed are according to Al-Quesi (2009); Miller and Khera (2010) very simple-minded and individual-oriented. The current study requires a more sophisticated model such as the Unified Theory of Acceptance and Use of Technology (UTAUT) that focuses both on people and the surroundings in which they function, and not just on individual behaviours as postulated by the various theories related to information technology/information system (IT/IS) discussed above. Another identifiable gap with the theories discussed, is the use of students majorly as participants. The Unified Theory of Acceptance and Use of Technology (UTAUT) was not only used for this study that captures students but goes beyond to include workers and work environments/situations. Furthermore, the Unified Theory of Acceptance and Use of Technology (UTAUT) model has been authenticated through longitudinal researches, and this has made its strength to be established overtime and in diverse circumstances (Venkatesh et al., 2003).

2.11 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified theory of Acceptance and use of Technology is a hybrid theory having harnessed and incorporated prominent constructs of other eight related theories. The Unified theory of Acceptance and use of Technology (UTAUT) is also very broad and has been said to out-perform other related theories. Venkatesh et al., (2003) reportedly scrutinised the eight prominent models for technology acceptance and use and logically looked at them (including their limitations) and propounded a new model- the Unified Theory of Acceptance and Use of Information Technology (UTAUT). Hence, UTAUT is broad and has been said to out-perform the other related theories. UTAUT incorporates prominent features from eight models of

information systems/technology that include: the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), the Motivational Model (MM), Combined Technology Acceptance Model and the Theory of Planned Behaviour (C-TAM-TPB), Model of PC Utilisation (MPCU), the Diffusion of Innovation Theory (DOI), and the Social Cognitive Theory (SCT) (Venkatesh *et al.*, 2003; Wu, Tao and Yang, 2007; Ghobakloo, Zulkiflu and Aziz, 2010).

Venkatesh *et al.*, (2003) introduced the Unified Theory of Acceptance and Use of Information Technology with “four core determinants of intention and usage, and up to four moderators of key relationships” (Kriponant, 2007). The Unified Theory of Acceptance and Use of Information Technology (UTAUT) was propounded by theorising (as shown in figure 2.9) four constructs to play a significant part as direct determining factors of user acceptance and usage behaviour (Kriponant, 2007). The four constructs are: Performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). However, gender, age, experience and voluntariness of use are moderating factors of the four key constructs on systems/technology usage behavior and intention (Venkatesh *et al.*, 2003; Al-Shafi and Weerakkody, 2009; Ghobakloo, Zulkiflu and Aziz, 2010). The Unified Theory of Acceptance and Use of Information Technology (UTAUT) model was formulated to make sure that it would be simple and afford researchers the opportunity of choosing a model without having to neglect the benefits of other related models.

UTAUT was adopted to underpin this study. The justification of the Unified Theory of Acceptance and Use of Technology (UTAUT) as the underpinning theory for this study is because the researcher considers it appropriate as the theory of choice for this study, being that it is the most recent theory for the study of information technology use and it also incorporates the constructs of the other eight related theories for studying information/technology use.

The Figure 2.9 below shows the constructs of the Unified Theory of Acceptance and Use of Information Technology (UTAUT).

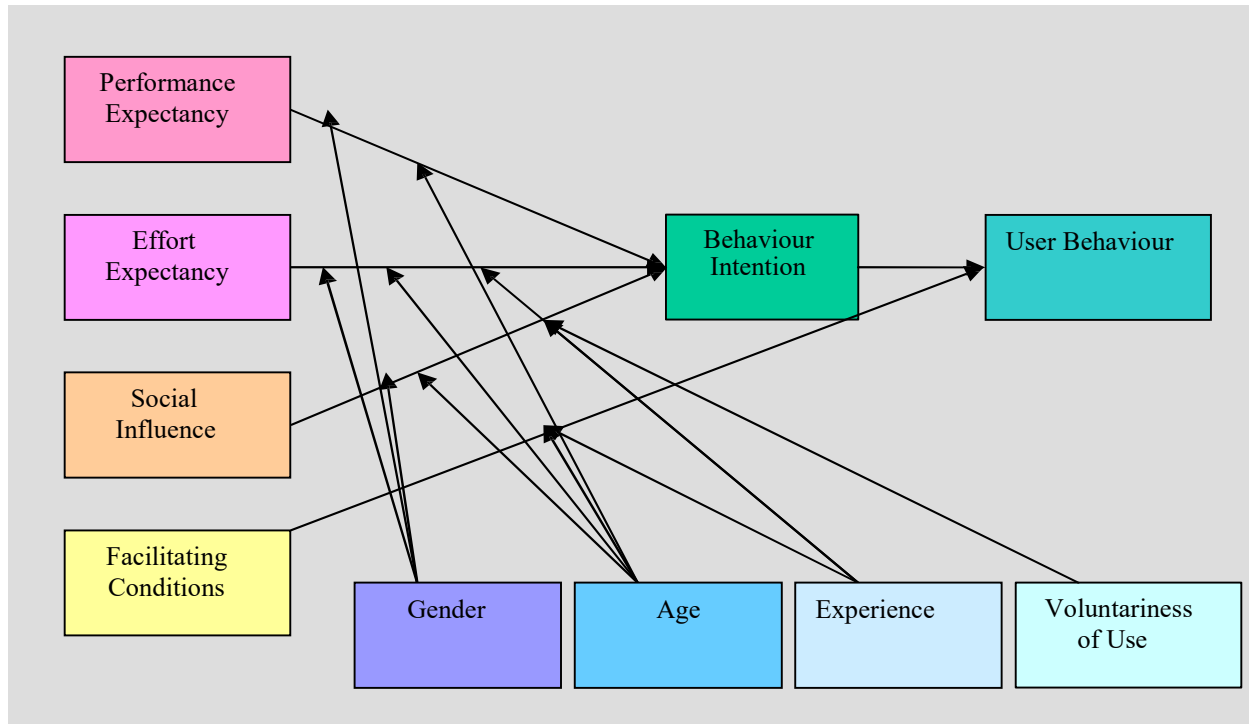


Figure 2.8: Unified Theory of Acceptance and Use of Technology (UTAUT) (Source: Venkatesh et al., 2003)

Sequel to the formulation of the Unified Theory of Acceptance and Use of Technology (UTAUT), Dwivedi, Williams and Lal (2008) posited that the most widely used model to study information systems/technology was the TAM. But the emergence of UTAUT, according to Akbar (2013), has made TAM to lose that popularity and prominence of the preferred model. This is because the Unified Theory of Acceptance and Use of Technology (UTAUT), has now emerged as the most recent and used model in information technology/systems acceptance usage. It has been used in several cultural and organisational platforms.

Research that have used Unified Theory of Acceptance and Use of Technology (UTAUT) in cross-cultural context includes: *“issues surrounding acceptance of information and communication technology (ICT) by students of tertiary institutions in Ghana”* (Attuquayefio and Addo, 2014). Findings from the study revealed that effort expectancy was the variable whose outcome significantly influences the students’ behavioural intention to make use of information and communication technologies available for learning purposes; *“behaviour of 3G mobile communication users in Taiwan”* (Wu, Tao and Yang, 2007); *“the adoption of social media by*

four hundred and nine (409) non-profit organisations in the United States” (Curtis, Edwards, Fraser, Gudelsky, Holmquist, Thornton and Sweetser, 2010); *social influence of workplace referent groups like superiors and colleagues on intention to adopt technology in 152 companies in Germany* (Eckhardt, Laumer and Weitsel, 2009); *acceptance and usage of open access in Tanzanian universities* (Dulle and Minishi-Majanja, 2011). In addition, Lai, Lai and Jordan (2009) applied the Unified Theory of Acceptance and Use of Technology (UTAUT) model to study negative acceptance behaviours among undergraduate and postgraduate students in Hong Kong. Koivumaki, Ristola and Kesti (2008) applied the UTAUT model to carry out a study on the perceptions of 243 persons in northern part of Finland toward use of mobile services and technology. The other studies that have used UTAUT are the adoption and diffusion of e-government services in Qatar (Al-Shafi and Weerakkody, 2009) and students’ behaviour and intentions to use technology (English e-learning websites) in Taiwan (Tan, 2013).

In the light of this, Ghobakloo, Zulkifli and Aziz (2010:11) submit that the Unified Theory of Acceptance and Use of Technology (UTAUT) model is very strong because it transverses different cultural settings. In their words, they postulate that UTAUT is “robust across cultures through increasing understanding of cultural impacts of IT acceptance”. UTAUT has four main constructs namely: performance expectancy, effort expectancy, social influence, and facilitating conditions. These constructs influence behavioural intention to use a system/technology and/or technology use. In line with UTAUT model, performance expectancy, effort expectancy and social influence are hypothesised to influence behavioural intention to use a technology, while behavioural intention and facilitating conditions determine information technology/information system use (Al-Mamary, Al-nashmi, Hassan and Shamsuddin, 2016).

Unified Theory of Acceptance and Use of Technology (UTAUT), has been further validated and found to have accounted for explaining “about 70% of the variance in behavioural intention to use a technology/information system and about 50% of the variance in technology use” (Venkatesh, Thong and Xu, 2012:157). This assertion was also confirmed by Wu, Tao and Yang (2007:2) in predicting the strength of the Unified Theory of Acceptance and Use of Technology (UTAUT), model, that its performance “for technology acceptance behaviour is up to 70%, which is more effective than any of the known models from the past”. The submission of Wu, Tao and Yang (2007) illustrates that the Unified Theory of Acceptance and Use of technology (UTAUT) has been proven to be more effective, as compared to other related models used for the study of technology/information use.

Several other research has been carried out widely with the use of Unified Theory of Acceptance and Use of Technology (UTAUT) besides what has already been outlined above. It was also used to determine the behaviour of 3G mobile communication operators in Taiwan (Wu, Tao and Yang, 2007). The findings reported that performance expectancy and facilitating conditions had very significant impact on behavioural intention of people to operate 3G mobile communications in Taiwan and to ascertain the use of hybrid library services in selected universities in Uganda (Tibenderana and Ogao, 2009). The Unified Theory of Acceptance and Use of Technology (UTAUT) model was used to investigate the acceptance and adoption of open access in universities in Tanzania. The findings concluded that performance expectancy (PE) was a determining factor that influenced the researchers’ behaviour in using the open access (Dulle and Minishi-Majanja, 2011). The Unified Theory of Acceptance and Use of Technology (UTAUT) model was used to study understanding citizens’ behavioural intention in the adoption of e-government services in the state of Qatar (Al-Shafi and Weerakkody, 2009). The findings showed that effort expectancy and social influences determine citizens’ behavioural intention as far as e-governance is concerned.

UTAUT model has been used widely to understand cultural impacts as far as information system/information technology (IS/IT) usage and acceptance is concerned. This points out, why it is asserted that the UTAUT model can be used transversely across several cultural borders as it relates to the comprehension of the effects of information technology/information system usage.

This corroborates the view that Unified Theory of Acceptance and Use of Technology (UTAUT) is very “robust across cultures through increasing understanding of cultural impacts of IT acceptance” (Ghobakloo, Zulkifli and Aziz, 2010:11).

The four key constructs of UTAUT have been defined by Venkatesh et al. (2003) as follows:

Performance expectancy is defined as “the degree to which the user expects that using the system will help him or her attain gains in job performance” (Venkatesh et al, 2003:447). In the light of this study, it is the degree to which the use of electronic security systems in academic libraries in selected universities in South-West, Nigeria will enhance the curbing of thefts, mutilation and vandalism of library resources and eventually help secure the academic libraries from security issues. PE in Unified Theory of Acceptance and Use of Technology (UTAUT), therefore captures the research questions 1, 2 in this study. It also captures questions 8 and 9 of sections C and; questions 7 and 8 of sections B and C (Interview Guide with the university librarians), questions 4, 5, and 6 capture the PE construct of UTAUT as well. Research questions captured include: What library security systems are in place to curb theft and mutilation of library materials? ; To what extent are the electronic security systems used in the academic libraries in South West Nigeria? ; What is the extent and impact of the use of electronic security systems on academic libraries?

According to Li (2010) this recent construct has five root constructs: perceived usefulness from TAM/TAM2, Combined TAM and TPB, extrinsic motivation from the Motivational Model (MM), relative advantage from the Diffusion of Innovation Theory (DOI), and outcome expectations from the Social Cognitive Theory (SCT). Performance expectancy in Unified Theory of Acceptance and Use of Technology (UTAUT) now takes over perceived usefulness in the TAM and this measures what motivates academic libraries to implement and deploy the use of electronic security systems to curb the menace of thefts, mutilation and vandalism of library and information resources in selected universities in South-West, Nigeria.

Effort expectancy: is defined as “the degree of ease associated with the use of the system” (Venkatesh et al, 2003:450). As far as this study is concerned, EE is the degree of ease associated with the use of ESS in curbing the menace of theft, mutilation and vandalism of information

resources in academic libraries of selected universities in South-West, Nigeria. EE in Unified Theory of Acceptance and Use of Technology (UTAUT), captures all the research questions in this study.

Social influence: is described as “the degree to which an individual perceives that important others believe that he or she should use the new system” (Venkatesh et al., 2003:451).

Facilitating conditions: are defined as “the degree to which an individual believes that an organisational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003:453). Venkatesh et al. (2003) also discovered that the impact of facilitating conditions on use and adoption of a system/technology is moderated by age and know-how of the individual. Contextualised differently, the degree in which selected universities in South-West, Nigeria believes that their academic libraries, having electronic security systems (ESS) in place, would help curb theft, mutilation and vandalism of their library information resources. Furthermore, performance expectancy (PE) and facilitating conditions (FC) are the two variables of the Unified Theory of Acceptance and Use of Technology (UTAUT) used to explain/situate the present study of how the use of electronic security systems (ESS) can enhance the security of library materials from the menace of thefts, mutilation and vandalism. From UTAUT model, the extent of access and use of electronic security systems in academic libraries is dependent on facilitating conditions. The following research questions are investigated using these key variables of UTAUT: What library security systems are in place to curb theft and mutilation of library materials; to what extent are the electronic security systems used in the academic libraries in South West Nigeria; how are electronic security systems used to discourage patrons from pilfering information resources from the library; What is the magnitude/ immensity of loss of library materials through theft, mutilation and vandalism; How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries; and What are the factors influencing/motivating the use of ESS in academic libraries in South-West, Nigeria?

Table 2.2: Summaries of Models (Theories) Source: Adapted from Olasina (2014:51-52)

Name of Model (Theory)	Aspects Covered	Strengths of Model i.e. Predictive Power	Weaknesses(Limitations) of the Model
Technology Acceptance Model (TAM)	PU and PEOU	Wide applicability, robustness, power, and validity	Non-specificity, inadequacy in measuring system usage, absence of sound theory/method for measuring PU & PEOU, disregard for societal factors that affect predictors of adoption.
Theory of Reasoned Action (TRA)	Individuals' perceptions, attitudes towards the behaviour, social influences	Explains relationships between attitude and behaviour. Caters for social influences omitted by TAM	Assumption that human behaviour is under voluntary control, demographic factors of age, etc, not addressed at all.
Motivation Model (MM)	Intrinsic motivation (enjoyment and fun), perceived benefits (PU), external pressure i.e., social Pressure (Igarria, 1996)	Motivation leads to important behavioural, cognitive, and affective consequences	Intention-behaviour gap, difficult to offer any simple predictive application in management practice
Theory of Planned Behaviour (TPB)	Attitude toward behaviour, subjective norms, perceived behavioural control (PBC)	Individual's intention to perform a given behaviour, extension of TRA, predicting and explaining human behaviour	Imperfection of predictive power of TPB, acknowledgment of other variables such as habit, perceived moral obligation and self-identity that may predict intentions and behaviour
Combined TAM& TPB	Attitude decomposed to relative advantage (perceived usefulness), complexity (ease of use) and compatibility, subjective norms, PBC decomposed to self-efficacy and facilitating	Adequate to define individual's behaviour to the use of technology	Cannot represent organizational aspects, inclination for only technological aspects

	conditions (Taylor & Todd, 1995a)		
Model of PC Utilization (MPCU)	Peoples' beliefs, affect (feelings), social norms, perceived consequences, habit and facilitating conditions.	Explain people's behaviours toward others in a complicated social environment	Explain computer usage behaviour in only a voluntary environment, ignores facilitating conditions & habit as predictors
Diffusion of innovation Theory (DOI)	Innovation attributes and innovators' characteristics	Well-developed concepts and a large body of empirical results; innovation attributes act as predictors	No evidence on how attitude evolves to acceptance, other shortcomings similar to TAM
Social Cognitive Theory (SCT)	Self-efficacy, outcome expectations and affect (Venkatesh, 1999)	Scientific research, environmental determinants of behaviour, observational learning (Bandura, 1986) Person and cognitive factors (social cognitive theory), report multi-directional causal relationships among the model's major variables	Too much emphasis on cognition, environmental predictors and too little attention to developmental changes, too mechanical
Unified Theory of Acceptance and Use of Technology (UTAUT)	Effort expectancy, performance expectancy, social influence and facilitating conditions	A dominant theory of adoption and diffusion research, most recent, utilizes the strengths of the other eight models	Most tests were carried out in voluntary usage contexts, external variables, purported unification of different models & theories.

2.12 Summary

This chapter explained the importance and role of theory in research regarding giving researchers the concepts, directions to query and adequate suggestions that make data relevant, as well as the lenses that serve as guides to their works or studies (Creswell, 2003). Furthermore, the chapter covered and highlighted several theories that are relevant to the study of the adoption and use of information systems/information technology. In light of this study, the theories that could help predict the use and adoption of electronic security systems in selected South-West, Nigerian universities academic libraries were reviewed. The various theories discussed in this chapter included: the Unified Theory of Acceptance and Use of Technology (UTAUT), the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), the Motivational Model (MM), Combined Technology Acceptance Model and the Theory of Planned Behaviour (C-TAM-TPB), Model of PC Utilization (MPCU), the Diffusion of Innovation Theory (DOI), and the Social Cognitive Theory (SCT).

The four main constructs of the Unified Theory of Acceptance and use of technology (UTAUT) namely: performance expectancy, effort expectancy, social influence and facilitating conditions were discussed and the choice of the Unified Theory of Acceptance and use of technology (UTAUT) as the underpinning theory for this study was explained. The Unified Theory of Acceptance and use of technology (UTAUT) was chosen because of its recency and capability to expound 70% of the variance in usage intention/adoption of information system/information technology (IS/IT) in comparison with other technology acceptance/adoption models. The Unified Theory of Acceptance and use of technology (UTAUT) model harnessed the constructs of eight other information system/information technology (IS/IT) related theories.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

Literature review is what gives the researcher a very good understanding and familiarity in the area of study being investigated. It is “building a case from credible evidence based on previous research” (Machi and McEvoy, 2012:2-4). Furthermore, a literature review is a written document that is presented on a logically argued case based on a complete understanding of the actual state of knowledge about a topic being investigated. This case creates a substantial thesis to answer the study’s question. Aina (2004) opined that literature review serves as the guide that will help the researcher accomplish his task. It is therefore like a compass that gives direction to the researcher and enables him to complete his intended work.

The purpose of literature review, according to Aina (2004:336), is to enable a researcher select an “appropriate research topic, prepare an adequate research plan and formulate reliable research objectives. It can arguably be said that literature review assists researchers in designing appropriate research methodologies and data collection instruments.” To this, Cresswell (2003) adds that the purpose of the literature review provides a background for instituting the significance of a study; it also aids as a standard for comparing the outcomes of a research with other outcomes.

Echoing Cresswell’s proposition, Ifidon and Ifidon (2007:66) on their part, consider literature review as a concise summary of prior research and works of famous scholars. They add that literature review “determine what has already been done that relates to the researcher’s problem as well as what has not been done. It therefore helps the researcher avoid unintentional duplication and provides the understanding and insight necessary for the development of a logical framework into which the researcher’s stand fits” (Ifidon and Ifidon, 2007:66).

Literature review has also been postulated as enhancing the researcher's understanding with prior works in the area of his research interest (Gastel, 2012) and positioning the study within an already existing study (Boote and Beile, 2005). Boote and Beile (2005:3-15) further identified the purpose of literature review to include the following:

- “Provide a context for the research
- Justify the research
- Ensure the research hasn't been done before (or that it is not just a "replication study")
- Show where the research fits into the existing body of knowledge
- Illustrate how the subject has been studied previously
- Highlight flaws in previous research
- Outline gaps in previous research
- Show that the work is adding to the understanding and knowledge of the field
- Help refine, refocus or even change the topic” (Boote and Beile, 2005).

There are however different types of literature review in research (Blanche, Durrheim and Painter, 2006) which thematic reviews, historical reviews, theoretical reviews and empirical reviews. Reviews that lay emphasis on diverse subjects or perceptions are thematic literature reviews. Historical literature review connote literature that has focus on sequential (chronological) undertakings. Theoretical reviews are those that explore academic improvements in a specific discipline. These types of reviews are supported by experimental proof with the theories. Reviews that abridge experimental verdicts and are based on methods/procedures are empirical reviews.

The aim of this study was to investigate Use of Electronic Security Systems in Academic Libraries in Selected Universities in South-West, Nigeria. The study addressed the following research questions:

1. What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?

2. To what extent are electronic security systems used in the academic libraries in South-West, Nigeria?
3. How are electronic security systems used to discourage patrons from pilfering information resources from the library?
4. What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
5. How effective are the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South-West Nigeria?
6. What are the factors influencing/motivating the use of ESS in the library?

The literature is reviewed based on themes derived from the above research questions. Within each theme, international context is reviewed followed by regional and local contexts. Empirical and conceptual literature reviewed in this chapter were obtained from books, scholarly journals, non-empirical works, websites, peer-reviewed books of abstract essays, monographs, theses, research synthesis, conference proceedings, and foremost electronic databases such as ERIC (*Education Resources Information Center*), EBSCOhost, Science Direct, Social Science Citation Index, ProQuest, Google Scholar, etc. The chapter is organised around themes of research questions, key variables of the underlying theory and broader issues on the research problem; and within each theme, international context is reviewed followed by regional and local contexts. The themes include: library security and electronic security systems; electronic security Systems (ESS) in use in academic libraries; extent of use of security systems in academic libraries; use of electronic security systems (ESS) to discourage patrons from pilfering information resources; magnitude/immensity of loss of library materials through theft, mutilation and vandalism; effectiveness of the use of electronic security systems (ESS) in academic libraries; and factors that influence/motivate the use of electronic security systems (ESS)

3.2 Library Security and Electronic Security Systems

Academic libraries have been bedeviled with security problems for a long time now, throughout the world (Akinfolarin, 1992; Lorenzen, 1996; Strassberg, 2000; Rajendran and Rathinasabapathy, 2007; Salaam and Onifade, 2010). Security refers to measures taken to protect

something or a place. To Fox and ElSherbiny (2011:8), security is important in libraries such that materials are protected from being damaged or stolen, as the effect would eventually tell much on the libraries, users and also make valuable information resources unavailable in the long run. Notwithstanding that some studies have been done on theft, mutilation and vandalism of library materials and other related topics, there is yet a dearth of literature on library security, especially in the use of advanced or modern technologies in remedying the increasing upsurge of theft, mutilation and vandalism of library information resources, especially in South-West, Nigeria, and in the developing countries' context. Very researches have been carried out in this area which makes literature on this subject area somehow very scarce and unique. Most extant literature focus on the manual or traditional methods of curbing the menace of thefts, mutilation and vandalism of materials in academic libraries; however have not dealt with the application of modern devices to curb security issues in academic libraries (Burrows and Cooper, 1992; Matthews, 2004; Jato, 2005; Ozowa, Aba and Aba, 2016; Raji, et al. 2017).

The issue of security has been a major challenge that libraries and librarians have been battling with for far too long since the introduction of libraries (Lorenzen, 1996; Strassberg, 2000; Rajendran and Rathinasabapathy, 2007; Salaam and Onifade, 2010). Corroborating this assertion, Shuman (1999) posits that security problems or challenges have been in existence since the advent of libraries. The issues of thefts, mutilation and vandalism of information resources (print materials) have been occurring as old as libraries have been in existence (Akinfolarin, 1992; Lorenzo, 1996; Shuman, 1999; Strassberg, 2000; Rajendran and Rathinasabapathy, 2007; Higgins, 2015). To illustrate this, Rajendran and Rathinasabapathy (2007) describe how before the advent of the printing press, when books were all written by hand, it was the tradition to letter a curse into the books to avert theft. Below are examples of such curses placed on books according to Rajendran and Rathinasabapathy (2007)

*For him that stealth a Book from this Library
Let it change into a Serpent in his hand and rend him
Let him be struck with Palsy and all his members blasted
Let him languish in Pain crying aloud for Mercy
Let there be no Surcease in his Agony till he sinks to Dissolution*

*Let Bookworms gnaw his Entrails in token of the Worm that dieth not,
When at least he goeth to his final Punishment*

Let the flames of hell consume him forever and aye

*Steal not this Book my honest Friend
For fear the gallows should be your hend
And when you die the Lord will say
And wares the Book you stole away?"*

-Old letters of curses placed on books to scare thieves.

From the above letters placed on curses, they were hand-written and attached to books in the libraries to scare users from taking the books from the library illegally without due process. The unfortunate thing was that, despite of these curses placed on books in the medieval times, and the traditional methods employed to discourage patrons from theft, mutilation and vandalism of library materials, these activities still continued unabated as some library users wilfully rip-off, deface, mutilate library materials (Staurt, 1988; Lorenzen, 1996). Studies indicate that a library loses up to 6% of its materials each year to thefts and mutilation (Robison, Marshall and Cravey, 1992). Robison, Marshall and Cravey went further to cite the work of Hendrick and Murfin (1974:402), which revealed that “since medieval times, libraries have tried various approaches to secure their collections from theft, mutilation and vandalism. Despite valiant, ordinary and innovative approaches to securing the general collections, 73% of Chief Librarians rated book theft as their number one problem.” This goes to corroborate that despite the efforts put in place by heads of libraries in the security of library resources from thefts, mutilation and vandalism, including employing more security personnel to patrol to and from the reading areas/shelves and developing library policies to curtail the menaces of insecurity of library materials (the manual or traditional approaches), these security issues still remain unabated (McComb, 2004; Uzuegbu and Okoro, 2012). This underscores the sentiments that considers thefts, mutilation and vandalism of information resources as constituting a serious problem for librarians and heads of libraries the world over.

Furthermore, there have been several studies that covered and gave findings on theft, mutilation and vandalism of library (print) materials both in the developed and developing countries contexts before many libraries started implementing electronic security systems to curb the menace. From the developed economy context, Stuart (1988) who did a historical study on book

theft in Europe, averred that within the space of nineteen months, one Dr. Pichler illegally removed 4,500 books and manuscripts from the collection of the Imperial Public Library in St. Petersburg where he was the supernumerary librarian. He was finally caught, tried in the Petersburg District Court, found guilty and was sentenced to perpetual exile in Siberia.

Similarly, Basbanes (1995:467) asserted that one Stephen C. Blumberg was detained in custody in 1990, for stealing about 23,600 books from 268 libraries in forty-five States in America, two provinces of Canada, and the District of Columbia. Strassberg (2000) corroborating the findings of Basbanes (1995) in his work, *“Library and Archives Security”* submitted that the Federal Bureau of Investigation (FBI) in March 1990, arrested one Stephen Carie Blumberg in his Ottumwa home, Iowa, USA, for stealing nineteen tons of rare materials which included books, manuscripts, and other archival repositories from 45 American States and Canada. The issue of theft, mutilation and vandalism of information resources has been overwhelming in the developed world.

In a similar development, there was the report of Murphy and Elizabeth, his wife, who were stealing books from the National Archives in the United States of America time and again, “carrying along some of the nation’s treasures, which he and his wife Elizabeth purloined and sold to collectors all over the United States” (Shuman, 1999:38). They were declared guilty of indiscriminate theft from numerous institutions and were eventually sentenced to ten years in prison custody (Shuman, 1999).

Cravey (2001) narrates a case of a young female student who was apprehended for ripping off some pages from periodicals at the Ohio State University’s library. The finding suggested that she was fully conscious of her acts, but the culprit saw nothing wrong with her acts of vandalism and theft. It was also reported that a dealer in antique maps was arrested by the FBI and accused of ripping off rare maps valued at over \$ 800,000 from Yale University’s Rare Books and Manuscript sections of the library. In the same vein, the Library of Congress was forced to close its book stacks to users when it was discovered that more than 300,000 of its materials (books) could not be accounted for (Shuman, 1999). It is estimated that yearly losses from theft of materials range from 2 to 5% of a library’s book collection and from 5 to 25% of their audio-

visual resources. In a study carried out at the national level by Lincoln and Lincoln (1987) regarding library crimes in 1,700 libraries in the United States of America, it was established that 90% of the responding libraries had experienced book theft and 60% theft of reference materials.

Library security according to Serfontein (1995) includes every aspect of library security, i.e. the safety of the library's collection, staff and library patrons, patrons' behaviour, the safety of the building, disasters (uncontrollable events such as a dangerous weather storm causing damage), flooding, and pests. However, this study is limited in scope, focusing only on the security of the library collection (print materials) from theft, mutilation and vandalism. Electronic security systems (ESS) are devices that are used with the aid of electrical apparatus to secure library materials by enhancing libraries to control, reduce or avoid thefts, mutilation and unethical removal of library materials by library users.

From the literature reviewed above, it can be inferred that library security issues cut across the libraries the world over and librarians have been battling and seeking for several ways to curb the menace as it relates to theft, mutilation and vandalism of library information resources. It was discovered that library clienteles use different methods and guise to illegally remove library materials from the libraries.

3.3 Electronic Security Systems (ESS) in Use in Academic Libraries

The first research question, “what library security systems are in place to curb theft and mutilation of library materials?” examined the different electronic security systems (ESS) that are deployed or implemented in academic libraries. The variables linked to this research question are electronic security systems and use/usage.

Aina (2004:263-270) affirmed the importance of electronic security systems (ESS) when he opined that “library materials must be safe; hence security devices need to be provided by library to ensure that materials are not stolen or mutilated”. Similarly, Akor (2013) also stated that the main purpose of security systems in the library should be geared towards the provision of safety and security for library employees, library resources and the various equipment in use in the library, as well as the library patrons. Kumar (2014) posited that electronic security systems

(ESS) are integrated systems made up of diverse kinds of devices and equipment, with a combined operation which enhances the protection of human lives, property, the environment and information. The views from the studies referred to above, portray the importance of having electronic security systems (ESS) installed or implemented in the libraries and how they can help to guide against unethical activities of library patrons on library information resources. Some samples of electronic security systems implemented and commonly used in libraries are closed circuit television (CCTV) cameras, radio frequency identification (RFID) system, perimeter alarm, electronic security gates, and more (Rajendran and Rathinasabapathy, 2007). This study however focused on closed circuit television (CCTV) cameras, electronic security systems, and radio frequency identification systems (RFID). The purpose of choosing these electronic security systems (ESS) is because they are the most commonly and popularly used electronic security systems that are implemented in libraries (Ramamurthy, 2001; Kern, 2004; Kumar, 2014; Randall and Newell, 2014).

Despite the catalogue of advantages identified for the implementation or installation of electronic security systems (ESS) in libraries, there are also several constraints faced or being faced in the use of electronic security systems (ESS) in libraries. Some of the constraints are, but not limited to: high cost of electronic security systems, high cost of maintenance, inadequately trained/skilled personnel to make use of the devices, epileptic electricity or power supply, inadequate or poor funding of the libraries, among others (Ogbodo, 2011; Ozowa, Aba and Aba, 2016)

The study focused on the mostly used and popular electronic security systems (ESS) which are commonly installed or implemented in libraries. These include: the closed circuit television (CCTV) cameras, electronic security gates and Radio Frequency identification (RFID) Systems (Ramamurthy, 2001; Kern, 2004; Kumar, 2014; Randall and Newell, 2014; Kumbhar and Veer, 2016; Muhammad, 2017). Consequently, the sub-sections 3.3.1 to 3.3.3 review the existing literature on different types of electronic security systems in use in academic libraries.

3.3.1 Video Surveillance or Closed-Circuit (CCTV) Cameras

Video surveillance or closed-circuit television (CCTV) cameras serve as a measure to secure library information resources from theft, mutilation and vandalism. They also help to monitor happenings at the various segments of the library and enhance safety of materials (Kumar, 2014). Libraries use closed circuit television (CCTV) cameras, principally to reduce the amount of theft, mutilation and vandalism as well as generally safeguard their library information resources from external intrusions (Westenkirchner, 2008). Omoisekemi, Ijiekhuamhen and Ojeme (2015) noted that the main drive of the closed circuit television (CCTV) cameras is to detect, identify, monitor and keep record of observations, deliver actual information for recognition and identification of recording made, including the exact time and location the information was captured. They asserted further, quoting Marcus (2007), that the closed circuit television (cameras) can be used to monitor various areas which include: “driveway to the library building, parking area of the library, library shelf areas, library equipment, such as library computers located in each offices, movement of staff and users within the library, and monitor the exchange of materials within the library, etc.” In essence, the closed circuit television (CCTV) cameras do not only monitor the activities of library patrons within the various sections of the library, but also record such activities and has the ability to playback, showing the exact time they were recorded. Closed circuit television (CCTV) cameras are rapidly becoming one of the most significant and economical security and safety devices available to libraries (McComb, 2004). McComb (2004) and McCahill and Norris (2002) opined that libraries implement the use of electronic security systems such as CCTV cameras, to recognise any visitors, patrons, employees and even monitor other areas within the libraries in order to discourage thefts, mutilation and vandalism of library resources, including other facilities within the library. This shows that closed circuit television (CCTV) cameras are very popular electronic security systems (ESS) that are implemented in libraries. In the same vein, Ramana (2007:498) postulated that the “closed circuit television (CCTV) cameras used in the libraries can enhance the ability to control book thefts and tearing off the pages from the books and magazines”.

Randall and Newell (2014) embarked on a study on the surveillance practices of four (4) large libraries, one (1) in the United Kingdom and three (3) in the United States. Their finding showed

that the four libraries investigated implemented video surveillance systems (closed circuit television cameras) in response to the safety of library staff, monitoring and curbing of criminal activities (as it relates to thefts, mutilation and vandalism) of materials in the libraries. Randall and Newell (2014:514) opined further that video surveillance systems (closed circuit television (CCTV) Cameras) “were installed by various branch managers in response to staff concerns about criminal activities both inside and outside library buildings”. Randall and Newell (2014) asserted also that the closed circuit television (CCTV) cameras or video surveillance systems were implemented initially in rejoinder to staff appeals due to incidents of crime, vandalism and scribbles (graffiti) at some of the branches of the library. In a survey conducted by the library managers in 2007 and 2008, it was reported that closed circuit television (CCTV) cameras were installed because of problems with fighting, drug activities, prostitution and theft inside the parking lots and the library buildings. Among the reasons signposted by the library managers, theft was the most commonly cited reason as reported by 3 out of 9 branches, while undesirable youth activity, loitering and graffiti were each cited by only 2 out of the 9 branches who finalised the investigation. The primary purpose of the use of Closed Circuit Television (CCTV) cameras in libraries are for detection, for monitoring and recording of observations, providing the exact time information captured for detection and identification purposes, recording and providing information at a later date in order to serve as evidence against the culprits (Omosekejimi, Ijiekhuamhen and Ojeme, 2015). There are key steps to consider when designing the procurement and implementation of the closed circuit television (CCTV) cameras system for the library. In this regard, Omosekejimi, Ijiekhuamhen, and Ojeme (2015:52) quoting McCahill and Norris (2002) identified such keys to include: determining the reason of implementing the CCTV system; the library building layout and characteristics of the control areas to be used; the type and features of cameras to be procured/used; the best locations to mount the viewing monitors; determination of the appropriate technique to use for transmission; and the decision on the type of recording device to use.

Several reasons have been adduced above for the implementation of closed circuit television (CCTV) cameras in academic libraries. However, Omosekejimi, Ijiekhuamhen, and Ojeme (2015:53) further quoted McCahill and Norris (2002) and suggested the following as the major

benefits for the use of electronic security systems, especially the closed circuit television (CCTV) cameras. The benefits include:

Maximum security: *Patrons of all ages and types use libraries every day. Security cameras placed around the library can help to keep safe while reading, researching and browsing as well as the information resources they are using.*

Prevent theft: *Every part of a library's collection is valuable. A video surveillance system working in conjunction with a barcode and magnetic book control system could help prevent book theft and monitor the move of books and other resources as it moves from one user to another.*

Flexibility: *If video systems allow users to place cameras where they are needed, and reconfigure them in whim libraries, especially those that host community events, author readings or children book clubs, could greatly benefit from the flexible security that IP video provides.*

Remote monitoring: *Video surveillance systems that use the cameras and network recorder (NVR) allow libraries to broadcast their surveillance footage over the internet. This allows management and security to check in on libraries at any time should security concerns arise, the broadcast function could also be used to archive speakers or special events at the library (Omosekejimi, Ijiekhuamhen, and Ojeme, 2015:53).*

Furthermore, Tekale, Veer and Rathod (2010:335) suggested the benefits of using the Closed Circuit Television (Cameras) in libraries to include the following: it acts as deterrent; it enables monitoring to be done more effectively; it can be used to place restrictions on movements to areas non-staff are not allowed to enter; it can make information generally available for proper management of the premises; it can also be deployed to monitor premises even after closing hours.

Closed Circuit Television (Cameras) are ultimately becoming one of the most significant and economically viable electronic security systems (ESS) for the security of library and information resources from the menace of thefts, mutilation and vandalism (McComb, 2004).

3.3.2 The Electronic Security Gate

The electronic security gate is another kind of electronic security system (ESS) that is used in academic libraries. This device ensures that no library materials are taken out of the library without being duly checked out. This system has a combination of audio and visible alarms, as well as sensors for magnetic strip or tattle tapes inserted in each library book. Tattle tapes are used to offer protection for all library materials, including books and non-book materials. They are electromagnetic (Iron containing strip) and have an adhesive layer. The magnetic strip is not

easily removed, but only desensitised when library materials have been duly checked out and re-sensitised when the materials are returned (Serfontein, 1995; Perrault, 2006). These electromagnetic strips are programmed alongside the security gates which have inbuilt sensors that causes the alarm systems to trigger when library books not properly processed or checked out are being taken out illegally. The sound of the alarm therefore draws the attention of the library personnel at the circulation desk, as well as the security personnel stationed at the exit gates (Perrault, 2006; Harwell, 2014)

Harwell (2014) posits that library information resources have always faced the menace of theft, mutilation and vandalism, including outright loss. He asserted further that it is no longer normal to chain books as was done in the medieval times, but instead, many libraries have now depended on the use and implementation of electromagnetic security gates that alarm when activated or triggered by sensitised magnetic strips inside the books. The alarm triggers when the books are not properly checked out at the circulation desk. This enhances the security of library and illegal removal of materials by library patrons (Harwell, 2014).

3.3.3 Radio Frequency Identification System (RFID)

The concept of Radio Frequency Identification System “can be simplified to that of an electronic barcode and can be used to identify, track, sort or detect library holdings at the circulation desk and in the daily stock maintenance” (Narayanan, Narayanan and Somasekharan, 2005:272). Radio Frequency Identification System (RFID) System is another modern device used in libraries to forestall the issues of theft, mutilation and vandalism of library information resources. Radio frequency identification (RFID) systems is the latest technology widely used by academic libraries in developed countries in combating theft, mutilation and vandalism of library materials and for other library activities. Roberts (2006) posited that the Radio Frequency Identification technology was first used by the US military in the early 1990s. The United Kingdom military forces also adopted the use of Radio Frequency Identification (RFID) technology in 2003. The use of Radio Frequency Identification technology by the US and UK military was because of the tags and the availability of long-range transponder sensors systems that can provide significant information. RFID system became commercially viable, popular and of great interest to several organisations, including academic institutions due to the availability of

its surveillance and anti-theft device (Roberts, 2006). Galhotra and Galhotra (2009) in their work, assert that Radio Frequency Identification system is an anti-theft security system that protects library materials from being stolen, mutilated and vandalised.

To Ranawella (2006) the installation of Radio Frequency Identification system enhances the reduction of theft in a library. Apart from the electronic security systems already discussed above (CCTV and electronic security gates), the RFID system is a new and modern security device that helps to curb the issue of theft in academic libraries. There are also some university libraries in Africa that have already implemented the RFID system. For instance, the University of South Africa (UNISA) and the American University in Egypt have implemented the Radio Frequency Identification (RFID) system (Makori, 2013). In Kenya, Radio Frequency Identification technology is in use at the United States International University and the Catholic University of Eastern Africa (Makori, 2013). Lori (2004) discloses that the use of Radio Frequency Identification systems in libraries began in the late 1990s. He opined that approximately 130 libraries in North America are using Radio Frequency Identification systems and the number is on the increase (as at the time his study was carried out).

The Radio Frequency Identification (RFID) is an advanced computerised library system that automatically identifies and tracks library materials. This modern security device has been found to be useful in tracking the movement of books and the library user(s) carrying them within the various sections of the library (Molner and Wagner, 2004). The device combines “radio-frequency-based technology and microchip technology and can be used to identify, track, sort or detect library holdings. This is an effective way of managing collections of the library and providing enhanced services to the users” (Hasan, 2012:1-17). Hasan (2012:1-17) highlights further, the benefits of implementing and using the Radio Frequency Identification (RFID) systems to include the followings:

- *To control increasing theft,*
- *To find misplaced reading material,*
- *Inventory accuracy, stock verification procedures,*
- *Security control, etc. (Hasan, 2012:1-17).*

The Radio Frequency Identification (RFID) system has an automatic data capturing technology and makes use of tiny microchips and miniature antennas that are fixed to products. The Radio Frequency Identification (RFID) system is also very important, as it redefines the library processes and makes individuals' assignments easier starting from the users to the library personnel. It is a platform that is used to automate many of the tasks that are performed by the library staff. Examples of such tasks include check-in-check-out, sorting and stock-taking management. RFID system, comprises of three components: a tag (or multiple tags), a reader or interrogator and the essential supporting infrastructure (both hardware and software) (Hasan, 2012). A Radio Frequency Identification reader, or interrogator, is a device that is used to communicate with the Radio Frequency Identification (RFID) tag. It also transmits a radio indicator that is received by the tag. The tag then communicates its information back to the reader. Readers can both be portable hand-held terminals or permanent devices that can be located at premeditated places.

Nisha, Bakhshi and Ali (2006:552) quoting Boss, (2003) highlighted the following as the ways readers in Radio Frequency Identification (RFID) system function in libraries:

- Conversion station: where library data is written to the tag
- Staff workstation at circulation: used to charge and discharge library materials
- Self-check-out station: used to check out library materials without staff assistance
- Self check-in station: used to check in library materials without staff assistance
- Exit sensors: to verify that all material leaving the library has been checked out
- Book-drop reader: used to automatically discharge library materials and reactivate security
- Sorter and conveyor: automated system for returning material to proper area of library
- Hand-held reader: used for inventorying and verifying that material is shelved correctly

The importance of the advantages of implementing and using the various electronic security systems (ESS) as identified and discussed above in academic libraries, cannot be overemphasised. This is because the impact of the use of electronic security systems (ESS) in libraries far out-weigh (any) demerits.

3.4 How Electronic Security Systems are used in the Academic Libraries

The different electronic security systems (ESS) in use in academic libraries have been so designed and programmed accordingly, to function maximally and differently to deter library patrons from the menace of thefts, mutilation and vandalism in the library. There are some basic elements of the electronic security systems (ESS). The security devices have been so designed in such a way that any academic library where they are implemented makes it uneasy for library clientele to illegally take out library information resources that have not been duly processed at the circulation desk; as the attention of the library personnel at the exit gate is drawn once there is the signal of illegal removal of library information resources. This is because the library information resources have been programmed alongside the electronic security systems (ESS) (Serfontein, 1995; Perrault, 2006; Tinuade, 2007; Ozowa, Aba and Aba, 2016). The installation/implementation of the Radio Frequency Identification (RFID) systems enhances the reduction of theft, mutilation and vandalism of materials in the library (Ranawella, 2006).

Libraries make use of a bibliographic record to track information about materials in circulation. Each book, upon being acquired by the library, is assigned a unique number, usually called a barcode. Modern libraries of today have electronic security systems such as the Radio Frequency Identification (RFID), deployed and the assigned unique number, barcode enhances the preservation of materials from thefts (Molnar and Wagner, 2004). Harwell (2014) postulates that it is no longer the practice “to chain books to desks” as it was the exercise in the medieval era, but instead, several libraries have come to rely on electromagnetic (electronic) security gates that uses alarm systems which are triggered by sensitised magnetic strips inserted within library books. The alarm systems sounds out when books not legally processed or checked out by a library personnel at the circulation desk are being taken out of the library. This is a modern security measure that helps to secure unauthorised removal of library materials by patrons.

Another modern electronic security device, the closed circuit television (CCTV) cameras have been extensively implemented and used in academic libraries to curb and enhance the security of library information resources from theft, mutilation and vandalism. Numerous explanations by different researchers have been offered for the implementation of closed circuit television

(CCTV) cameras in academic libraries. Meanwhile, McCahill and Norris (2002) highlighted that the major reasons for implementing the closed circuit television (CCTV) cameras was to generally monitor and help secure library information resources from theft, mutilation and vandalism as these menaces have continued to constitute a nuisance in the library and information service delivery.

In the study carried out by Randall and Newell (2014) with regards to the surveillance practices of four (4) prodigious libraries, with three located in the United States of America and the remaining one in the United Kingdom; the result of their findings revealed that the employment of electronic security systems (ESS) reduced theft and mutilation of library information resources in those institutions because the closed circuit television (CCTV) cameras devices had the competence to video record the activities that take place at the different sections of the university libraries. The study further revealed that the closed circuit television (CCTV) cameras gave room for video recording, viewing and monitoring the library clientele's activities at the selected sections of the library. The work of Randall and Newell (2014) established that the implementation of electronic security systems (ESS), especially the closed circuit television (CCTV) cameras at different segments of the academic libraries help to forestall the glitches of theft, mutilation and vandalism of library information materials. The study of Richens and Laws (2016) corroborated the findings of Randall and Newell (2014) in that they found that the installation of closed circuit television (CCTV) cameras supports the monitoring of different sections of the library to deter library information resources from being stolen or defaced by library clientele. The findings of Richens and Laws (2016) exposed the extent of the use of electronic security systems (ESS); in safeguarding library materials. The survey revealed that closed circuit television (CCTV) cameras were implemented at specific segments of the library they investigated, and found that a total of eleven (11) cameras were installed at designated sections of Edgware library: One (1) in the external lobby, two (2) in the internal lobby, two (2) in the children's library, five (5) in the adult library and one (1) in the upstairs study area. The essence of this installation was to ensure that library information materials are secured from theft, mutilation and vandalism by the library clientele.

Furthermore, electronic security systems used in academic libraries cannot be overemphasised. At the library of Sikkim University, India, CCTV cameras are implemented to help safeguard library information resources. The cameras are networked together, with a multiplexer to help share videos of recorded activities within the various segments of the library. The captured live videos by the cameras are transferred and passed on to the multiplexer. The multiplexer is said to have the capacity to combine all the camera video lines and send information to the time lapse recorder (Kumar, 2014). The functionality of the CCTV helps to deter the issues of theft, mutilation and vandalism of library materials in those designated areas of the library. The CCTV cameras helps to monitor the activities of clientele within the library. Based on these findings, Kumar (2014) opined that CCTV cameras can be used in academic libraries to monitor the students' activities and their behaviour in the library. This would reduce to a great extent, the common mischievous activities in the libraries like tearing of the pages from the books, hiding the books, sitting in corners and gossiping. In summary, the most impressive thing about the closed circuit television (CCTV) cameras is that their usage in the libraries enhance the safeguarding of library information resources; as they have the functionality and capability of monitoring the activities of library patrons within the various segments of the library, video-records users' activities and also have the capacity to play back recorded videos at a later day.

3.5 Use of Electronic Security Systems to Discourage Patrons from Pilfering Information Resources

It has been observed that electronic security systems (ESS) usage has discouraged library patrons from pilfering library or information resources. Ramana (2007) asserted that ESS such as Closed Circuit Television cameras installed in the libraries can enhance the control of book thefts and ripping off pages from the books and other serials. Moreover, implementation of ESS in academic libraries is considered a complementing measure put in place to discourage library users or patrons from mutilating or pilfering library materials. For example, survey study of Ramana (2013) found out that implementation of CCTV cameras in the Benue State University library helped to discourage and reduce the menace of theft and mutilation of the library materials. According to his finding, 60% of the respondents agreed that the installation of CCTV cameras in the library dampened the act of theft and mutilation of the library materials at the Benue State University library.

The use of Radio Frequency Identification technology as an electronic security system, helps to protect library materials from being illegally taken away without due process, as well as safeguards library materials from being mutilated and vandalised (Galhotra and Galhotra, 2009). Ranawella (2006) observed that the installation of RFID system enhances the reduction of book thefts in the library. Indeed, reports show that ESS has been responsible for the reduction of book thefts as it discourages library patrons from pilfering library information resources (Molnar and Wagner, 2004; Yu, 2007; Muhammad, 2017). The deployment of ESS in academic libraries is a constant reminder to the library patrons of the existence of beeping of the alarm systems at the exit by the sensor programmed inside the electronic security gate and that of the CCTV cameras that records all activities within the library. This consciousness makes them to be very careful in whatever they are doing and discourages them from engaging in mischievous acts such as pilfering information resources while in the library. (Lindquist, 2003; Tinuade, 2007; Rathinasabapathy and Rajendran, 2009; Kumbhar and Veer, 2016).

Library collections have always been endangered by theft, mutilation and vandalism which have led to great loss of library information resources. It has been established by extant studies that the manual or traditional methods of securing library materials have not been able to curtail this anomaly. Harwell (2014) asserted that, instead of relying on the manual or traditional methods of safeguarding library information resources. Many libraries have resorted to embracing the use of modern technologies (electronic security systems) in safeguarding their collections from theft, mutilation and vandalism. Libraries have long embraced the use of electronic security gates. This electronic security device has in-built electromagnetic sensors that causes the alarm system to beep when triggered by the sensitised magnetic strips inserted into library books. The alarm beeps when library materials not properly processed or loaned out at the circulation desk are being taken away from the library illegally by library patrons (Lindquist, 2003; Rathinasabapathy and Rajendran, 2009).

3.6 Magnitude/Immensity of Loss of Library Materials through Theft, Mutilation and Vandalism

Library and information resources have been lost and are still being stolen, mutilated and vandalised in academic libraries the world over, as several studies have revealed. The abuse of library information resources through outright theft and mutilation has become a serious challenge to librarians as well as academic materials (Fasae and Adedokun, 2016). Robison, Marshall and Cravey (1992) posited that library loses up to 6% of its materials every year due to theft and mutilation. Further studies have revealed that theft, mutilation and vandalism of library information resources have been carried out by library patrons, library staff, as well as highly placed individuals in the society as they get entangled with the peril of theft and mutilation of library materials (Shuman, 1999). Mutilation and theft of library materials is described as the premeditated removal or attempted taking away of library materials from the library without due process or their being legally checked out (Utah, 2004). Nwamefor (1974:244), as quoted by Nwalo (2003:78) outlined the following as the devices through which patrons carry out theft in the libraries. They include:

- *Concealment of books in clothes; library thieves could conceal books in their clothes before wading through the security post*
- *Mutilation of books by tearing off important pages*
- *Throwing books through the windows*
- *Borrowing a book and using the date-due-slip to smuggle out books many times over*
- *Walking out with library books when security personnel is not alert*
- *Volunteering to be searched so that he or she will be thought to be innocent, and so be allowed to go away unsearched with a concealed library*
- *Collusion with library security personnel who may be unduly influenced*

A depletion of accessible library information resources equals a reduction in how the library can render services and satisfy the varying information needs of the teeming patrons (Oyedum, et al. 2014). Many academic libraries have lost so many materials due to thefts and mutilation by deviant users of the libraries, to the extent that it has even become difficult to quantify such losses in monetary value. The magnitude of loss of library materials is overwhelming, as much financial resources are spent on replacing such lost materials annually; invariably some materials have been lost without any trace of replacement as some may be out of print (Ogunyade, 2005).

Gelernter (2005:13) averred that “if 3% of a library collection is lost each year, an average book replacement would cost \$44.65, which would ultimately mean about \$70,000 in annual losses for a 50,000-book collection”. In this regard, there are many cases that attest to losses incurred due to theft, vandalism and mutilation on information resources. For example, there was great decrease of materials in the University of Kentucky Library due to loss before the installation of electronic security systems.

In a historical survey on book theft in Europe, carried out by Stuart (1988), it was discovered that many rare books and manuscripts were stolen and removed from the collections of the libraries. This act of theft drastically led to the reduction of materials in the affected libraries. Some of the culprits responsible for the act were later apprehended, prosecuted and convicted according to law. Similarly, a comprehensive survey of the loss of library materials in the United Kingdom (U.K) libraries was conducted; the findings revealed the loss of materials estimated at 100 million pounds per annum due to theft and mutilation. It was further reported that some libraries were compelled to shut down their book stacks to patrons when it was discovered that many books could not be accounted for due to theft menace (St. Lifer, 1994; Burrow, 1997; Shuman, 1999; Fasae and Adedokun, 2016). In Northern Alabama, it was reported that at the beginning of March 2004, several hundreds of books for children were taken away illegally (stolen), mutilated, and that the incidents multiplied and happened in several locations (American Library Association, 2005).

Ajala and Oyeboade (2008:21-32) in their study on theft and mutilation in academic libraries, posited that the average yearly loss rate of:

British Academic Libraries was about 1.59% of the total collections, although there were differences in book losses and theft from one institution to another. Similarly, an American study also confirmed that there were 250,000 books stolen from 100 libraries per annum; this is an average of about 250 books per library per year

Idris, Hassan and Abdul-Qadir (2013) in their work on *theft and mutilation of library materials in academic libraries*, assert that there was extensive statistical records to show library material losses from some selected institutions and public libraries in some parts of the developed countries across the globe. In a survey on “*illegal practices in Engineering college libraries*” conducted by Gadekar and Golwal (2013) at Dr. Babasaheb Ambedkar Marathwada University

and Swami Ramanand Teerth Marathwada University both at the Marathwada region of India, the results showed that 81.42% of the library users hide library materials (books) inside their clothes and also tear off some important pages away from library books and periodicals. Muhammad (2017) while investigating “*Library book theft and audits in university libraries of Pakistan*”, revealed that from the record of stolen books, as indicated by the views of the respondents who took part in the survey, 38 (40.42%) specified that stolen or lost books were between the array of 1-50 books. In the same vein, approximately 31 (32.97%) of the respondents affirmed that between the range of 51 to 100 books disappeared from the libraries. In addition, 10 libraries (10.63%) recounted that between 101-300 books were either tangibly taken away by library patrons or were completely missing, and 6 (06.38%) libraries indicated that library materials stolen or missing were between the array of 301-500 books. This shows that there are records of losses of library materials from both developed and developing countries.

These depletions in library collections both in the developed world and the developing nations, if not properly checked, would make the purpose of the libraries in academic society of no effect. This is because, there would not be materials to meet the learning, teaching, research and community engagements of the academic society. Across the African continent, there have been studies that have showed great loss of library materials due to the menace of theft, mutilation and vandalism. Some of such studies include that of Senyah (2004) “*Library Security, Book Theft and Mutilation: a Case of the University Library System of Kwame Nkrumah University of Science and Technology, Kumasi*” in which it was reported that textbooks and reference materials were susceptible to abuse and theft by users at the library. In North Africa, the Royal Library of Alexandria, Egypt, was invaded by soldiers in the seventh century BC and so many materials were looted and destroyed, while some parts of the Library were set on fire by the invading soldiers (Lorenzen, 1996; Fishburn, 2008).

In Nigeria, reports of book thefts, mutilation and vandalism thrive. Library and information resources are constantly stolen, defaced and vandalised by library patrons in the academic libraries. Isebe (2014) in a survey, reported that for four consecutive years spanning 1980-1984, the annual reports of the Kashim Ibrahim Library of Ahmadu Bello University, Zaria showed

cases of book theft and mutilation in the library. In 1980/81, the annual report was captioned “Delinquent Patrons”. It revealed cases of book theft and mutilation as well as illegal use of clandestinely designed date due stamps by library clientele to place fictitious dates on books. Akussah and Bentil (2010) reckon that if this anomaly is not properly curtailed, it will culminate in threat to library and information service delivery, as well as the general preservation/security of library collections.

It is not uncommon to have delinquent acts in any academic library, such as some pages of library materials (books) ripped off completely, some cover pages removed, or books stolen. Reference materials, periodicals, such as journals, magazines and newspapers are also greatly affected (Ajala and Oyaboade, 2008; Sharma 2017). The menace of theft and mutilation has also led to the reduction of library collections drastically. At the University of Calabar library, Calabar, Cross Rivers State of Nigeria, it was reported in the 1984/85 University’s annual report by the Library Committee Investigation Panel, that students illegally removed so many books from the library (Isebe, 2014). The University of Jos annual report (JULIA bulletin) showed that incessant theft and mutilation of serial collections compelled the library to carry out further stock-taking activities to ascertain the extent of loss of library information resources. It was discovered that non-students of the university were also involved in the act of theft and mutilation of library materials in the university library (Isebe, 2014).

In a similar development, Adewuyi and Adekanye (2011:25) in their work, reported that the Law Library of the University of Abuja had a serious reduction in its collection when “70 issues of Nigerian Weekly Law Reports (NWLR), 49 volumes of Halsbury’s Law of England, and 7 volumes of Encyclopedia of Islam were stolen from the library”. The Olabisi Onabanjo University had 89 volumes of the Nigerian Weekly Law Reports (NWLR) stolen from the library in a particular time; the complete set of the 2003 edition of McGraw-Hill Encyclopedia of Science and Technology were also carted away by the library clientele from the library of Federal University of Technology, Akure in 2009 (Adewuyi and Adekanye, 2011; Abioye and Rasaki. 2013). Theft of library information resources has eaten deep into the fabrics of the library community that it has affected grossly the library material collections among academic

libraries everywhere. Due to this incessant loss of library (print/books) materials, there have been plummeting reduction in library collections.

There have been several other studies carried out in Nigeria that have exposed gross loss of library books and reference materials especially serials, some pages/cover pages ripped off, and thereby drastically reducing library collections. Adewale (2007) corroborating this assertion, posited in his findings on “*Book Theft and Its Prevention in Nigerian Academic Libraries*” that at the Hezekiah Oluwasanmi Library of the Obafemi Awolowo University, Ile-Ife, Nigeria, 24 volumes of the *Encyclopedia Britannica* were carried away illegally in 1997 September, while over 20 titles of Medical Science books that were previously stolen were found at the entrance of the library where they were dropped. In another instant, a survey conducted by Okoye (2000) revealed that an annual loss of eleven and half percent (11.5%) was recorded in several academic libraries in Anambra State, Nigeria in the 1990s. Adewale (2007) observed further that, in October of the same year, another set of Medical Science books were recovered from the same place; while over 200 front/cover and back covers of books from which the contents had been ripped off completely were found in the various reading areas of the library and inside the library shelves. These deviant behaviour of students (library patrons) lead to reduction of library information resources. Another example of mutilation was an incident where a female undergraduate student of the Ladoko Akintola University of Technology (LAUTECH), Ogbomoso, Nigeria, in 1996, was found to be mutilating the *Encyclopedia Americana* in the library, she was reprimanded by the University Disciplinary Committee and suspended for one academic semester (Ajala and Oyeboade, 2008). Aina (2004) in his survey of the factors that cause the theft, mutilation and vandalism of books, administered questionnaires to 500 university students in Sokoto State, Nigeria. The study established that mostly expensive books were either stolen, mutilated or vandalised. The effect of mutilation and vandalism was so averse to academic libraries that such books could not be loaned out anymore. In addition, the rare materials were completely lost through this very act as they were no longer available from the publishers, because most of them were out of print (Bello, 2001).

3.7 How Effective are Use of Electronic Security Systems in Curbing Theft and Mutilation of Information Resources in Academic Libraries

The use of electronic security systems (ESS) in academic libraries have been suggested in many studies or works by scholars that they can help to control the issue of theft, mutilation and vandalism in academic libraries since the manual (traditional) methods of checking library patrons' excesses have been found to be ineffectual and unfavourable (McComb, 2004; Rajendran and Rathinasabapathy, 2007). Ogunyade (2005) asserts that the impact of ESS in the University of Kentucky Library caused book loss rates to decrease. In the same vein, Ramana (2007) opined that CCTV installed in libraries can improve the capability to control the theft of books and ripping off some pages from books, periodicals and reference materials. The electronic security systems (ESS), especially the CCTV cameras has been be used to recognise clientele, guests and employees, monitor reading and work areas of the library discourage theft and guarantee the safety of the premises plus other facilities. The systems have also been used to monitor and video record activities of library users and the conducts of library employees; this makes the clientele and even staff of the library to be more conscious of their conducts within the library (Ozowa, Aba and Aba, 2016).

The use of electronic security systems effectively helps to curb book theft, mutilation and vandalism. Electronic security systems (ESS) do not just help to curb theft, mutilation and vandalism, but reduces and forestalls theft and unethical losses of library materials. Ajala and Oyeboade (2008) opined that the use of electronic security systems (ESS) has great impact in academic libraries and has proven to be a major preventive measure to theft of library materials, especially in developed countries, but they are scarcely affordable in most academic libraries in Africa. Electronic security systems, cost notwithstanding, should be implemented in academic libraries in the developing economies to curb losses and theft of materials (books) in the libraries (Ajala and Oyeboade, 2008) as has happened in the developed world. Akor (2013) in his study on how effective electronic security systems (ESS) use are in academic libraries, pointed out that at the library of the Benue State University, Nigeria, the installation of closed circuit television (CCTV) cameras greatly discouraged library clientele from pilfering library materials. The study revealed that 60% of the respondents indicated that the installation of closed circuit

television (CCTV) cameras in the library helped to considerably reduce the menace of theft and mutilation of library materials. It shows that the implementation of electronic security systems (ESS) in academic libraries has positive impact in the security of library information resources from theft, mutilation and vandalism.

The use of radio frequency identification (RFID) technology in a library helps to decrease and ease the time needed for the staff at the circulation desks to do their jobs because several tags can be read at a time” (Molnar and Wagner, 2004). The device enables patrons to checkout library books by themselves thereby giving additional time for staff to concentrate on other duties. The radio frequency identification (RFID) technology is very effective and has great impact in the library in that the readers and tags can have close to 100% rates of detection; the tags and sensors are interconnected, it is likely to find out precisely the materials that are being checked out of the library. Furthermore, the radio frequency identification (RFID) has high reliability and importance because of its capacity in theft detection (Molnar and Wagner, 2004). The implementation of Radio Frequency Identification (RFID) technology in academic libraries, serves as a safety measure to library materials from being taken out without being properly checked out. It ensures that library materials are not defaced (mutilated) and vandalised (Galhotra and Galhotra, 2009).

Ranawella (2006) stressed that implementing the Radio Frequency Identification (RFID) boosts the lessening of theft in library. The Radio Frequency Identification (RFID) being a new security device helps to curtail the menace of theft in academic libraries, especially in the developed world (Lori, 2004). Meanwhile, in the African context, there are some academic libraries that implemented the Radio Frequency Identification (RFID) system. Several academic libraries have procured and implemented or installed the use of Radio Frequency Identification (RFID) system and this has helped to safeguard their library collections, thereby, significantly leading to the reduction of theft, mutilation and vandalism of library information resources (Makori, 2013). The use of Radio Frequency Identification (RFID) technology dates to the late 90s (Lori, 2004) and today roughly 130 libraries in North America have implemented the Radio Frequency Identification (RFID) systems.

The installation of Radio Frequency Identification (RFID) system has been proven to be of immense effect/impact in improving the safekeeping of library information resources from being negatively tampered with by deviant library clientele. The Radio Frequency Identification (RFID) systems also assist in tracking the movement of books and the library user(s) carrying them within the various segments of the library (Molner and Wagner, 2004). Hasan (2012) averred that the radio frequency identification (RFID) system is a cutting-edge hi-tech library security device that mechanically helps to identify and track the movement of library materials with the aid of the combination of radio-frequency-based technology and microchip equipment and can be used to identify, track, sort or identify library materials. This is an efficient way of handling collections of the library and the provision of enhanced services to the teeming library patrons.

Library clientele are very conscious and comport themselves while in the libraries due to the implementation of electronic security systems (ESS) in the libraries. They are conscious of the availability of these devices (Randall, and Newell, 2014) in the library, and as such, they are very mindful of how they go about their various activities while in the library. This has effectively minimised the incessant incidences of theft, mutilation and vandalism of library information resources in academic libraries. (Lindquist, 2003; Tinuade, 2007; Rathinasabapathy and Rajendran, 2009; Kumbhar and Veer, 2016).

The electronic security systems such as the radio frequency identification technology helps librarians ease cherished staff time expended in scanning barcodes when charging and discharging books at the circulation desk. RFID technology has a combination of radio-frequency-based technology and microchip device (Shahid, 2005). The information contained on microchips in the tags attached to library materials is read with the aid of radio frequency technology, irrespective of item orientation or placement (i.e., the technology does not require line-of-sight or a fixed plane to read tags as do traditional theft detection systems). RFID technology gives the library staff the opportunity to focus on other assignments within the library as major routine jobs are programmed (Shahid, 2005). The menace of theft, mutilation and vandalism of materials in libraries has been greatly checked with the aid of this electronic device. According to Baba and Tripuram (2014) the use of electronic security systems (ESS) has helped

to solve the issues of book loss in academic libraries. They assert in their study, that the implementation of electronic security systems (ESS) at the Maulana Azad National Urdu University library in India, led to the decrease of the excesses of theft and mutilation of library resources. The implementation of electronic security systems (ESS) in libraries has led to the reduction of the menace of theft and mutilation of library materials immensely where they have been implemented (Molnar and Wagner, 2004; Yu, 2007; Muhammad, 2017).

Furthermore, electronic security systems have greatly enhanced the safekeeping of materials in academic libraries. Stating the reasons for implementing the security system in the library of Maulana Azad National Urdu University, Hyderabad, Telangana, India, Baba and Tripuram (2014:151) highlighted the following impact in using modern security devices (electronic security systems) in academic libraries:

- *To solve the books loss problems in library.*
- *To achieve accuracy to remove staff manual process and error.*
- *To save the time of the user as well as staff.*
- *Tattle Tape are not visible to users*
- *The magnetic strips replacement guarantee during the life of the item*

Implementing the electronic security systems (ESS) in libraries have also eased the jobs of the library staff from routine operations as the library operations are now automated; library patron's time while in the library, in trying to access library information resources, is also saved as library routines are digitised. Therefore getting (retrieving) materials from the library does not take much time; the electromagnetic or tattle tapes affixed to library books are not visible to users and cannot easily be detected as they are inserted in-between pages of the books. Finally, the electromagnetic strips (tattle tapes) inserted into the library books can last as long as the books are in use. This is because they do not fade away or become inactive no matter the usage of the books.

The effectiveness of electronic security systems (ESS) has also been proven to be effective in reducing thefts of library information resources (books). When books are being checked out, if they are not desensitised or deactivated, once detected, the sensor inside the electronic security gates at the library's exit will sense the electromagnetic strip, and the alarm will trigger or beep an alert because of the sensor device programmed inside it. In the same vein, when the materials

are returned to the library after use, the electromagnetic strips are re-sensitised or reactivated at the circulation desk before such materials are taken for re-shelfing (Baba and Tripuram, 2014).

3.8 Factors influencing/motivating the use of ESS in the library

The Unified Theory of Acceptance and Use of Technology (UTAUT) is the underpinning model used for this study, since it is the most recent theory of information technology/information system usage. This is also because the theory harnessed eight other theories of information system/information technology usage. The four constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT) that have helped it to play a significant part as uninterrupted determinants of usage and acceptance behaviour are: Performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC) (Kriponant, 2007). The implementation of electronic security systems (ESS) in selected South-West, Nigerian University libraries has been largely motivated by the above highlighted four constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT). Performance expectancy refers to the degree to which the user expects that using the electronic security systems (ESS) “will help him or her attain gains in job performance”, (Venkatesh et al., 2003:447) thereby enhancing the curbing of theft and mutilation of library information resources in academic libraries.

Similarly, effort expectancy is defined as “the degree of ease associated with the use of the system” (Venkatesh et al., 2003:450). In the same vein, the degree of ease concomitant with the usage of electronic security systems (ESS) in discouraging library clientele from the menace of theft, mutilation and vandalism of library materials (books to be precise) makes the construct of effort expectancy very vital and of great relevance in the use of electronic security systems (ESS). This construct of Unified Theory of Acceptance and Use of Technology (UTAUT) aptly captures and is relevant to research question three (3)- How are electronic security systems used to discourage patrons from pilfering information resources from the library? The social influence construct is termed as “the degree to which an individual perceives that important others believe that he or she should use the new system” (Venkatesh et al., 2003:451). Academic libraries of the selected universities in South-West, Nigeria, using the electronic security systems (ESS) have enhanced their images and status over those not using the system.

Finally, several further researches have been done that employed the Unified Theory of Acceptance and Use of Technology (UTAUT) for investigations. For instance, the Unified Theory of Acceptance and Use of Technology (UTAUT) was used in determining the behaviour of 3G mobile communication operators in Taiwan (Wu, Tao and Yang, 2007). It was reported, according to the finding of the study, that performance expectancy and facilitating conditions had noteworthy impact on behavioural intention of individuals to operate 3G mobile communications in Taiwan and also to establish usage of hybrid library services in some selected universities in Uganda (Tibenderana and Ogao, 2009). The Unified Theory of Acceptance and Use of Technology (UTAUT) model was adopted to probe the reception and adoption of open access in Tanzanian universities. The results established that performance expectancy (PE) was a defining power that inclined the investigators' behaviour in the usage of the open access (Dulle and Minishi-Majanja, 2011). According to Al-Shafi and Weerakkody (2009), the Unified Theory of Acceptance and Use of Technology (UTAUT) model was employed in a study that focused on understanding citizens' behavioural intention in the adoption of e-government services in the state of Qatar. It was also stated that the Unified Theory of Acceptance and Use of Technology (UTAUT) model was used to understand cultural impacts of information technology/information systems usage and acceptance. Therefore, it is asserted that the Unified Theory of Acceptance and Use of Technology (UTAUT) model is "robust across cultures through increasing understanding of cultural impacts of IT acceptance" (Ghobakloo, Zulkifli and Aziz, 2010:11).

3.9 Summary of Literature Review

In this chapter, the researcher reviewed several extant studies that covered information regarding both the developed and the developing countries. The chapter also covered experimental (empirical) and conceptual literature. The chapter commenced with explaining the meaning and definition of literature review, its importance and purpose. It was further organised in accordance to the themes obtained from the various research questions that were investigated in this study. Within each theme, literature on international context was presented, followed by regional and local contexts. The study examined library security systems that are in use and how they are deployed to curb theft and mutilation of library materials in selected Nigerian universities; the extent to which electronic security systems are used in academic libraries; the magnitude/

immensity of loss of library materials through theft, mutilation and vandalism; as well as the factors influencing/motivating the use of ESS in curbing theft and mutilation of information resources in academic libraries. It was discovered from extant studies, especially from the Nigerian context, that studies on library security and how the menace can be ameliorated only proffered solutions based on manual or traditional methods. None investigated the use of electronic security systems (ESS) to curb the menace of security issues in academic libraries. Literature covering the Unified Theory of Acceptance and Use of Technology (UTAUT) mode which is the underpinning theory of this study was also reviewed. The literature exposed that though many studies have been done in various parts of the world on the use of information technology/systems, very limited research has covered use of electronic security systems (ESS) both in the developed countries and developing nations, especially Nigeria. This gap, among others is the essence of this study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

Research methodology is the process of finding out the result of a given problem on a precise issue or matter that is referred to as a research problem. It “considers and explains the logic behind research methods and techniques” (Welman, Kruger and Mitchell, 2005:2). Meeto and Temple, 2003:2) consider methods as, “the technique for carrying out the research (for example, a survey or in-depth interview)”. This encompasses all the practices, which includes the way and devices embraced for collecting the data, the sources from where the data is collected, how to organise and analyse the data, identifying and determining the make-up of the population, sample size, and more. Wainright (1997) asserts that methodology is the act of finding out knowledge and how a researcher goes about carrying out his study. According to Hussey and Hussey (1997:54) methodology is “the overall approach to the research process, from literature review to the method of data collection and analysis”. They added that methodology addresses the following:

- *Why certain data is being collected*
- *What data is collected*
- *From where data is collected*
- *When the data is collected*
- *How the data is collected*
- *How the data will be analysed*

Similarly, research methodology represents “the methods, techniques, and procedures that are employed in the process of implementing the research design or research plan, as well as the underlying principles and assumptions that underlie their use” (Babbie and Mouton, 1998:647). A researcher, in methodology, uses diverse measures for solving problems. It gives the researcher direction on how to get involved and to be very active in his/her area of investigation.

According to Hjørland (2005:145) the selection of an appropriate research method for any study should be

Determined by a combination of philosophical positions of the research, vis-à-vis the research objectives; the nature of the problem to be explored; its novelty in research; and the time and resource available to carry out the work

The aim of this research methodology chapter is to explain how the research was done, the various methods that were embraced for data collection, techniques used for the study, and the data analysis methods.

The purpose of this study was to investigate the use of electronic security systems (ESS) in curbing thefts, mutilation and vandalism of library and information resources (print materials) in academic libraries of selected universities in South-West, Nigeria. The study addressed the following specific research questions:

1. What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?
2. To what extent are electronic security systems used in academic libraries in South West Nigeria?
3. How are electronic security systems used to discourage patrons from pilfering information resources from the library?
4. What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
5. How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South West Nigeria?
6. What are the factors influencing/motivating the use of ESS in curbing theft and mutilation of information resources in academic libraries

This chapter is organised into the following eleven thematic sections: research paradigms, research approaches, research design, population of study, sampling procedures, data collection

procedures, data analysis strategies, validity and reliability of data collection instruments, ethical considerations and summary.

4.2 Research Paradigm

A paradigm is what guides decision making and how research is carried out. It is also a belief system or theory that guides how things are done, and it formally institutes a set of practices. Paradigm, according to Guba (1990) is beliefs and feelings regarding the world and how it should be understood and studied. A paradigm is also an “integrated set of assumptions, beliefs, models of doing good research, and techniques for gathering and analyzing data” (Neuman, 2007:41). Research paradigm, according to Lather (1986) fundamentally, reveals views about the world we live in and want to live in. Burrell and Morgan (1979:23) succinctly see paradigm as what: “is intended to emphasize the commonality of perspective which binds the work of a group of theorists together in such a way that they can be usefully regarded as approaching social theory within the bounds of the same problem”.

Dill and Romiszowski (1997) describe research paradigms in line with the functions performed. They outlined the functions of research paradigms to include how the world works and knowledge is extracted through the way one thinks, write and talk about the said knowledge; types of questions to be asked, including the methods to be applied in answering the questions. They also stated that research paradigms is concerned about what is published and not published and finally provides the meaning and significance of what is published.

Various paradigms are used to underpin research. The three most popular paradigms used in Social Sciences research are the positivism, post-positivism and interpretivism paradigms (Guba and Lincoln, 1996; Creswell, 2009; Pickard, 2013). However, the choice of the paradigm adopted in a study is dependent on the researcher’s perspective of what is being investigated. The post-positivism paradigm is an off shoot of the positivism paradigm. Positivism is anchored on the philosophical ideas of the French Philosopher, August Comte, that observing, and reasoning are the best methods of understanding human behaviour (Thomas, 2010). To Neuman (2006) the Positivist paradigm is of the assumption that there is an unprejudiced actuality, which can be defined, experimented and measured. The main objective of positivist paradigm is the unearthing

of collective laws and causative connections in Natural Sciences and social phenomena (Myers, 1997).

This study therefore adopted the Post-positivist standpoint as the most appropriate for the purpose of this work which is set to investigate the extent and impact of the use of electronic security systems (ESS) in curbing the menaces of thefts, mutilation and vandalism of library (print) materials in academic libraries. The Post-positivism paradigm is chosen because it also combines or allows, both the use of quantitative and qualitative methods to gather appropriate data to help comprehend human behaviour (Pickard, 2007, 2013). Post-positivism paradigm is also applicable to survey research which has been used by different scholars in related studies (Perrault, 2006; Uzuegbu and Okoro, 2012) and several others. Post-positivism paradigm also signifies that the researcher should be receptive to other methods of making inquiry (Clark, 1998). Furthermore, it is founded on a deterministic perspective, and believes that “causes probably determine effects or outcomes” (Creswell 2003:7). Creswell (2003) further asserts that the difficulties studied by post-positivists advocate the necessity to discern sources that determine outcomes. Post-positivism further shows that the enquirer is not easily detached from the order of events being investigated factually in the process of the study of a specific human occurrence (Mohamed-Arraid, 2011). To Quantz (1992) the post-positivist is called the qualitative or constructivist or the naturalist, interpretivist paradigm. Interpretivist paradigm is a research approach that has to do with qualitative research, with a source in hermeneutics and phenomenology. The central principle of the paradigm is that there is a major variance between the subject matter of the natural science and the social sciences (Blaikie, 2007). According to Blaikie (2007), the interpretivism rejects the methods of the natural sciences and upholds that the social phenomena need a comprehension of the social world that individuals have made and continue to reproduce by the several activities they are involved in. This study as already stated above, adopted the post-positivism against others. This is because it allows the combination or use of both quantitative and qualitative methods to gather required data to help human behaviour (Pickard, 2007, 2013). It is very appropriate for survey research and has been used by other scholars as already indicated. According to Gage (1989) interpretivists reject the objectivity and usage of scientific approaches for studying human behaviour, because human behaviour is

neither stable nor even. Moreso, data collected for interpretivist studies cannot be generalised since it is profoundly impacted by individual standpoint and values.

Research Approaches

Three most commonly used approaches in research are the qualitative, quantitative and mixed methods research approaches (Hughes 1980; Ngulube 2005; Creswell 2013). Quantitative research approach deals with objective measurement of behaviour (observation) and the causes of the observed behaviour (observation). It also “implies that people, other than the researcher should agree on what is being observed, such as the score that the observation should register on a measuring instrument” (Welman, Kruger and Mitchell, 2005:6). These authors are of the view that in quantitative studies, other investigators should be capable of duplicating the study or bring out the dimension of the researcher’s observation. Therefore, the quantitative approach is believed to be fairly free from partiality in giving research outcomes. For example Taylor (2000:69) postulates that, in the quantitative research, “the researcher attempts to achieve objectivity by not letting his personal biases influence the analysis and interpretation of the data”. To Franklin (2013) the quantitative research creates data that can be reckoned or conveyed statistically, such as articulating a definite number, quantity, or choice. This presupposes that, in quantitative research, statistical processes are applicable to the data collected. Quantitative research has however been criticised on the basis that truly objective research, may be impossible to achieve in the Social Sciences depending on any circumstance (Yin, 2001:281).

Qualitative approach according to Neuman (2011:174) is “research procedures that are particular and replication is rare”. Invariably, unlike the quantitative research, the qualitative research lacks laid down procedures that will give room for duplication of research. This is because the qualitative investigator is practically part of the research technique or process. Furthermore, the qualitative research approach centers on the qualitative parts of what is significant, the know-how and clear understanding of human involvement from the contributors’ perspectives (Brink et al., 2012). According to Babbie et al. (2001:53) the individuals involved in qualitative research endeavour to investigate human action from the perspective of an insider. Straus and Corbin (1998) examined some studies that seemed qualitative, but not made up of the characteristics of qualitative, rather quantitative research. They stated that the term “qualitative research” is

confusing because it can mean different things to different people. Some researchers gather data by means of interviews and observations which are techniques normally associated with qualitative methods. However, they code the data in a manner that allows them to be analysed. They are in, effect, quantifying qualitative data. Akinade and Owolabi (2009:100) aver that some instances can occur that will necessitate the collection of qualitative data, which among others, can be in the form of an interview or focus-group discussion.

Mixed method research, to Johnson, Onwuegbuzie and Turner (2007) is a study that allows the marriage of qualitative and quantitative elements in research. It is also referred to as hybrid research, blended research, ethnographic residual analysis research, multi-method research, quantitative and qualitative methods, integrative research, triangulated studies, multiple methods, and mixed research (Johnson et al., 2007; Creswell, 2013). This study however embraced the mixed methods approach to make available responses to the research questions raised in this work. The mixed methods approach gives room for the researcher to combine both the quantitative and qualitative research approaches. Winston (2012:113) citing the work of Johnson, Onwuegbuzie and Turner (2007) painted the picture far better for using the mixed methods approaches. She point out that the design combines the quantitative and qualitative research approaches through mingling that happens at various phases in the research process. For example, a researcher can decide to blend the methods at data collection stage, collecting both types of data simultaneously, or can combine the methods within the results or discussion stage of the research process. Some vital components in the conduct of a mixed method study have been identified by Creswell and Plano (2011:5) to include the following: The researcher;

- *collects and analyses persuasively and rigorously both qualitative and quantitative data (based on research questions)*
- *mixes (or integrates or links) the two forms of data concurrently by combining them (or merging them) sequentially by having one build on the other, or embedding one within the other;*
- *gives priority to one or to both forms of data (in terms of what the research emphasises);*
- *uses these procedures within philosophical worldviews and theoretical lenses, and;*

- *combines the procedures into specific research designs that direct the plan for conducting the study*

This study employed the use of structured questionnaires and interview guides to elicit information from the respondents/participants.

4.4 Research Design

Research design according to Mbachu (2005) and Ifidon and Ifidon (2007:68) is the programme that gives direction to an investigator in the course of gathering, analysing and interpreting his/her observations; it is the outline that allows the investigator to arrive at responses such as: “What shall I study? What shall I observe? When will observation be made? How will the data be collected?” The research design of any work is “determined by the problem at hand, the characteristic feature of the data and the nature of the discipline” (Ifidon and Ifidon, 2007:68). Aina (2004:338) asserts that the research design is what affords an overall structure for collecting proper data. Research design is further seen as a plan that gives direction to the investigator in providing responses to research questions, thereby making available the evidence(s) needed to arrive at scientific inferences (Goel, 1988:18). Kumar (2005:84) opined that research design “is a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically” He further suggested that through research design, one can “conceptualise an operational plan to undertake the various procedures and tasks required to complete a study; ensure that these procedures are adequate to obtain valid, objective and accurate answers to the research questions.”

Research design can be looked as a set plan or approach for the conduct of research. Bryman (2008:31) stressed that research design “provides framework for the collection and analysis of data”. According to Babbie and Mouton (2003) the research design is seen as the plan or blueprint of how a researcher plans to carry out his proposed research. Research design also “involves anticipating all aspects of the research, then, the planning for them to occur in an integrated manner” (Blaikie, 2010:15). Kumar (1999:74) suggested that, a research design is an arrangement and plan of investigation that is intended in order to obtain responses to research queries or problems. Akinade and Owolabi (2009) describes research design like a house

building plan. They assert further that if the plan of the house is very good, there is every likelihood that the building will be well constructed. This presupposes that the research design has to do with planning, arrangement or ways the researcher intends to use in executing the study. Akinade and Owolabi (2009:28) stated that the purpose of research design include the following:

- *To answer questions, it helps structure how to conduct the study.*
- *It can guide the researcher to collect and analyze and interpret data properly.*
- *It can help the researcher to infer casual relations among various variables the study is interested in.*
- *It can help define the domain of generalization*
- *It is used for gathering data; help test hypothesis or answer research questions of the study.*
- *Guides researchers to generate usable primary data*

Research design differs depending on the research areas, the procedures used to collect data and the methods employed for the data analysis (Bechhofer and Paterson, 2012). The research designs can be experimental, exploratory, descriptive, survey, historical, case study, among others (Babbie et al., 2001, Antonius, 2003; Mbachu, 2005, Ifidon and Ifidon, 2007). This study adopted the survey design. Experimental research gives a description of what will be obtained when positive variables are wisely controlled and deployed. The focus is on cause and effect relationships which is highlighted that things will happen if some things are applied. Experimentation provides a method of hypothesis testing (Aina, 2004:347; Ifidon and Ifidon, 2007:26). In experimental research, when or after the researcher has identified a query/problem, he suggests an uncertain or tentative assumption known as hypothesis. He tests the hypothesis and either accepts or discards it due to the controlled variable link he has detected. To Adefila (2008:10), experimental research design is:

“sometimes called scientific research, is by far the most precise and the most systematically planned, with controlled observation used in education. It is concerned with cause-effect relationships such as to investigate whether variable X, (the predictor or independent variable) has an effect on variable Y, (the

dependent variable).It therefore concerns itself with the association between independent and dependent variables”

Another research design is the exploratory research design which is conducted to explore a topic under investigation and allows the researcher to get familiarised with the said topic. Exploratory research is also seen as an investigation into a topic with the aim of gaining more insight. In exploratory research, a researcher begins with a broad idea and proceeds to use research as a tool to find out issues that could form the center of prospective research. Succinctly put, exploratory research is “carried out to investigate the possibilities of undertaking a particular research study; it is also called a feasibility study or pilot study” (Kumar, 1999:9). The aim of exploratory research is “to rekindle interest in a relatively new and unstudied area. This is done to satisfy the researcher’s curiosity and desire for better comprehension; to carry out a feasibility study in order to develop the methods to be employed in a more detailed study” (Mbachu, 2005:33). Furthermore, Robson (1993:42) opines that exploratory research is a valued method to find out “what is happening; seek new insights; to ask questions and to assess phenomena in a new light”. This research design is of great value if a researcher wishes to get clarity of his understanding concerning a research problem. The objective of exploratory research as Kotler and Armstrong (2006:122) posit, is to gather introductory information that will help describe research problems and recommend hypotheses.

Descriptive research is another form of research design. One fundamental aim of any research work is to describe solutions, occurrences/phenomena or events. Descriptive research tries to unfold the important “elements and characteristics of any phenomenon or attributes. It could be extensive or narrow in coverage” (Mbachu, 2005:33). Ifidon and Ifidon (2007:24) and Okebaram (2014:107) suggest that descriptive research has to do or involves the collection of relevant data in order to answer questions regarding conditions or relationships that is in existence, practices that overcome, beliefs, view points, or attitudes that are held, practices that are on-going, effects that are being felt, or styles that are developing. Descriptive research determines and puts things the way they are.

Historical research is a type of research design that is possibly the oldest form of research design that tries to comprehend a phenomenon by defining its methods of growth and interior dynamics of variation. Historical research, simply involves, inferring past events to forecast future ones. It shows a significant “record of a man’s achievements. It is not merely a list of chronological

events, but a truthful integrated account of the relationships among persons, events, times and places” (Aina, 2004:24). Heffner (2014) opined that historical research can also be referred to the method of gathering data from circumstances that had already happened and performing statistical analysis on this data just as can be carried out in a traditional experiment. One key distinction between this type of research and other research designs, according to Heffner (2014) pertains to the manipulation of data. Historical research to Adefila (2008:8) makes use of “oral evidence, records such as diaries, case studies autobiographies, log books, books, journals, magazines, etc. as the basis for gathering the required data for the accomplishment of the desired objectives”. He stated further that historical research concerns itself with the interpretation of past happenings of events, “attitudes, facts and developments viewed as an integrated part of human socio-cultural, economic, political and technological development” Adefila added that the historical research process could be classified into two main sources of data, they are:

- *“Relics- are the unwritten historical evidences such as archaeological or geological remains, which may take the form of farm implements, utensils, skeleton bones, etc.*
- *Documents- on the other hand refer to the written materials from which valuable information about a given event is derived eg. Tafawa Balewa’s picture taken seven decades ago. As such type of picture will serve as a relic, any inscription on it will qualify as and represent a document of such time. In the same view as a letter written by Emperor Masa Musa in the fourteenth century will serve as a documentary source, the texture of a paper used, the style of writing, etc. will serve as relic source of that time*

In summary, it could be deduced that the purpose of historical research is to acquire a superior understanding of the present through the appraisal of the past, and to intelligently predict the future.

Case study research is a very common research design used in LIS and has become very popular. It involves thorough study of an individual, an institute, association or even a community and is used to describe intricate phenomena and how individuals relate with them. Kumar (1999:99) postulates that case study research is a method of investigating a social phenomenon by thoroughly analysing an individual case. It may be an individual, a group, an occurrence, process, society community, or any other element of a social life. Corroborating Kumar’s

assertion, Lapan et al. (2012:243) emphasised that case study research “is an investigative approach to thoroughly describe complex phenomena, such as recent events, important issues, or programmes, in ways to unearth new and deeper understanding of the phenomena”. According to Vaus (2001:50), “case study design relies less on comparing cases. A distinguishing characteristic of case studies is that contextual information is collected about a case so that we have a context within which to understand causal processes.” Yin (2003) expounded that case studies are the favourite approach when “how” or “why” questions are being asked, when the person carrying out the study has little control over events, and when the main focus is on a modern phenomenon pertaining to some real-life setting. Likewise, Yin stressed further that the case study research design “benefits from prior development of theoretical propositions to guide data collection and analysis”. However, the findings gotten from a case study investigation cannot be used to generalise a population (Aina, 2004:347).

Survey research is a method used to collect both primary and statistical data in Social Sciences research, commonly through the use of questionnaires and interviews. Survey research is defined by McMillan and Schumacher (2001:602) as an “assessment of the current status, opinions, beliefs and attitudes through the use of questionnaires or interviews on a known population”. The survey method was adopted for this study. The survey research design is commonly used in Social Sciences research (Kumar, 2005:93) to gather data about human population by making direct contact with the unit under study to determine its current status in line with one or more variables (Slavin, 2007; Ifidon and Ifidon, 2007:25). Bhattacharjee (2012:73) describes survey research design as a research method involving the use of standardised questionnaires or interviews to collect data about people and their preferences, thoughts, and behaviours in a systematic manner. Survey research has further been described as that type of research where data are collected from the population for thorough study and analysis; information gathered in survey research is through questionnaires and interviews (Adefila, 2008:9). Survey research allows the collection of data from a reasonable large sample making it relatively cost effectiveness in terms of time and money (Jankowska, 2004; Emojorho and Adomi, 2006; Hasim and Salman, 2010; Aina, 2012). The survey method has been established to be of great value (Reio, 2007) for discovering series of topics/subjects which range from outlooks, intents, drives to behaviours. Akinade and Owolabi (2009:38) described the survey design as a type of design that “is not

concerned with characteristics of individuals but rather the generalised characteristics obtained from the analysed data”. Therefore the purpose of a survey is to generalise from a sample to a given population, in order to make extrapolations about some attitude, behaviour or characteristics the population (Okon, 2013). This current study adopted the survey design, because it was suited for the research questions posed by the study. Kelley et al. (2003:262) suggest the following as the advantage of the use of survey design in research:

- *The research produces data based on real-world observations (empirical data).*
- *The breadth of coverage of many people or events means that it is more likely that some other approaches can be used to obtain data based on a representative sample, and can therefore be generalizable to a population.*
- *Surveys can produce a large amount of data in a short time for a fairly low cost.*
- *Researchers can set a finite time-span for a project, which can assist in planning and delivering end results*

Another reason why the survey research was chosen for this study, is because it is inexpensive, extensive, flexible and also dependable. Survey research has also been used extensively by scholars in various investigations (Kelley et al., 2003; Jankowska, 2004; Emojorho and Adomi, 2006; Reio, 2007; Hasim and Salman, 2010; Okon, 2013), among others.

4.5 Population of Study

Population is the entire unit of interest to the researcher of which he or she would like the results of his or her study to be generalisable. Population also refers to the total/entire group of persons, issues, objects, institutions, events, or items with the features/characteristics that is of interest to the researcher. The reason for this, is because there is seldom enough time or financial resources to collect information from everyone or everything in a population; the aim becomes, selecting a representative sample (or subset) of that population (Polit and Hungler, 1999:37; Mbachu, 2005:110; Burns and Grove, 2011; Okebaram, 2014:335). Ifidon and Ifidon (2007:70) define it “as a specific population to which the researcher would like his generalization to apply”. Conversely, Babbie et al., (2001:100) further narrowed down the definition of population, when

they asserted that, it is seen as a “group (usually of people) about whom we want to draw conclusions”. Kumar (1999) describes population as the class, city, where you have electorates from which you make the choice of a few students/families/electors, for sampling.. Punch (2005:101) describes a population as “the total target group who would, in the ideal world, be the subject of the research, and about whom one is trying to say something”. Akinade and Owolabi (2009:72) simplify the definition of population as a collection of the entire, well described set of events or group of people that constitute the object of interest in any study. More specifically, Okon (2013) opines that, the choice of population in a research is based on the specific unit of analysis (individuals or institution) in which a researcher wishes to draw his/her specific conclusions.

The population for this study comprised, the Librarians, Para-professional library staff, Heads of libraries (University Librarians) and Information Technology personnel of four selected universities in the South-West geo-political region of Nigeria. The universities surveyed were University of Lagos, University of Ibadan, Covenant University, and Babcock University. Librarians are professionally trained persons who have earned a master’s degree in Library Science or cognate fields and are engaged in library and information services. Para-professional library staff, on the other hand, are those personnel who work in the library or are engaged in library and information services, but have no degrees in Library Science or cognate disciplines (Kieserman, 2014). The para-professional staff are like the public relation officers/support staff of the library, because they meet with library patrons on a regular basis to provide support services to them in the use of the library (Kelsey, 2009).

A preliminary survey was conducted by the researcher to determine universities in South-West, Nigeria that had implemented the use of electronic security systems (ESS) in their libraries. The preliminary survey was based on e-mails sent to the Nigerian Library Association (NLA) Online Forum at: nla-online-forum@yahoogroups.com. Virtually all practicing librarians and heads of various institutions’ libraries in Nigeria are members of this forum. The University of Lagos, University of Ibadan, Covenant University and Babcock University were identified as the only universities whose libraries had implemented the use of electronic security systems. These university libraries were therefore purposively selected because they had implemented ESS in their libraries.

Table 4.1 below shows the population of the universities under investigation as obtained from the offices of the heads of the libraries (University Librarians) of the selected universities.

Table 4. 1: Population of Participants

Population	University of Lagos	University of Ibadan	Covenant University	Babcock University
Heads of Libraries	1	1	1	1
Librarians	20	13	19	15
Para-professional library staff	42	38	25	25
IT Personnel	1	1	1	1
Total	64	53	46	42
Grand Total	205			

Source: Office of the Heads of the Libraries (University Librarians) of the Universities under study

4.6 Sampling Procedures

The essence of a sampling procedure in a survey research is to select a fragment of a population which inadvertently represents the total population (LoBiondo-Wood and Haber, 2014). This is because, according to Welman, Kruger and Mitchell (2005:55) “it is impractical and uneconomical to involve all the members of the population in a research”. This presupposes that, in a large proportion of population, it will require so much financial resources and time to conduct a study which is practically a herculean task. Therefore, Babbie et al., (2001); Welman, Kruger and Mitchell, (2005); Brink, Walt and Rensburg (2012) and Denscombe (2014:32) have proposed that, the selection of a sample or a fragment of the population would be most practical.

Consequently, the researcher decided to adopt the purposive and total enumeration of the population (census) for this study. Purposive sampling refers to a critical form of sampling in which the researcher, because of the information or knowledge he has on/of the population, decides to select some groups or individuals because of their significance to the issue being investigated. According to Quartaroli (2012:334) purposive sampling the researcher seeks out people or respondents who he feels can best provide the information to help achieve his or her research objectives.

The University of Lagos, University of Ibadan, Covenant University, and Babcock University, were purposively selected from the South-West geo-political zone of Nigeria since they had all implemented the use of electronic security systems (ESS) in their libraries to curb thefts, mutilation and vandalism of library (print) resources. Some scholars who have in the past embraced or used purposive sampling/census methods in their work include Israel (1992); Morse (1995); Sandelowski (1995); Bluff (1997); Byrne (2001); Fossey et al. (2002); Al-Subaihi (2003); Guest et al. (2006); Zhang et al. (2007); Yeboah et al. (2017) among many others.

A census method is usually embraced in situations where the population under study is not large. In such a case the entire population is used as the sample particularly if the population in question is as small as 200 or < 200 (Israel, 1992 Al-Subaihi, 2003). This is to permit a reasonable sample to be selected in order to make the outcome of the research generalisable (Australian Bureau of Statistics, 2013) and to achieve a desirable level of precision Al-Subaihi, 2003).

The census method was embraced in this study in determining the study respondents from the various categories of library staff in the four purposively selected universities. This resulted in a total sample size of 205, comprising Librarians, Para-professional library staff, Heads of libraries (University Librarian) and Information Technology personnel. One significant advantage of census method in research and why it was applied in this study is its accuracy; because every unit of the population is considered and studied before conclusions of the research are drawn (Israel, 1992; Al-Subaihi 2003; Zhang et al., 2007; Yeboah, et al., 2017).

4.7 Data Collection Procedures

Data collection is likened to a cook gathering all the requisite ingredients before he or she embarks on the cooking proper. Data collection procedure is therefore connected with the distribution or administration of research instruments or tools to elicit information from study respondents. This aspect of the study, according to Bhandarkar and Wilkinson (2010), includes the various methods employed for gathering the data and the instruments used. In conformity with survey research design data collection methods, standardised structured questionnaire and

interview (semi-structured) schedules that were administered to elicit views, opinions, and responses from the respondents/participants of the study.

4.7.1 Questionnaires

Questionnaire (Appendix 5) was used in gathering information from Librarians/Para-professional library staff. The questionnaire was designed to cover different sections. It covered (a) the demographic characteristics of respondents; (b) library security systems that are in use in academic libraries (What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?); (c) To what extent are electronic security systems used in the academic libraries; (d) How are electronic security systems used to discourage patrons from pilfering information resources?; (e) What is the magnitude/immensity of loss of library materials through theft, mutilate on and vandalism; (f) How effective is the use of electronic security systems in curbing thefts, vandalism and mutilation of information resources in academic libraries; (g) What are the factors influencing/motivating the use of ESS in the library?

Schachter and Liu (2005:616), describe questionnaire as data-gathering methodology consisting of a set of written questions that respondents complete and return to the researcher. To answer the questions, respondents usually select from a choice prepared by the research team. In occurrence,

Payne and Payne (2004:186) add that questionnaires “are the printed sets of questions to be answered by respondents, either through face-to-face interviews or self-completion, as a tested, structured, clearly presented and systematic means of collecting data (mainly in the quantitative methods tradition)”. In a questionnaire, the respondents are meant to read through the questions, interpret the likely expectation, and provide the needed answers (Kumar, 2005:126).

Kumar further suggested the following as the advantages of using the questionnaires:

- *It is less expensive. As you do not interview respondents, you save time, and human and financial resources. The use of a questionnaire, therefore is comparatively convenient and inexpensive. Particularly, when it is administered collectively to a study population, it is an extremely inexpensive method of data collection.*

- *It offers greater anonymity. As there is no face-to-face interaction between respondents and the interviewer, this method provides greater anonymity. In some situations when sensitive questions are asked, it helps to increase the likelihood of obtaining accurate information*

These two advantages pointed out by Kumar formed the principal reason for choosing questionnaire as an instrument in this study; as it is convenient, saves time and financial resources and the researcher does not need to be with the respondents when he/she is completing the questionnaire.

Categorisation of questionnaires could either be open-ended or closed-ended. The ones that are open-ended give room for the respondents to provide answers in the way they prefer. The closed-ended questionnaires, according to Saunders et al. (2012), makes available several options for the respondents to select from. This study employed the closed-ended questionnaire to reduce time taken by the respondents in responding to questions as well as encourage quick responses, with little writing to be done. Five-point Likert-style rating scale method of questionnaire was adopted in this study to seek the opinions of respondents. The Likert-style rating scale with 5 denoting— Strongly Agree, 4 - Agree, 3 – Undecided, 2 - Disagree, 1 – Strongly Disagree was adopted in this study to seek the opinions of respondents. The benefit of the Likert-style rating questionnaire is that it encourages numerical value to be apportioned to cases for easy quantitative analysis (Saunders, Lewis and Thomhill, 1997:259).

The questionnaires were administered personally by the researcher to the participants in their various offices with the help of four research assistants that were trained and co-opted by the researcher. The researcher ensured that he was around when the questionnaire was distributed to clarify any issues that arise from the questionnaire which the respondents sought clarifications on. The questionnaires were distributed and collected within three months, (January – March, 2017). The week prior to the collection of the data, the researcher paid a visit to the four universities surveyed to create a rapport with the heads of the selected libraries (University Librarians) for this study. The researcher provided (University Librarians) copies of letters of permission (introduction letters) that were earlier sent through email to the office of the heads of the libraries (University Librarians) to carry out research in the institutions (see Appendices 8,

10, 12 & 14). The approval to carry out research in the universities surveyed was obtained before the commencement of the study in line with the letter requesting for permission to carry out research in the selected universities (see appendices 9, 11, 13 & 15).

4.7.2 Interviews

Structured interviews were used to elicit qualitative data from the Heads of libraries (University Librarians) and the Information Technology (IT) personnel. Areas addressed to the heads of libraries included: policy, budgets and capacity building, whereas questions directed to the IT personnel included support, maintenance and training. The interview process took additional two weeks, due to the work schedule of the participants. Interview is a medium of collecting information from people. According to Kumar (2005:123) it could be done through “different forms of interaction with others. Any person-person interaction between two or more individuals with a specific purpose in mind is called an interview”. Interview method can also be looked as a form of oral questionnaire involving “face to face type of questioning from the researcher and responses from the interviewee. It may afford the researcher opportunity to observe verbal and non-verbal behaviour of the interviewee” (Akinade and Owolabi, 2009:93). It can variably be described as a question and answer state between the interviewer (researcher) and the interviewee (participants) with a view to stimulating important data for the study being carried out (Okebaram, 2014:78).

Interviews was considered appropriate for the study because the researcher can engage on one-one interaction with the participants with the aim of gathering relevant and first-hand data from them. It also affords the researcher the opportunity to study at a very close range the behaviour (verbal and non- verbal) of the interviewee (Kumar, 2005; Akinade and Owolabi, 2009).

4.8 Data Analysis Strategies

Data analysis is a methodical organisation and fusion of data that comprises the presentation of one or more statistical methods. The essence of data analysis, according to Coughlan, Cronin, and Ryan (2007) is that it gives value to data gathered during research in such a manner that enables the researcher proffer answers to the research questions. Analysis is seen as a procedure

that comprises three key stages or steps which the researcher has to embark on. Firstly, the researcher needs to find out what the data says; secondly, the researcher has to deduce or find out what the data mean, and thirdly, by making the data available to the readers in the form of presentation (Bertram and Christiansen, 2010). Being a mixed research study, two sets of data were collected- quantitative and qualitative data.

The Statistical Package for Social Sciences (SPSS) was employed to sort, code and analyse the quantitative data collected through survey questionnaires. Bulky quantities of data, according to Polit and Beck (2004) can easily be processed, organised and interpreted by the aid of computer with the use of Statistical Package for Social Sciences (SPSS). The Statistical Package for Social Sciences (SPSS) was preferred in analyzing the quantitative data because it is a dominant and popular package that can handle intricate statistical techniques (Pallant, 2005). The quantitative data gathered was exposed to descriptive analysis in generating percentages, frequency counts, and tables. Onwuegbuzie and Combs (2010) see descriptive analyses as methods employed to organise and make data to be precise for easy comprehension or understanding.

The qualitative data collected through interview was analysed using thematic content analysis. Schwandt (2007:6) sees qualitative data analysis as “the activity of making sense of, interpreting or theorising data”. Content analysis is an appropriate method for the collection and organisation of information methodically; it helps to present data more efficiently as well as reflect the authenticity of data collection (Alreck and Settle, 1995; Braun and Clarke, 2006; Creswell, 2009).

4.9 Validity and Reliability

Validity focuses on measuring, not only the adequacy of responses, but also the intelligibility and instructions for each section of the questionnaire. Apart from the validation done by the supervisor and the higher degree committee of the University of KwaZulu-Natal (UKZN), other experts in the field of Library and Information Studies were consulted for face validity of the instrument. This was to ensure it matches with Thatcher’s (2010) description of validity as the extent to which a research instrument measures what it is intended to measure.

Additionally, a pre-test was conducted to ascertain the possibility of achieving the set target through these instruments. The pre-test validation of the instruments was carried out among 13 Librarians and Para-professional library staff of the Federal University of Agriculture Library, Abeokuta, Ogun State, Nigeria. The purpose for pre-testing was to ensure that the items in the questionnaire were flawless, brief and void of any ambiguity. It was carried out also to ensure the re-phrasing of some words and removal of some questions that were found irrelevant. This exercise satisfied the requirement of social research and the application of definition of pilot test as an experimentation or mini version of a study which represents a preparatory-step towards the proposed full-scale study (Teijlingen and Hundley, 2001; Tashakkori and Teddlie, 2003).

Further, Cronbach's alpha coefficient was used to determine the internal consistency and reliability of the items in the questionnaires. Santos (1999) states that Cronbach's alpha is what determines the internal consistency or average connection of items in a survey instrument to ascertain its reliability. Using Statistical package for Social Sciences (SPSS), a Cronbach's alpha test was employed using the reliability command in the software. Cronbach's alpha reliability coefficients range between 0 and 1. The closer the coefficient is to 1.0, the greater is the internal consistency of the variables concerned. Cronbach's alpha coefficient tends to increase as the number of items (variables) increases and as the average inter-item correlations increase (i.e., when the number of items is held constant). In this study, the Cronbach's alpha was 0.79, indicating that there is great internal consistency of the variables used.

The table below shows the Cronbach Alpha results.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.89	.900	39

In addition, the mixed methods approach was embraced to ensure the validity and reliability of instruments through triangulation as the qualitative research complimented and enriched the quantitative research findings.

4.10 Ethical Considerations

Ethical considerations according to Greener (2011) give bearing to the researchers when they are encumbered with intricate situations in the course of carrying out their investigations. In view of this, Strydom (2011:114) refers to ethics as a set of moral principles which is suggested by an individual or group, and is subsequently widely accepted, and offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students.

Consequently, the standards and ethics of research of all institutions involved were strictly adhered to. The ethical requirement as set out by the University of KwaZulu-Natal (UKZN) research policy was fully complied with. For instance, letters seeking permission to carry out research in the universities surveyed were sent to the heads of the libraries (University Librarians) and letters of approval were also obtained several months before the collection of data commenced (see appendices 8,9,10,11,12,13,14 &15). An ethical clearance certificate was also obtained before the commencement of the data collection from the Humanities and Social Sciences Research Ethics Committee of the University of KwaZulu-Natal (see Appendix 2). Respondents were duly briefed and informed on the purpose of the study before the research instruments- questionnaires were administered and interviews conducted. They were informed that they were free to withdraw from the study if they so desired at any stage without any penalties. The researcher also guaranteed the participants of their privacy and that the opinions they provided would not be divulged to any third party. All these ethical considerations observed conform to Winter (1996) suggestions notably that a researcher must accept responsibility for maintaining confidentiality; the wishes of those who do not want or are unwilling to participate must be appreciated; permission must be acquired before making observations or examining documents for other purposes; all participants should be allowed to influence the work.

4.11 Summary

This chapter presented the research methodology. The underlying postulation for the study was the post-positivist research paradigm that is based on mixed methods approach that combined the quantitative and qualitative methods in gathering relevant data. The various parts covered included: introduction of the chapter, research paradigm, the research approaches, the research design, the population of study, sampling procedures, data collection procedures, the data analysis strategies, validity and reliability of the research instruments, and ethical considerations. The survey questionnaire and in-depth interviews were used for collection of data. The Statistical Package for Social Sciences (SPSS) was applied to sort, code and analyse the quantitative data collected through survey questionnaire, while the qualitative data collected through structured interviews was analysed using thematic content analysis. The standard and ethics of the institutions surveyed were strictly observed while the research ethics protocol of the University of KwaZulu-Natal (UKZN) was also complied with.

CHAPTER 5

DATA ANALYSIS AND PRESENTATION OF FINDINGS

5.1 Introduction

This chapter centers on the analysis of the data as well as the presentation of the findings on the use of electronic security systems (ESS) in selected academic libraries in South-West, Nigeria. The data presented were gathered through survey questionnaire and in-depth interview schedule.

The essence of analysing data and presenting research findings is to give a summation of the information gathered in order to articulate response(s) to the research questions (Perron and Gillespie, 2015:30). Bhattacharjee (2012:23) posits that data is “analysed and interpreted for the purpose of drawing conclusions regarding the research questions of interest”. However, Data analysis can either be quantitative (making use of statistical methods like regression or structural equation modeling) or such analysis can be qualitative, using coding or content analysis (Bhattacharjee, 2012).

The following research questions were addressed:

- What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?
- To what extent are electronic security systems used in academic libraries?
- How are electronic security systems used to discourage patrons from pilfering information resources from the library?
- What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
- How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South West Nigeria?
- What are the factors influencing/motivating the use of ESS in the library?

This study gathered both quantitative and qualitative data as indicated in chapter four (4). The use of survey questionnaire was adopted to gather quantitative data. The Statistical Package for Social Sciences (SPSS) was engaged in sorting, coding and analysing the quantitative data collected. The analyses of quantitative data generated frequency and percentage counts, mean and standard deviation. Furthermore, qualitative data was gathered using structured interview schedules, audio recorded, transcribed and analysed through thematic content analysis. The qualitative data was collected from the heads of the libraries (University Librarians) and Information Technology personnel through semi-structured interview schedule.

5.2 Response Rate

The objective of any researcher carrying out an investigation is to attain an approximate 60% response rate (Johnson and Owens, 2003; Sivo, Saunders, Chang, and Jiang, 2006; Nulty, 2008; Fincham, 2008). Fincham (2008) asserts, that if the response rate is low, it weakens the validity and reliability of the result of the survey, but if the response rate is averagely high, there is the possibility that it will reduce the risk of any form of bias as far as the outcome of the research is concerned. Johnson and Wislar (2012:1805); Maxfield and Babbie (2015) also corroborate this assertion by postulating that, the acceptable response rate in measuring quality research survey is 60%. Fincham (2008:43) opined that, for “a survey research that is anticipated to represent the entire population, a response rate of 80% is normal and highly acceptable”.

Response rate has been defined as “the proportion of individuals selected into a sample who are eligible and ultimately participate in the survey” (Johnson and Wislar, 2012:1805). It is done by dividing the number of questionnaires returned by the actual number of questionnaires given out to the respondents by the researcher.

Two hundred and five (205) participants, which included the librarians and paraprofessional library staff were requested to take part in the research. Out of the 205 participants, four (4) were heads of libraries (University Librarians), while the other four (4) were Information Technology (IT) personnel attached to the academic libraries surveyed (table 4.1). Qualitative data was collected from these eight (8) participants (the University Librarians and Information Technology personnel) through the use of structured interview schedule. A total of 197 copies of

the questionnaire were administered to the librarians and paraprofessional librarians out of which 164 were filled correctly and returned, giving a response rate of 83.2%, which is reasonably acceptable (Fincham, 2008:43). The high response rate was made possible through constant follow-up with participants by the researcher and also through the support of the various unit heads in the four academic libraries investigated.

Qualitative data, was collected through the use of structured interview from purposively selected eight (8) participants. The participants included the four (4) heads of the libraries (University Librarians) and the four (4) Information Technology personnel attached to the libraries investigated. A response rate of 100% was recorded as all the participants took part in the interview. The high response rate, was made possible due to constant follow-up by the researcher, scheduling, cancelling and re-scheduling of interview dates due to participants' busy work schedule. It was stressful, but the persistence of the researcher paid off in the long run, as all the participants were interviewed. The interview was conducted by the researcher and was audio-recorded.

Table 5.1 below represents the response rate from the survey questionnaire administered to the four participating Universities.

Table 5. 1: Questionnaire Response rate (n =197)

University	Questionnaires administered	Questionnaires Returned
University of Lagos	62	43
University of Ibadan	51	42
Covenant University	44	43
Babcock University	40	36
Total	197	164
Interview	8	Interviews conducted = 8

5. 3 Demographic Characteristics

The demographic characteristics of the respondents from the four selected universities are presented in Tables 5.2-5.7. The results depict the gender distribution, age, educational qualifications, designation, departments and work experience of the respondents respectively.

5.3.1 Distribution of Respondents by Gender

The study investigated the gender of the respondents. The gender distribution is as presented in table 5.2 below.

Table 5. 2: Gender (n=164)

		UNILAG (43)	UI (42)	CU (43)	BU (36)	Total (164)
Male	Frequency	22	19	17	14	72
	Percent	51.2%	45.2%	39.5%	38.9%	43.9%
Female	Frequency	21	23	26	22	92
	Percent	48.8%	54.8%	60.5%	61.1%	56.1%

Table 5.2 above shows the gender distribution of participants. The findings show that female respondents were more in number in the various University (academic) libraries investigated, with 92 (56.1%) representing female while male were 72 (43.9%).

5.3.2 Age Distribution of Respondents

The study sought to know the age distribution of the respondents as shown below in table 5.3.

Table 5.3: Age Group of Respondents (n=164)

		UNILAG (43)	UI (42)	CU (43)	BU (36)	Total (164)
< 25	Frequency	4	3	0	5	12
	Percent	9.3%	7.1%	0.0%	13.9%	7.3%
25-34	Frequency	5	11	17	9	42
	Percent	11.6%	26.2%	39.5%	25.0%	25.6%
35-44	Frequency	20	23	16	15	74
	Percent	46.5%	54.8%	37.2%	41.7%	45.1%

45 & above	Frequency	14	5	10	7	36
	Percent	32.6%	11.9%	23.3%	19.4%	22.0%

The findings in table 5.3 above present the age distribution of the respondents. Majority of the respondents were within the age bracket of 35-44 (45.1%) whereas the least were within the age bracket of <25 (7.3%). Others mostly fell within the age group of 25-34 (25.6%), as well as 45 years and above (22.0%).

5.3.3 Educational Level of Respondents

Table 5.4 below presents the findings on the educational level of the respondents

Table 5. 4: Educational level (n=164)

		UNILAG (43)	UI (42)	CU (43)	BU (36)	Total (164)
PhD	Frequency	2	2	0	0	4
	Percent	4.7%	4.8%	0.0%	0.0%	2.4%
MLIS	Frequency	9	14	18	6	47
	Percent	20.9%	33.3%	41.9%	16.7%	28.7%
Bachelor	Frequency	23	11	12	11	57
	Percent	53.5%	26.2%	27.9%	30.6%	34.8%
NCE	Frequency	2	0	1	6	9
	Percent	4.7%	0.0%	2.3%	16.7%	5.5%
Diploma	Frequency	5	8	6	4	23
	Percent	11.6%	19.0%	14.0%	11.1%	14.0%
Others	Frequency	2	7	6	9	24
	Percent	4.7%	16.7%	14.0%	25.0%	14.6%

The distribution of respondents according to their educational attainment as shown in table 5.4 reveal that a majority of 57 (34.8%) of the respondents possess bachelor degree qualifications with another large proportion of the respondents 47 (28.7%) holding Master of Library and Information Studies/Science degree (MLIS). Those holding NCE, Diploma and other certificates were few in number.

5.3.4 Distribution of Respondents by Designation

The findings on distribution of respondents by their designation is presented in Table 5.5.

Table 5.5: Distribution of Respondents by Designation (n=164)

		UNILAG (43)	UI (42)	Covenant (43)	Babcock (36)	Total (164)
Library Assistant	Frequency	8	15	11	11	45
	Percent	18.6%	35.7%	25.6%	30.6%	27.4%
Library Officer	Frequency	27	14	13	14	68
	Percent	62.8%	33.3%	30.2%	38.9%	41.5%
Assistant Librarian	Frequency	0	1	1	2	4
	Percent	0.0%	2.4%	2.3%	5.6%	2.4%
Librarian II	Frequency	2	4	6	2	14
	Percent	4.7%	9.5%	14.0%	5.6%	8.5%
Librarian I	Frequency	0	3	8	3	14
	Percent	0.0%	7.1%	18.6%	8.3%	8.5%
Senior Librarian	Frequency	5	2	1	3	11
	Percent	11.6%	4.8%	2.3%	8.3%	6.7%
Principal Librarian	Frequency	0	2	2	0	4
	Percent	0.0%	4.8%	4.7%	0.0%	2.4%
Deputy Univ. Librarian	Frequency	1	1	1	1	4
	Percent	2.3%	2.4%	2.3%	2.8%	2.4%

The findings in Table 5.5 show that majority of the respondents were paraprofessionals. These included Library officers (41.5%), Library Assistants (27.4%), Librarian II (8.5%), Librarian I (8.5%), Senior Librarian (6.7%), while Assistant Librarian, Principal Librarian, and Deputy University Librarian were 2.4% respectively.

5.3.5 Distribution of Respondents by Departments/Units

Analysis of the various departments in which respondents belong to are as shown in table 5.6 below.

Table 5.6: Department (Unit) of Respondents (n=164)

		UNILAG (43)	UI (42)	Covenant (43)	Babcock (36)	Total (164)
Technical Services	Frequency	16	11	17	9	53
	Percent	37.2%	26.2%	39.5%	25.0%	32.3%

Reader Services	Frequency	13	8	19	13	53
	Percent	30.2%	19.0%	44.2%	36.1%	32.3%
Collection	Frequency	1	9	3	1	14
	Percent	2.3%	21.4%	7.0%	2.8%	8.5%
Serials	Frequency	0	3	2	4	9
	Percent	0.0%	7.1%	4.7%	11.1%	5.5%
Administrative	Frequency	13	11	2	9	35
	Percent	30.2%	26.2%	4.7%	25.0%	21.3%

Table 5.6 above shows that Technical Services department and Readers' Services each had (32.3%) of workforce. This was followed by Administrative Unit with 35 (21.3%), while Collection Development and Serials departments had less than 10% each

5.3.6 Work Experience of Respondents

The study sought to know the work experience of the respondents. The results are presented in Table 5.7.

Table 5.7: Work Experience of the Respondents (n=164)

		UNILAG (43)	UI (42)	Covenant (43)	Babcock (36)	Total (164)
< 4 years	Frequency	5	9	9	13	36
	Percent	11.6%	21.4%	20.9%	36.1%	22.0%
5-9 years	Frequency	21	16	9	12	58
	Percent	48.8%	38.1%	20.9%	33.3%	35.4%
10-14 years	Frequency	13	8	22	9	52
	Percent	30.2%	19.0%	51.2%	25.0%	31.7%
15-19 years	Frequency	3	8	3	1	15
	Percent	7.0%	19.0%	7.0%	2.8%	9.1%
20 & above	Frequency	1	1	0	1	3
	Percent	2.3%	2.4%	0.0%	2.8%	1.8%

The results in Table 5.7 show the work experience of respondents. Those between 5-9 years (35.4%), 10-14 years (31.7%), < 4 years work experience (22.0%), while 15-19 years and 20 years and above represented 9.1% and 1.8% respectively.

5.4 Data Analysis Based on Research Questions

Analysis of data based on the six research questions are presented from tables 5.8 to 5.14 respectively.

5.4.1 What library security systems are in place to curb theft and mutilation of library materials?

To understand the types of electronic security systems implemented in the libraries to curb the issue of theft and mutilation of library and information resources, the study sought to know the category of the ESS implementation period and the reasons for the implementation. The findings are presented in table 5.8.

Table 5. 8: Characteristics of types of ESS in libraries

Electronic Security System (ESS) profile	Description	Frequency	Percent (%)
Category of ESS in the library	CCTV Cameras	93	56.7
	Electronic security gate	60	36.6
	RFID system	11	6.7
Duration of ESS installation	< 5 years	50	30.5
	5-9 years	74	45.1
	10 years & above	40	24.4
Reason for ESS installation	To beautify the library	21	12.8
	Monitor users' activities	63	38.4
	Prevent unethical losses	73	44.5
	Others	7	4.3

Table 5.8 shows that there were three categories of ESS in use in the libraries: closed circuit television (CCTV) cameras, electronic security gates and radio frequency identification system. Most of these appear to have been installed in the last 5-9 years. However, the installation of ESS seem to be a continuous process taking into consideration the variations in duration of ESS installation; some were installed 10 years and above, while others in less than the past five (5) years. The reasons for ESS installation in the libraries varied. However, three broad reasons, based on the number of respondents stood out: preventing unethical losses (44.5%), monitoring users' activities (38.4%) and beautifying the library (12.8%). Other reasons given included as suggested by 4.3% of the respondents.

In response to the question on how library materials were being pilfered out of the library or mutilated, 100% of the respondents indicated that users were removing some parts of the materials, tearing off book covers, concealing books in clothes, beating security check point, and impersonation.

5.4.2 How ESS are used in academic libraries

Research question two covered how electronic security systems are used in academic libraries. The responses and analysis are presented in table 5.9.

Table 5.9: How ESS are used in the libraries (n = 164)

How ESS are used	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)	Mean (SD)
ESS in my library has in-built sensor that triggers alarm to detect unauthorised removal or theft of library materials	63 (38.4%)	59 (36.0%)	16 (9.8%)	20 (12.2%)	6 (3.7%)	3.93 (1.14%)
The ESS in use provides a combination of visual and audible feedback to locate the exact position to re-shelf library materials and relocate out-of-order items	24 (14.6%)	57 (34.8%)	28 (17.1%)	46 (28.0%)	9 (5.5%)	3.25 (1.17%)
The ESS in my library has the capability of digital video recording of the patrons' activities and recalling some as evidence to prove theft and misconduct at a later date	44 (26.8%)	63 (38.4%)	14 (8.5%)	32 (19.5%)	11 (6.7%)	3.59 (1.26%)
The ESS allows for line video, viewing and monitoring of patrons' activities, events facilities and designated sections	43 (26.2%)	54 (32.9%)	22 (13.4%)	36 (22.0%)	9 (5.5%)	3.52 (1.25%)
The university librarian can remotely monitor activities in the library from his office	49 (29.9%)	54 (32.9%)	21 (12.8%)	22 (13.4%)	18 (11.0%)	3.57 (1.33%)
The ESS in my library allows for	26	44	36	39	19	3.12

smart cards which provide for identification, authentication, data storage and application processing	(15.9%)	(26.8%)	(22.0%)	(23.8%)	(11.6%)	(1.26%)
The ESS in my library allows sound beeping and flashlight functionality and the capturing of electronic signature	39	60	33	26	6	3.61
	(23.8%)	(36.6%)	(20.1%)	(15.9%)	(3.7%)	(1.12%)
The library electronic security system is barcode-based with electromagnetic tag that is used for anti-theft purposes	46	57	27	30	4	3.68
	(28.0%)	(34.8%)	(16.5%)	(18.3%)	(2.4%)	(1.14%)

The result in Table 5.9 shows the respondents' level of agreement on the extent of ESS use in the surveyed academic libraries. The mean score on each of the item were above the average expected mean of 2.5, thus indicating that majority of the respondents agreed to the statements that the ESS in their library has capacity to: (1) trigger an alarm to detect unauthorised removal or theft of library materials ($\bar{x} = 3.93$); (2) provide visual and audio feedback mechanism that could assist in locating the exact position to re-shelf library materials and relocate out of order items ($\bar{x} = 3.2$); (3) video-record patron's activities while in the library, which could be recalled or played back at a later date to prove thefts or any form of misconduct ($\bar{x} = 3.59$); (4) line video viewing and monitoring of patrons' activities within various sections of the library ($\bar{x} = 3.52$); (5) remotely monitoring by the University Librarian various activities in the library from his/her office ($\bar{x} = 3.65$); (6) make sound, beeping, showing flashlight and the capturing of electronic signature ($\bar{x} = 3.61$); (7) serve as an anti-theft tool using its barcode electromagnetic tag. ($\bar{x} = 3.68$).

5.4.3 ESS use in discouraging patrons from pilfering information resources from the library

Research question 3 sought to find out how the use of ESS helps to discourage library patrons from pilfering information resources from the library. Results in Table 5.10 reveal various ways through which the respondents expressed their thoughts.

Table 5. 10: ESS use in discouraging information resources pilferage (n = 164)

ESS use to discourage pilferage	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)	Mean (SD)
Electronic security systems, especially security gates have been effective in discouraging the theft of library materials	66 (40.2%)	72 (43.9%)	12 (7.3%)	12 (7.3%)	2 (1.2%)	4.1 (.9%)
Tattle tapes/electromagnetic tapes are inserted into books	51 (31.1%)	62 (37.8%)	30 (18.3%)	15 (9.1%)	6 (3.7%)	3.8 (1.1%)
Surveillance monitoring cameras are installed in libraries to monitor activities of users	73 (44.5%)	58 (35.4%)	16 (9.8%)	7 (4.3%)	10 (6.1%)	4.1 (1.1%)
The entire stock of the libraries are catalogued/automated and programmed in alignment with the electronic security systems	55 (33.5%)	63 (38.4%)	29 (17.7%)	15 (9.1%)	2 (1.2%)	3.9 (1.0%)
Library materials are tracked/monitored while the users are within the library	45 (27.4%)	62 (37.8%)	31 (18.9%)	20 (12.2%)	6 (3.7%)	3.7 (1.1%)
Users are now conscious of the installation/presence of electronic security systems in the library	55 (33.5%)	92 (56.1%)	10 (6.1%)	5 (3.0%)	2 (1.2%)	4.2 (.8%)

The result in Table 5.10 above reveals that the use of ESS has proven to be useful in discouraging patrons from pilfering information resources from the library. The mean score on each of the item were greater than the expected mean of 2.5, showing a high level of agreement with the statements. The result shows that users are now conscious of the installation and presence of electronic security systems in the library ($\bar{x} = 4.2$). Also, the security gates have been effective in discouraging the theft of library materials ($\bar{x} = 4.1$) and the surveillance monitoring cameras installed in the libraries have been useful in monitoring the activities of users ($\bar{x} = 4.1$). Furthermore, the entire stock of the libraries are catalogued/automated and programmed in alignment with the installed ESS ($\bar{x} = 3.9$) and tattle tapes/electromagnetic tapes are being inserted into books ($\bar{x} = 3.8$). Lastly, the ESS have been useful in tracking and monitoring library materials while the users are within the library ($\bar{x} = 3.7$).

5.4.4 Magnitude/immensity of loss of library materials through theft, mutilation and vandalism

Research question 4, examined the magnitude/immensity of loss of library materials through theft, mutilation and vandalism. Table 5.11 below presents how the respondents responded to the research question.

Table 5. 11: Magnitude/immensity of Loss of Materials through Theft, Mutilation and Vandalism (n =164)

	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)	Mean (SD)
Some pages of books are ripped off completely	75 (45.7%)	62 (37.8%)	9 (5.5%)	11 (6.7%)	7 (4.3%)	4.1 (1.1%)
Cover pages of materials are always being removed	40 (24.4%)	59 (36.0%)	29 (17.7%)	23 (14.0%)	13 (7.9%)	3.5 (1.2%)
Reference and serials materials are greatly affected	25 (15.2%)	53 (32.3%)	28 (17.1%)	32 (19.5%)	26 (15.9%)	3.1 (1.3%)
Library collection has drastically reduced (as far as number of copies are concerned)	24 (14.6%)	36 (22.0%)	52 (31.7%)	36 (22.0%)	16 (9.8%)	3.1 (1.2%)

The results in Table 5.11 above show the magnitude/immensity of library materials loss through theft, mutilation and vandalism. Majority of the respondents attested that some pages of books are ripped off completely ($\bar{x} = 4.1$). Other vandalism acts include cover pages of materials being removed ($\bar{x} = 3.5$), reference and serials materials being affected ($\bar{x} = 3.1$), and library collection drastically reducing ($\bar{x} = 1.2$).

5.4.5 Effectiveness of ESS use in curbing theft and mutilation of information resources

Research question 5 sought to examine the effectiveness of using ESS to curb the theft and mutilation of library information resources. Table 5.12 below presents the results.

Table 5.12: Effectiveness of ESS Use in Curbing Theft and Mutilation (n =164)

	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)	Mean (SD)
Theft and mutilation of library materials decrease significantly	55 (33.5)	91 (55.5)	7 (4.3)	6 (3.7)	5 (3.0)	4.1 (.9)
Patrons are conscious how they use library resources because they are being monitored	53 (32.3)	92 (56.1)	6 (3.7)	9 (5.5)	4 (2.4)	4.1 (.9)
Money used for replacing stolen books are now being used for other things	37 (22.6)	70 (42.7)	32 (19.5)	13 (7.9)	12 (7.3)	3.7 (1.1)
The use of electronic security systems have eased the job of library staff (especially routine movements to check users)	46 (28.0)	80 (48.8)	15 (9.1)	17 (10.4)	6 (3.7)	3.9 (1.1)
Promote efficiency and effectiveness in securing library materials	62 (37.8)	84 (51.2)	8 (4.9)	6 (3.7)	4 (2.4)	4.2 (.9)

Table 5.12 presents results of the respondents' perception of the impact of ESS use in curbing theft and mutilation of information resources in the surveyed libraries. In this regard, majority of the respondents indicated that ESS has positive effects, their response to the statements provided all had >2.5 . The variance between the mean was equally minimal. ESS impact on promoting efficiency and effectiveness in securing library materials received the most response ($\bar{x} = 4.2$). Other highly rated were significant decrease in theft and mutilation of library materials due to use of ESS ($\bar{x} = 4.1$) and enhancement of patrons consciousness of how they use library resources because they are being monitored ($\bar{x} = 4.1$). Moreover, the respondents agreed that the use of ESS have eased their job, especially in terms of routine movements to check users ($\bar{x} = 3.9$); as well as helped the library manage its finance as money that were previously used to replace stolen books can now be used for other things ($\bar{x} = 3.7$).

5.4.6 Factors influencing/motivating the use of ESS in the library

The respondents were questioned on how the constructs of UTAUT which underpinned this study motivated the use of ESS in academic libraries. The results are presented in Table 5.13 below.

Table 5. 13: Factors influencing/motivating the use of ESS

	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)	Mean (SD)
Performance Expectancy						
Curb the menaces of theft, mutilation and vandalism of library materials	60 (36.6)	80 (48.8)	14 (8.5)	6 (3.7)	4 (2.4)	4.1 (.9)
Library activities/patrons could be seen at a glance from workstations by officers in charge	57 (34.8)	74 (45.1)	14 (8.5)	15 (9.1)	4 (2.4)	4.0 (1.0)
Ease job of library staff on constant routine checks/movements	77 (47.0)	72 (43.9)	7 (4.3)	5 (3.0)	3 (1.8)	4.3 (.8)
Promote efficiency and effectiveness in securing library materials.	60 (36.6)	80 (48.8)	9 (5.5)	12 (7.3)	3 (1.8)	4.1 (.9)
Effort Expectancy/Perceived Ease of Use						
Surveillance of the entire library/users activities have been enhanced	47 (28.7)	92 (56.1)	14 (8.5)	8 (4.9)	3 (1.8)	4.0 (.9)
Use of electronic security systems make monitoring of library patrons/activities very easy.	51 (31.1)	88 (53.7)	12 (7.3)	7 (4.3)	6 (3.7)	4.0 (.9)
Using the electronic security systems is not frustrating	54 (32.9)	77 (47.0)	20 (12.2)	9 (5.5)	4 (2.4)	4.0 (.9)
Social Influence						
People and other institutions that are important to me/ours think we should use electronic security systems in our library.	53 (32.3)	61 (37.2)	28 (17.1)	13 (7.9)	9 (5.5)	3.8 (1.1)
The use of electronic security systems in the library is a status symbol in my institution	58 (35.4)	65 (39.6)	22 (13.4)	12 (7.3)	7 (4.3)	3.9 (1.1)
Increases my prestige/image among my professional colleagues from other institutions	62 (37.8)	76 (46.3)	18 (11.0)	6 (3.7)	2 (1.2)	4.2 (.9)

SD = *Standard Deviation.*

Table 5.13 presents the distribution of the responses on the constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT) using Likert scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree, to evaluate what actually motivated the implementation of electronic security systems (ESS) in the various academic libraries surveyed based on the constructs of UTAUT. Respondents were asked their level of agreement or

disagreement to various statements posed, ranging from performance expectancy (PE), effort expectancy/perceived ease of use (EE/PEU) and social influence.

Overall, an overwhelming majority of the respondents answered strongly agree and agree to the relevance of ESS as follows:

Performance expectancy: Four items were used to assess the influence of PE construct on implementation of ESS in the library. These were easing staff of routine checks/movements, promoting efficiency and effectiveness in securing library materials, curbing theft, mutilation and vandalism of library materials, as well as monitoring of patrons within the library. Each of these items obtained a mean score of more than 4.0 ($\bar{x} = 4.0 - 4.1$) suggesting that majority of the respondents considered performance expectancy of the ESS as a significant driver to implementation and use of the security system.

Effort Expectancy/Perceive Ease of Use: The distribution under this construct of UTAUT shows that surveillance of the entire library/users activities have been enhanced ($\bar{x} = 4.0$), use of ESS makes the monitoring of activities in the library as well as patrons easy ($\bar{x} = 4.0$), and it also shows that using ESS does not look frustrating ($\bar{x} = 4.0$).

Social Influence: under the Social Influence construct, majority of the respondents believed that ESS use in their libraries increases their prestige among professional colleagues ($\bar{x} = 4.2$), enhances library status, thus having ESS is a societal expectation for the library ($\bar{x} = 3.9$).

5.5 Interview Responses (Qualitative Data Analysis and Presentations of Findings)

As stated in the methodology chapter of this study (chapter 4), the mixed method (merging both the quantitative and qualitative approaches) was employed for the study. The quantitative method was more dominant, but the qualitative method was utilised in expanding/extending the quantitative method. The qualitative data was obtained from interviews with the four (4) heads (University Librarians) and the four (4) Information Technology Personnel attached to the academic libraries investigated. From each university, the University Librarian and one IT personnel was interviewed. All the eight targeted respondents were interviewed. The analysis

and presentation of these qualitative data is organised thematically capturing the unique issues addressed by each group of respondents.

5.5.1 Distribution of interviewees

The results of interview participants is presented in table 5.14. The interviewees were the four (4) heads of the libraries (University Librarians) and four (4) IT (Information Technology) personnel of the four universities studied.

Table 5. 14: Category of interview participants (n=8)

S/N	Institution	Profile
1.	UNILAG	University Librarian
2.	UNILAG	IT Personnel
3.	UI	University Librarian
4.	UI	IT Personnel
5.	CU	University Librarian
6.	CU	IT Personnel
7.	BU	University Librarian
8.	BU	IT Personnel

5.5.2 Interview responses from the Heads of Libraries (University Librarians)

This section provides findings from interviews with the University Librarians. It is organised around the following themes: policy and budgets.

5.5.2.1 Policy

The librarians were asked to comment on the existence and contents of their university library security policy. Summary of their responses is presented in table 5.15-5.17.

5.5.2.2 Existence of Security Policy

All the four (4) University Librarians affirmed that there exists a security policy in their libraries as shown in table 5.15, put in place to safeguard the library resources and ensure compliance with the rules and regulation of their library operations.

Table 5.15: Responses on awareness of security policy in the library (n=4)

Respondents	Responses
University Librarian 1	<i>“Our library has both written and unwritten security policy in place. The policy ensures that library books are used in the appropriate manner, they do not take out books without the proper procedures”.</i>
University Librarian 2	<i>“Yes. Just the same way all organizations, library is not left out, we have a security policy. The aims of our library Security policy are to protect the availability, the usage of information resources and to ensure that there is absolute adherence rules and regulations of our library”.</i>
University Librarian 3	<i>“Yes, our library has security policy in place just like any other organizations. The policy is geared towards the conservation, preservation and general security of all our library resources and even library personnel and patrons”.</i>
University Librarian 4	<i>“There is a library policy in place in our library here. The aims of our library security policy are to protect the availability, the usage of information resources and to ensure compliance with use and regulations of the library”.</i>

In all cases, the objective of the policies was well-articulated. The variations in purpose statement appeared to be minimal.

5.5.2.3 How policy Enhances Use of ESS

The University Librarians’ responses to the question of the functionality the policies in enhancing use of ESS in the libraries is presented in Table 5.16

Table 5.16: Responses on how the policy enhance the use of ESS in libraries (n=4)

Respondents	Responses
University Librarian 1	<i>“The policy enhances the use of ESS in our library in the sense that materials (books) not legally processed (checked out) are not allowed to be taken out of the library by any library patron. This is why we have the electronic security devices in place to monitor and guard against unauthorized</i>

	<i>movement of library books out of the library. If any library book is being taken out without due process, the alarm at the security gate triggers, which in turn alerts the library staff at the exit gate, as well as the security personnel around”.</i>
University Librarian 2	<i>“Our library policy ensures that our materials are preserved and secured from being stolen, mutilated or vandalized by our users. This in-turn ensures that the purpose for setting up the library is achieved, which is to make information resources available for reading, learning, research and all the rest”.</i>
University Librarian 3	<i>“The policy enhances the use of ESS in our library so much that our library books are secured from being taken away without duly being checked out. Our 3M library gates are fully functional and our library books have tattle tapes/strips inserted into them. The strips are so programmed and linked with the 3M security gates that have a sensor that works with the electromagnetic strips inserted into all our books. The alarm at the security gates triggers when a library book not legally checked out is being taken away from the library. In addition, our library has CCTV cameras in place that also help monitor the activities of library users, thereby preventing our books from being stolen, mutilated or vandalized”.</i>
University Librarian 4	<i>“The policy enhances the use of ESS in our library in the sense that library information resources are preserved and secured from thefts, mutilation by patrons”.</i>

The responses show that security policy was in place in the various libraries and it actually enhanced the use of ESS. In all the cases, the various strategies in curbing theft, vandalism and mutilation of information materials appeared to rely on use of ESS. Some of the librarians were more specific, giving details of how ESS has been used to safeguard the library materials (University Librarians 1 and 3). While others were general statements.

5.5.2.4 Position of policy on theft, mutilation and vandalism

The University Librarians were further asked to comment on the position of their security policies with regard to the library patron caught in the act of theft, mutilating or vandalising of library materials. Their responses are captured in Table 5.17.

Table 5.17: Policy’s statement on patrons caught stealing, mutilating or vandalizing library materials (n=4)

Respondents	Responses
University Librarian 1	<i>“The policy has penalty for anyone caught in any acts that breaches our security policy; but if a user of the library is caught stealing any library book(s), depending on the gravity of the offence, it ranges from dismissal, rustication or suspension from the university after appearing before a panel of investigation. But if the user is not a staff or a bonafide student of the university, such a person is handed over to the university security unit, who ultimately hands over such a person to the police”.</i>
University Librarian 2	<i>“When a user is caught stealing library materials, the user is apprehended and handed over to the security personnel assisting the library portals on duty. The security personnel conveys both the individual involved as well as the material(s) suspected to have been stolen to the security office, from where the individual is made to write statement and thereafter, reports are prepared and sent to the security apparatus outside the university premises (the police), who carry out investigations and takes the individual concerned to the court of law”.</i>
University Librarian 3	<i>“The policy states that anybody caught stealing mutilating or vandalizing any materials is made to face what the university handbook states (which is also stated in our security policy) about such acts. If a student is caught mutilating or vandalising any library books, such a student is made to replace such books. As for theft of books, the student is expelled because the university has zero tolerance to stealing”.</i>
University Librarian 4	<i>“The patron, if a student, is referred to the students’ disciplinary committee. If the patron happens to be a staff, he/she is meant to face the staff disciplinary committee for questioning. The patrons or users may be expelled from the university, if a student and a staff may also be shown the way out of the system (since the security policy conforms to the overall policy of the university which stipulates that anyone caught stealing shall be shown the way out of the system)”.</i>

--	--

The responses from the above analysis show that all participants agreed regarding the punitive measure meted out on any culprit (patron) found wanting.

5.5.3 Budgetary provisions for libraries

The University Librarians were asked to comment on budgetary provisions for their libraries, with regards to regularity of provisions; importance of budgetary provision to maintenance of ESS in the libraries; budgetary provisions for training and re-training of staff. The summary of the responses of the University Librarians is captured in Tables 5.18 to 5.21.

5.5.3.1 Budget allocations for libraries

The participants were asked if there was any budgetary provisions/allocation for their libraries from the parent institutions. Table 5.18 captures the response

Table 5.18: Budgetary provisions available to the libraries (n=4)

Respondents	Responses
University Librarian 1	<i>‘Our library, just like every other units/department(s) prepares a yearly budget which is sent to the office of the University Bursar, who incorporate same into the general university budget for the year. The library budget prepared always covered all aspects of library operations (i.e. every area of the library needs is put into consideration, including the security provisions)’.</i>
University Librarian 2	<i>“Just like in other departments or units within the University of Ibadan, the library prepares a yearly estimated budget which is sent to the university management for approval through the office of the university Bursar. The budget is all-encompassing as it covers as aspect of our library operations”.</i>
University Librarian 3	<i>“There is a yearly budgetary provision for the library. All departments (including the library) in the university always prepare and present their budgets on a sessional (yearly) basis. The budget prepared by the library includes that of the electronic security systems operations for the year. The library budget is prepared and sent to the office of the</i>

	<i>Director of Finance (DFS) for inclusion in the general overall budget of the university”.</i>
University Librarian 4	<i>As the University Librarian, our library, an arm/unit of the institution is required to prepare and submit her budget on a yearly basis. The budget will include estimated list of library and information resources (books, journals, e-books/e-journals, electronic databases (subscription/renewal), etc. the library proposes to acquire within the academic year. This is prepared and sent, defended before the University Management, awaiting final approval. The library budget, with other departments/units budgets are incorporated into the general budget of the University through the office of the University Bursar. When the final budget of the various departments/units are approved, that of the library is approved also. The library may sometimes not get the exact amount budgeted for.</i>

There was a general consensus from the responses of the heads of libraries, with regard to budgetary provisions for the libraries, that there were provisions; that the libraries prepare their annual budgets and send them to the appropriate quarters for approval.

5.5.3.2 Regularity of budgetary allocations

The study sought to investigate the regularity of budgetary allocations for the libraries as far as ESS is concerned. The result of the findings is as presented in table 5.19.

Table 5.19: Regularity of budgetary allocations to the libraries (n=4)

Respondents	Responses
University Librarian 1	<i>“The budgetary provisions for our library is very regular because at the beginning of the financial year we factor the ESS operations into our budgetary provisions for the year”.</i>
University Librarian 2	<i>“There is regular budgetary provisions for the library. The university Librarian, who happens to be the Chief Executive Officer (CEO) of the library often prepares the library estimated budget for the year for approval by the university administration. The said budget is all-encompassing, as it covers all aspects of our library operations, including the electronic security systems operations”.</i>

University Librarian 3	<i>“The budgetary provisions are very regular. This is because every year during the planning of budgets, ESS operations are incorporated in the budget of the library”.</i>
University Librarian 4	<i>“The budget is very regular on a yearly basis. This because the library prepares her budget and sends same to the university management for approval and to entrench same into the general budget of the university”.</i>

All the librarians indicated that there was regular budgetary allocations for the libraries. This was done on an annual basis.

5.5.3.3 Importance of budgetary provisions to maintenance of ESS

The University Librarians’ viewpoint of the significance of budget as it pertains to maintenance of ESS is presented in Table 5.20.

Table 5.20 Importance of budgetary provisions for the maintenance of the ESS (n=4)

Respondents	Responses
University Librarian 1	<i>“The maintenance of the security systems in our library is of great importance, hence the yearly budgetary provisions. In as much as we want library materials, books to enhance learning, teaching and research, the need to safe-guard these materials from being stolen, mutilated and vandalized is very paramount; hence the yearly library budget which covers all library operations, including the maintenance of our ESS”.</i>
University Librarian 2	<i>“Budgeting for the maintenance of our ESS yearly is as important as the purpose for which the devices are meant to serve. Therefore, as already mentioned, the budget for the year as prepared by the University Librarian, covers all aspect of our operations”.</i>
University Librarian 3	<i>“Budgeting for the maintenance and operation of the ESS in our library is as important as securing of library books and other resources. It is very imperative to secure these materials because they enhance teaching, learning and research, which is the main reason for setting up the library in an institution such as this”.</i>

University Librarian 4	<i>“It is very important for us as a unit (library) to budget for the maintenance of our ESS on a yearly basis because the ESS helps us to preserve and protect our library materials from thefts, mutilation and even vandalism. Without yearly maintenance fee/services, the vendors/supplier will not attend to us and this will affect the proper functionality of the electronic security systems”</i>
------------------------	---

All the Heads of the libraries were unanimous and conceded that budgetary provision is essential for the maintenance of the ESS.

5.5.3.4 Budget, training and re-training of staff

Table 5.21 presents the results of the provision of budget with regard to training and re-training of library staff in the use of ESS.

Table 5.21: Budget for training and re-training of library staff on the use ESS (n=4)

Respondents	Responses
University Librarian 1	<i>“To be candid, we do not set aside any budget for the training and re-training of library staff on the use of our ESS. This is because everything that has to do with all units of the library and general library operations as far as finance is concerned is factored into the yearly library budget”.</i>
University Librarian 2	<i>“Definitely, we cannot embark on any periodic training of our library staff without any budgetary provisions, or else the university management will not approve of it. Meanwhile, the yearly library budget covers every aspect of our library operations, just like as I mentioned before, security operations inclusive”.</i>
University Librarian 3	<i>“Money or budget for the training and retraining of library staff on the operation of our ESS is always incorporated into our yearly library budget”.</i>
University Librarian 4	<i>“The budget for regular training and re-training of library staff as far as the use of ESS is concerned is often prepared alongside the with the library budget every year. It is therefore incorporated into the yearly budget of the library”.</i>

The responses from the University librarians above show that funds for the training/re-training of staff on the use of ESS was always incorporated into their annual library budgets.

5.5.4 Implications of high Cost of ESS implementation

The study examined the implication of high cost of procurement and implementation of electronic security systems in libraries. The result is as revealed in Table 5.22

Table 5.22: Implications of high cost of implementing ESS in academic libraries (n=4).

Respondents	Responses
University Librarian 1	<i>“The cost of procuring and installing the electronic security systems is on the high side and that is why so many academic libraries and librarians who desire to have the ESS installed (knowing the importance of same) have been handicapped. In summary, the high cost of the electronic security devices has made it impossible for so many libraries to purchase and install them”.</i>
University Librarian 2	<i>“The implication of the high cost of electronic security systems (ESS) is the major reason for the delay of the implementation of electronic security systems in many academic libraries. This is so because, electronic security systems are very exorbitant”.</i>
University Librarian 3	<i>“The high cost of electronic security systems (ESS) hinders so many academic libraries from installing them, not that they do not know the usefulness or effectiveness of these devices, but the cost becomes a hindrance. Many libraries /librarians that I have interacted with or have visited our library often express their desire to have ESS installed in their libraries, but for the high financial cost involved, they have been unable to procure such”.</i>
University Librarian 4	<i>“The high cost of electronic security systems (ESS) is the reason why so many libraries in this part of the world are yet to procure these devices, though the importance of implementing them are well understood, but the high cost has been an impediment”.</i>

The responses from the University Librarians, as shown in table 5.22 reveal that the high cost of procuring and implementing ESS in libraries has hindered and delayed so many libraries from embracing ESS even though they understand its usefulness and impact.

5.5.5 Criteria for procurement of ESS

Table 5.23 shows the presentation of the results from the participants on the criteria for procuring and implementing ESS in libraries.

Table 5.23: Criteria for procuring ESS (n=4)

Respondents	Responses
University Librarian 1	<p><i>“There are different reasons for wanting to have security systems because of the various dynamics of security issues in the academic libraries nowadays. The criteria we considered include the followings:</i></p> <ul style="list-style-type: none"> <i>* The cost of procuring, installing and maintenance of the ESS</i> <i>* The peculiarity of our library- building structure, services we are rendering to users was considered.</i> <i>* The devices that would ease our entire library operations so as to serve our numerous clientele and also have our library materials (books/e-books) highly preserved were put into consideration.</i> <i>* The devices that could easily be managed by our staff,</i> <i>* The after sales service issue was put into consideration too when we were planning to procure our different ESS for our library”.</i>
University Librarian 2	<p><i>“Some of the criteria we put into consideration in purchasing electronic security systems includes:</i></p> <ul style="list-style-type: none"> <i>* Embarking on feasibility study to identify the strengths and weaknesses of the electronic security systems we intend to procure.</i> <i>* Find out if other libraries are using the ESS and how functional it is; financial involvement; credibility of vendor/supplier; after sales support; technical capacity of the systems, etc.</i> <i>* We consider the financial involvement and after sales service/support by the supplier or vendor”</i>

University Librarian 3	<p><i>“Some of the criteria we considered before procuring our electronic security systems includes:</i></p> <ul style="list-style-type: none"> <i>* The cost of purchasing them and the cost of maintenance, because if you purchase one and you are not able to maintain it, it becomes a big issue.</i> <i>* Technical support. This is because if you purchase an electronic security system, it will require constant maintenance at one point or the other. The cost of maintenance has to do with getting the vendors locally or from outside the country is always put into consideration. ESS that would involve being able to get technical support from within the country due to the cost of paying for such technical services, especially in the present economic situation and exchange rates.</i> <i>* The functionality of the ESS is also put into consideration when planning to procure one. This is because it has to meet the purpose for purchasing same- to help monitor or curb the issues of theft, mutilation and vandalism of books and other resources in the library”.</i>
University Librarian 4	<p><i>“Some of the criteria we put into consideration in purchasing electronic security systems includes:</i></p> <ul style="list-style-type: none"> <i>* Embarking on feasibility study (visit to libraries already using the type we want to purchase) to identify the strengths and weaknesses of the electronic security systems.</i> <i>* Find out the financial involvement</i> <i>* Credibility of vendor/supplier;</i> <i>* After sales service/support of the vendor/supplier”.</i>

Results from the responses of the heads of the libraries show that various criteria are put into consideration before procuring and implementing the ESS in libraries.

5.6 Capacity building programmes for staff

The study sought to find out various capacity building programmes available for staff. Table 5.24 shows the results.

Table 5.24: Capacity building programmes for library staff on the use of ESS (n=4)

Respondents	Responses
-------------	-----------

University Librarian 1	<p><i>“The University of Lagos often organize training programmes for staff members and the library staff are always part of the trainings. External facilitators (trainers) are sometimes invited for such training programmes. The trainings usually cover variety of topics which also has security as part of such programmes.</i></p> <p><i>* The ESS suppliers during the period of mounting or installing the devices, according to the agreement our library has entered with them, train our staff on how to operate the devices and also how to effect minor repairs. There are also times when the suppliers/vendors organize workshops for their clients, they notify us to send some staff members to be part of the programme.</i></p> <p><i>*We do organize on-the-job training and also refresher training courses in the form of seminars and workshops for library staff.</i></p> <p><i>* Finally, we always encourage our library staff to keep updating themselves by reading materials in their fields and the ones that would enhance their job performance. They have free access to the Internet facilities in the library where they can surf the net and access so many materials that will help build their capacity”.</i></p>
University Librarian 2	<p><i>“Definitely, from time to time, the library staff who attached the security section of the library undergo training. In the past, they used to be taken to the Nigerian Police Force Headquarters for more training before we started our regular training programmes within the university”.</i></p>
University Librarian 3	<p><i>“The vendors during the installation of the electronic security devices help to train our staff members on how to use them.</i></p> <p><i>* From time to time, staff members are encouraged to read books and other materials that cover subjects of the effectiveness of electronic security systems we have in place in our library”.</i></p>
University Librarian 4	<p><i>“There are in-house trainings and workshops we carry out regularly. We invite external facilitators/speakers apart from the in-house speakers. We also send our staff to attend workshops and training programmes outside the university environment on regular basis”.</i></p>

The results above shows that various capacity building programmes were put in place for library staff on the use of ESS.

5.6.1 Training organised by manufacturers/vendors of ESS

The study examined the training programmes provided by ESS vendors on the use of ESS for their clients. The results are provided in Table 5.25 below

Table 5.25: Training programmes provided by vendors of ESS (n=4)

Respondents	Responses
University Librarian 1	<i>“At the point of installation of the electronic devices, the vendors or suppliers organize training for library staff who are posted to the unit/section of the library in-charge of the ESS. Apart from that initial training they conduct, no other training is conducted for our staff by the suppliers or vendors of ESS”.</i>
University Librarian 2	<i>“If our vendor notifies us about any training programmes they are embarking on, on the effective use of ESS, we do send our staff there. But such programmes/workshops are very rare”.</i>
University Librarian 3	<i>“Apart from the training the vendors gave our staff when the ESS in our library was installed, other training programme(s) are incorporated in the general university security unit’s programmes. More so, the library does not have the capacity to send out any staff for trainings outside the university. It is only when there is a general security training programme within or the university sends out other staff for any training programmes outside, the library staff in charge of ESS are sent along with them”.</i>
University Librarian 4	<i>“The staff (IT personnel attached to the library is sent on regular trainings/workshops organized by our vendor. This is done when the vendor informs us about such training programmes/workshops”.</i>

The responses from the University Librarians show that ESS vendors provide training for library staff at the point of installation, and staff members attend other trainings as well.

5.6.2 Skills of IT personnel on general maintenance of ESS

The study sought to find out how the library helps to enhance the skills of IT staff attached to the library in order to manage the ESS. The result is presented in Table 5.26

Table 5.26: Enhancement of the skills of IT personnel attached to library ESS (n=4)

Respondents	Responses
University Librarian 1	<p><i>“The IT personnel in the library is always enjoined to embark on personal development by reading very wide to update himself so as to function effectively well on the job. The world as you are aware is a global village with the presence of the World Wide Web (WWW) and the Internet. There are so much materials to access from the Internet; the IT personnel is always encouraged to take advantage of the availability of these facilities with the university library to improve his skills and the general maintenance of the ESS.</i></p> <p><i>* There are times, depending on the availability of funds, we send our IT personnel to attend seminars/workshops that are relevant to his field both those organized by the Information Technology (IT) unit of the university and also outside the university”.</i></p>
University Librarian 2	<p><i>“Our IT personal here has been sent abroad, precisely to the UK, USA to attend workshops and seminars. This kind of sponsorship to such programmes exposes him and enhances his skills development as far as the operations and maintenance of the ESS is concerned. More so, he is always searching for relevant materials from the Internet for personal development”</i></p>
University Librarian 3	<p><i>“The IT personnel attached to the library was trained when the ESS was purchased and during the installation process.</i></p> <p><i>*There are training programmes or workshops the library organizes from time to time. All library staff, including the IT personnel are always involved.</i></p> <p><i>* The IT personnel is always encouraged to personally develop himself by reading books and searching the Internet for relevant materials that will help improve his work”.</i></p>
University Librarian 4	<p><i>“The IT personnel is always encouraged to attend regular trainings/workshops and the library sponsors the staff to such workshops. More so, he is often enjoined to search for materials online and read to enhance his capacity on the job. Materials are also given to him any time such is accessed by the headship of the library”.</i></p>

The results in Table 5.26 above show that the IT personnel attached to the libraries are encouraged to develop themselves and are sponsored to attend seminars and workshops that relate to their job, thereby, enhancing their skills.

5.6.3 User education programmes for patrons

The study sought to know from the participants the various user education programmes that are put in place for library patrons. Table 5.27 shows the results

Table 5. 27: User education programme for patrons of the libraries (n=4)

Respondents	Responses
University Librarian 1	<p><i>“During orientation programmes carried out at the beginning of a new academic session, we teach users about library security.</i></p> <p><i>* There is also a module under the GST (General Studies) programme of the University of Lagos, where new students are taught user education, including the security of library materials. This module is examinable, and as such students take it very seriously. This is so, because it is meant to ascertain how knowledgeable they are acquainted with the use of the library.</i></p> <p><i>* New staff members (both teaching and non-teaching) are always giving orientation on how to make use of the library. Matters on security of the library and its resources are also part of what they are taught during the sessional orientation of new staff”.</i></p>
University Librarian 2	<p><i>“We carry out regular user education programmes for our library users</i></p> <p><i>* There is the use of library course which is taught as a faculty-wide module to all new students where they are exposed to how to access the various information resources we have in the library and also the importance of security of our materials”.</i></p>
University Librarian 3	<p><i>“Orientation programmes at the beginning of the session for new students.</i></p> <p><i>* We also have a course called CST 101- Library skills, information and communication technology for new students. The students are taught the importance of security in the library and how they should obey all the rules and regulations of the library.</i></p> <p><i>* New staff are also giving orientation when employed. Apart from that, there is always a tour of the library facilities every session”.</i></p>
University Librarian 4	<p><i>“Library orientation programmes are organized at the beginning of every session for library patrons (staff and students).</i></p> <p><i>* Lectures on the use of library are taught to new (first year) students”.</i></p>

The University Librarians’ responses as captured in Table 5.27 above shows that a variety of user education programmes are organised across the universities to provide patrons with library knowledge and skills that includes components of library security. The programmes take the form of library orientation, library tour and an integrated examinable module. It can therefore be deduced from these findings, that all university library patrons are sensitised to operations of libraries and the dos and don’ts of handling the information materials.

5.7 Interview Responses from Information Technology Personnel

This section provides findings from interviews with the Information Technology personnel attached to the libraries surveyed. It is organized around the following themes: after sales support, handling of technical issues, training programmes for staff on use of ESS and update of skills on the job.

Tables 5.28 to 5.31 below present the results of the interview conducted on IT personnel.

5.7.1 After-sales support

Table 5.28 presents the results from the interviewees on the after-sales service support and maintenance from the ESS vendors

Table 5.28: After-sales service support and maintenance from ESS vendor (n=4)

Respondents	Responses
IT Personnel 1	<i>“We, at the University of Lagos library, always ensure that we get at least a one year warranty for any equipment we procure or install. Within that one year, if the device(s) develop any fault, based on the warranty, the supplier or vendor is called to come and effect repairs. Once the one year warranty is over, we have an agreement with a company that does maintain our electronic devices. Not until two years ago, the University management decided that once any warranty elapses, the computer unit (ICT unit) of the university takes charge of all computer and electronic related devices”.</i>

IT Personnel 2	<i>“The after sales service support/maintenance with the supplier of our electronic security system is very cordial. The initial move to procure the CCTV cameras was the idea of the immediate past UL (University Librarian). There is actually no transaction of that magnitude that involves a lot of money that would not involve the drafting of an agreement. The KDL (Kenneth Dike Library) has a written agreement with the supplier of the devices to train our staff of the ICT unit on how to use the devices during the pre-installation and installations stages. Since the system has a warranty, they are to always come around for periodic maintenance. When we also have any issues with the devices (which our ICT unit is not able to address), we call on the supplier and he has been responding”.</i>
IT Personnel 3	<i>“The after sales service is not too good/encouraging. At the initial point of sales and installation, it is always easy to get the vendors. But once the maintenance fee expires, getting them becomes a huge task. Some of them demand for renewal of contracts which is very outrageous”.</i>
IT Personnel 4	<i>“Whenever there are issues with the electronic security system (CCTV) we use in our library, we usually draw the attention of our vendor to it and response is given very fast. Therefore, the after sales service/support from our vendors have been so good and satisfactory”.</i>

Responses presented in table 5.28 shows that the libraries enjoyed diverse after-sales services, support and maintenance from the ESS vendors. The support runs from pre-installation, installation and after installation periodic visits. Entering such an agreement is considered crucial and mandatory by the libraries. However, the after-sales services are within an agreed period, at the expiry of which the libraries must consider alternative measures.

5.7.2 Handling of technical issues

Participants were asked how they handled technical issues that may arise in the use of ESS in their libraries. The results are as presented in Table 5.29

Table 5.29: Handling of any technical issues with the ESS in the university library (n=4)

Respondents	Responses
IT Personnel 1	<p><i>“Well, just like I explained in my response to the first question, we always enter into an agreement of a one year warranty with any vendor/supplier. The ESS we procured (the security gates (RFID), CCTV cameras) have their representative, especially the electronic security gates have their representative in Nigeria. If the technical fault is minor and is what he can easily fix, he comes around and fix it. Meanwhile, whenever there is a major fault with the gates, the maintenance company which is based in Ghana flew in their Technician who came effect repairs on the security gates when the alarm system was always triggered by mere passage of any body, including library staff. Since then, we have never had any issues with it”.</i></p>
IT Personnel 2	<p><i>“We have not experienced any technical issues since the electronic security systems we use in our library was installed. However, we carry out what we call, preventive maintenance, because we usually pre-empt that some little issues may crop up as it is with any equipment; we effect such minor repairs from our ICT unit. But, should a major fault emanate, we would surely contact our supplier. The only challenge we have now is the issue of electricity which has not been stable and as a result, the security systems are not functioning as they should. Meanwhile, very soon, we are going to power major parts of our library and library operations with strong inverter systems and solar energy devices that would make the security systems function maximally. The solar energy would be used to charge in the inverter during the day while electricity will be on throughout the night”.</i></p>
IT Personnel 3	<p><i>“Well, the university has an IT unit; technical issues that have to do with our ESS are handled by them. But in a situation where the issue becomes more than what they can handle, the ESS vendors or suppliers and even other professionals are contacted or notified and invited to come fix it”.</i></p>
IT Personnel 4	<p><i>“Minor repairs of our ESS are handled or attended to in-house by the library IT personnel, while more complex ones are referred to the ICT unit of the university and CCTV office”.</i></p>

Results above show how IT personnel handle technical issues on ESS

5.7.3 Training programmes for staff on use of ESS

Table 5.30 presents the results from participants' how training and re-training programmes are organised for library staff on the use of ESS.

Table 5.30: Training of library staff on the use of ESS (n=4)

Respondents	Responses
IT Personnel 1	<i>"We have bi-monthly training programme in the library and the training covers all aspects of the library operations. Most of our staff were trained during installation of the ESS in our library. We also have general workshops, training programmes organized by the university ICT unit for all IT personnel of the university, including the staff of the ICT unit of our library".</i>
IT Personnel 2	<i>"We usually carry out training for staff members to have some basic knowledge of how to handle the electronic security devices- such as switching on the server and the UPS first thing in the morning and ensure all equipment are up and running. Moreover, the library sometimes send staff to workshops and seminars outside the university. The staff are also encouraged to take advantage of the Internet facilities provision in the university library to update themselves on how to use".</i>
IT Personnel 3	<i>"We have bi-monthly training programme in the library and the training covers all aspect of the library systems".</i>
IT Personnel 4	<i>"There are always in-house training programmes organized from time-to-time for library staff on how to improve the use of electronic security systems we use in our library. We sometimes invite speakers from outside the library to handle one topic or another during such training programmes".</i>

The overall responses from the above table shows the academic libraries carry out one form of training or another for their staff on the use of ESS.

5.7.4 Update of skills on the job

The study investigated how IT personnel updated their ICT skills. Table 5.31 shows the result.

Table 5.31: Update of skills by IT personnel attached to the library (n=4)

Respondents	Responses
IT Personnel 1	<i>“As the IT staff (personnel) of the University of Lagos library, I read very wide so as to be up-to-date with recent happenings as far as my job is concerned. I download many relevant lecture materials, both audio and videos from the Internet (YouTube) that would enhance my job and skills. I am sometimes privileged to be sponsored to workshops, seminars and training programmes by the University of Lagos. For example, in the year 2010, I was sponsored to the UK for a workshop and I spent two weeks. I have also been to the USA for same kind of workshops/training. You have the opportunity to see the way things are being done in other libraries in the developed nations, copy and come back home to duplicate same so as to enhance better library services”.</i>
IT Personnel 2	<i>“We take advantage of every opportunity we see to attend workshops or even exchange programmes. For example, I was opportune to travel to UK last year, where I spent one week. In the year 2010 also, I was in the US where I spent one full month. Such travels avail one the opportunity to see what is happening in the developed world and how the university libraries do their own things, especially in the areas that have to do with my department. These foreign tours/workshops are apart from the local seminars and workshops one is privileged to attend within Nigeria. All these travels and attendance of training programmes and workshops enhance one’s job performance”.</i>
IT Personnel 3	<i>“I regularly attend training programmes, conferences/workshops. Moreover, I make use of the Internet a lot to discover and learn new things in order to develop myself. I believe and involve myself in things that enhance my skill and personal development”.</i>
IT Personnel 4	<i>“I, as an IT personnel attached to the library, regularly attend trainings, seminars, conferences/workshops to improve and update my skills on my job”.</i>

The responses above show various ways through which the IT personnel updated their skills.

5.8 Summary

This chapter presented the findings from the data collected through the use of survey questionnaire administered to the librarians and paraprofessional library staff, as well as from the

structured interviews carried out to elicit data from the Heads of the libraries (University Librarians) and the Information Technology personnel of the various libraries investigated. The areas that were covered by the survey questionnaire included, response rate, demographic characteristics of the respondents; types of electronic security systems (ESS) in use; the extent to which electronic security systems (ESS) are used in academic libraries; extent of loss of library materials through theft and vandalism; impact of using electronic security systems (ESS) in curbing theft and mutilation of information resources in academic libraries; policy matters; budgetary provisions; capacity building; support, maintenance and training respectively.

CHAPTER SIX

DISCUSSION OF FINDINGS

6.1 Introduction

The purpose of this chapter, is to explain the meaning of the outcomes or results of the study, importance of the findings and how they relate to those of extant studies already carried out (Hess, 2004; Partridges and Starfield, 2007; Aitcheson, 2010; Cotterall, 2011). The discussion of findings as far as this chapter is concerned, is systematised in line with the research questions.

The purpose of this study was to investigate the use of electronic security systems (ESS) in academic libraries in selected universities in South-West, Nigeria. The theoretical model used to underpin this study was the Unified Theory of Acceptance and Use of Technology (UTAUT) propounded by Venkatesh, Morris, Davis and Davis (2003). The study addressed the following research questions:

1. What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?
2. To what extent are electronic security systems used in academic libraries?
3. How are electronic security systems used to discourage patrons from pilfering information resources from the library?
4. What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
5. How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South-West Nigeria?
6. What are the factors influencing/motivating the use of ESS in the library?

6.2 Demographic Characteristics of Respondents

Demographic variables in research involves the characteristics or features of the respondents such as population, gender, age, educational qualifications, designation, among others (Brink et al., 2012). Demographic characteristics is seen as an area or a phase of a study whereby the investigators observe the quantifiable data of a precise population under study (Vogt and Johnson, 2011). According to Connelly (2013) the researchers typically collect the demographic variables or features in a study to properly describe the sample of participants. Demographic characteristics are very important in research and needs to be observed very carefully. In the current study, the researcher requested the respondents, to provide demographic characteristics such as institutional affiliation, gender, age, educational level, designation, department or unit and work experience.

6.2.1 Distribution of Respondents by Gender

The findings from table 5.2 exposed that majority of the respondents from the university libraries investigated were female. The female respondents were 92, representing 56.1%, while the male respondents were 72, representing 43.9%. This study's findings are parallel to those of many other studies that show dominance of female librarians. For example, Seena and Sudhier (2014) in their study which investigated *“the awareness, skill and attitude towards Information and Communication Technology (ICT) among library professionals in Kerala University Library”*, revealed that there was disparity in the gender distribution between the male and female librarians. The result further showed that the female respondents (librarians) stood at 60.78%, while male respondents represented 39.22%. In another study conducted by Mpoeleng, Totolo and Jibril (2015) on the workforce in the University of Botswana, the findings showed that female librarians dominated their male counterparts out of a total of 22 staff, with 14 (63.63%) female and 8 (36.36%) male. Similarly, in a study carried out on user delinquency by Omorodion, Ijeh and Erhabor (2018) they found that 31 (representing 44%) of the respondents were male while 40 (56%) of the respondents were female. The possible reasons for female dominance is due to equal access to quality education by the female just like their male counterparts, no discrimination on female as far as the librarianship profession is concerned; “many women librarians have acquired

postgraduate degrees in Librarianship (Phillip, Adeboye and Obakemi, 2016). This implies that there are generally more female respondents in University libraries in most parts of the world including Nigeria.

In another study which showed the dominance of female librarians, Vijayakumar and Anthony (2015) dedicated their work to the female librarians in the study titled: *“ICT Skills Among Women Library Professionals in SSUS and CUSAT: an Analytical Study”*. The male librarians were not mentioned in the study perhaps suggesting that female librarians were more dominant. In Koehler, Hurych, Dole and Wall (2000) study on *“Ethical Values of Information and Library Professionals”*, with a sample of 1893 responses from librarians and other library employees throughout the world, the gender distribution showed that female respondents were in dominance with 74.5%, while the male respondents made up 25.5%. Similar studies conducted in America by Beveridge, Weber, and Beveridge (2011); Lee, Oh, and Burnett (2016) have proven that female librarians were more in number than their male counterparts. Additionally, a study that examined librarians’ conceptions of information literacy in three Federal Universities in the South Eastern part of Nigeria, by Anyaoku (2016), had a higher percentage of female respondents 49 (68.3%), while the male respondents stood at 20 (31.7%). The results obtained from the different studies discussed above show the general dominance of female over their male counterparts in the field of librarianship in different countries of the world, including Nigeria. Therefore, the results from the studies support the findings of the present study that there are more female librarians than male librarians.

6.2.2 Age Distribution of Respondents

The findings of the age distribution of respondents as indicated in table 5.3 portrayed that majority of the respondents were in the age range of 34 - 44 years at 74 (45.1%), while the least number of respondents who belonged to the age bracket of less than 25 were 12 (7.3%). Collectively those between 25-34 years were 42 (25.6%) and 45 and above were 36 (22.0%) giving a total of 47%. The findings indicated that majority of the respondents were in their prime age. This is similar to Seena and Sudhier’s (2014) study findings that indicated most of the library professionals fell in the age

group of between 36 and 45 years (45.16%) and only 28.43% of the professionals were below 35 years old.

6.2.3 Distribution of Respondents by Educational Level

The findings from table 5.4 revealed that a large proportion of the respondents were holders of bachelor's degree qualifications at 57 (34.8%) followed with MLIS at 47 (28.7%). Holders of PhD were relatively low with only 4 (2.4%). From the findings, majority of the respondents possessed bachelor's degrees and all these fall under the category of paraprofessional library staff. Paraprofessional library staff are those who work in the library or are engaged in library and information services, but have first degrees in Library and Information Science/Studies or other cognate disciplines, while some may not have degrees in LIS (Kieserman, 2014). They serve the role of public relation officers or support staff because they meet with library patrons on a regular basis to provide support services in the library (Kelsey, 2009). In a study on the *"awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria"*, carried out by Baro, Idodi and Godfrey (2013), it was discovered that, out of the entire respondents of 176, a large proportion of them at 52 (29.5%) were bachelor's degree holders. In this study, master's qualification or degree holders (MLIS) who are professional librarians were relatively many at 47(28.7%). Professional Librarians are trained persons who have earned a master's degree in Library and Information Science/Studies or cognate fields and are engaged in library services. According to Ogunlana et al (2013) master's degree is said to be the least qualification (entry qualification) to practice in the field of librarianship as a discipline in Nigeria. Big university libraries aim at attaining a good percentage of professional librarians at their workforce. A case in point is the University of Botswana where many of the library workforce at 22 (73.3%) are holders of the master's degree qualification (Mpoeleng, et al. 2015).

6.2.4 Designation of Respondents

The findings showed that a significant majority of the respondents were paraprofessional library staff at 68 (41.5%) while the remaining respondents were professional librarians- librarian I and II at 14 (8.5%); senior librarian at 11 (6.7%).

6.2.5 Distribution of Respondents by Departments/Units

The findings from Table 5.6 showed that the respondents belong to different departments or units of their libraries. Technical and readers' services departments/units had majority of the respondents at 53 (32.3%), administrative unit had 35 (21.3%) collection development department/unit had 14 (8.5%), while Serials had 9 (5.5%).

6.3 Electronic Security Systems Used in Libraries

The duration (number) of the years that these electronic security systems (ESS) have been in operation in the libraries from less than five (5) to over 10 years, imply that their implementation in the libraries was a continuous process and that the use of ESS is not totally new to libraries. The reasons cited for the implementation were predominantly three: prevent unethical losses of library information materials, help monitor the activities of the library users, and to beautify the libraries. There was consensus amongst the respondents on the unethical methods deployed by the library users in handling and using the information resources; all the respondents indicated that users ripped off some parts of the materials, some tore off book covers, others concealed books underneath their clothes and some tried to beat security check point through impersonation.

Salaam and Onifade (2010) aver that security issues have been a major challenge that librarians have been battling with for too long since the establishment of libraries. Several other studies have revealed that libraries, including academic libraries, the world over, have been bedeviled for a long time with one form of security problem or the other (Akinfolarin, 1992; Lorenzen, 1996; Strassberg, 2000; Rajendran and Rathinasabapathy, 2007; Salaam and Onifade, 2010).

Aina (2004:263-270) asserted that the "prominence of electronic security systems is to ensure that library materials are safe, and not stolen or mutilated". Despite some studies done on library security, there is yet a dearth of literature on library security, especially as it relates to the use of modern technologies in tackling the menace of thefts and mutilation of library materials in academic libraries in South West, Nigeria in particular and in the developing countries in general. Moreover, most existing literature seem to cover manual methods of curbing thefts and

mutilation of books in the libraries with little focus on electronic security systems (ESS) (Burrows and Cooper, 1992; Matthews, 2004; Jato, 2005; Ozowa, Aba, and Aba, 2016).

In an effort to bridge the gap in ESS use in academic libraries to curb unethical practices that lead to loss of library information resources, three parameters were used in describing types of ESS in use in libraries: the category of the ESS, implementation period and the reasons for the ESS implantation. The findings indicated that one form or another of electronic security systems (ESS) was in use in the participating libraries (see table 5.8). These included the closed circuit television (CCTV) cameras, electronic security gates, and the radio frequency identification (RFID) system. These findings agree with Ramana (2010) that Closed Circuit Television (CCTV) cameras, library electronic security gates, radio frequency identification (RFID) system are some of the electronic security systems (ESS) that are implemented or installed in university libraries to curb the menace of book theft and mutilation. They are amongst the most popular and commonly implemented or used electronic security systems in libraries as corroborated by several researchers (Ramamurthy, 2001; Kern, 2004; Kumar, 2014; Randall and Newell, 2014; Kumbhar and Veer, 2016; Muhammad, 2017). Literature shows that CCTV available and in use in academic libraries have proven to be effective in curbing theft, mutilation and vandalism, identify visitors and employees, and monitoring activities taking place within the different segments of the library (McComb, 2004; Kumar, 2014).

Similar conclusions were arrived at in a study conducted on the security practices of four (4) big libraries, one (1) in the United Kingdom (UK) and three (3) in the United States of America (USA), the findings disclosed that the electronic security systems (ESS) cameras helped to prevent theft, mutilation and vandalism of materials in the libraries, as the systems enhanced the monitoring of staff, library activities and the general curbing of criminal activities in the libraries (Randall and Newell, 2014). In the context of Nigeria, an investigation carried out on theft and mutilation challenges and management in an academic library in Nigeria by Olajide (2017), established that the implementation of the Close Circuit Television (CCTV) cameras was an appropriate measure to prevent or reduce theft and mutilation of library information resources (especially books). Likewise, Akor (2013) submitted in a survey he conducted, that the use of electronic security systems in Benue State University library, Nigeria helped to monitor patrons'

activities within the different segments of the library, thereby, discouraging theft and mutilation of materials. The result of his study showed that 60% of the participants indicated that the installation of ESS in their libraries was for the monitoring, as well as discouraging the library clientele from the act of theft and mutilation of the library information resources.

Like the CCTV cameras, electronic security gates have gained in academic libraries. This device ensures that library materials that are not duly checked out are allowed to be taken out of the library. This security system has a combination of audio and visible alarms, programmed with sensors, synchronised with the magnetic strip or tattle tapes inserted in each library book. This is to ensure that when library materials (books) not legally processed (checked out) are being taken out of the library, the sensor at the electronic security gate installed at the exit of the library beeps and the alarm is triggered, thereby, alerting the library personnel at the circulation desk and also the security personnel at the exit gates of the library. The electromagnetic strips can only be desensitised (deactivated) when library materials have been legitimately borrowed by library patrons and re-sensitised (activated) when the materials are returned (Serfontein, 1995; Perrault, 2006). Harwell (2014) corroborates the assertion of Serfontein (1995) and Perrault (2006) that several academic libraries now rely on the use of and installation of electromagnetic security gates that have in-built alarm systems that are triggered by sensitised magnetic strips inserted into library books when they are being illegally taken out of the library (not duly processed). This security systems help to check the frequent removal and theft of library materials from the library.

The radio frequency identification (RFID) system another type of electronic security system (ESS) are implemented and being used in some libraries in South-West Nigeria. The radio frequency identification system is reportedly the latest security technology widely used in most academic libraries in both the advanced and developing countries of the world to curb theft, mutilation and vandalism of materials. Findings from this study also agree with the study of Galhotra and Galhotra (2009), that radio frequency identification (RFID) system is an anti-theft electronic security system, that helps to protect library materials from theft, mutilation and vandalism. In the developed world, Lori (2004) opines that the use of radio frequency identification (RFID) system in libraries dates as far back as the late 1990s. He postulates that

roughly one hundred and thirty (130) libraries in North America have radio frequency identification (RFID) systems installed and are being used and the number is on the rise. Kern (2004) also reports that in Europe, at the University library in Leuven (Belgium), and public libraries in Winterthur (Switzerland) and Vienna (Austria), RFID system are installed. Radio frequency identification system helps to trail, sort or identify the movement of materials (print) in the library and also monitors the library user(s) handling them within the different segments of the library (Molner and Wagner, 2004; Hasan, 2012). Singh and Mahajan (2017) confirm that several libraries in Northern India have radio frequency identification (RFID) technology installed. In the African context, some academic libraries have also embraced the use of the radio frequency identification (RFID) system. For instance, Makori (2013) submits that the University of South Africa (UNISA), the American University in Egypt, the United States International University and the Catholic University of Eastern Africa, in Kenya, among others, have all installed the radio frequency identification (RFID) system in their libraries to check theft and mutilation of library materials. It is no wonder that the participating libraries in Nigeria have adopted these three electronic security systems. Notwithstanding this similarity in electronic security systems adopted by the participating libraries in Nigeria to other libraries globally, there is one unique finding of the study that sets it apart from previous works; this is the implementation of ESS for beauty. The respondents simply believe that the implementation of electronic security systems in the libraries makes them more beautiful and attractive to both the staff and patrons.

The findings further revealed that ESS has been in use in the libraries for over 10 years and their implementation is still on-going; some installation of ESS had been recently done in the last five (5) years or less. These findings readily align with Kern (2004) who observed that electronic security systems (ESS) had been installed in some libraries for quite some time. Kern (2004) as at the time of his investigation, avers that for five years, one form of ESS or the other had been in use in libraries. At the Catholic University of Eastern Africa (CUEA), Kenya, electronic security system (ESS) had been installed for about seven years (Kavulya, 2014).

6.4 How ESS are used in Academic Libraries

The study sought to ascertain the extent to which electronic security systems (ESS) are used in academic libraries in curbing thefts, mutilation and vandalism of library information resources. Findings (table 5.9) show that collectively, the various forms of electronic security systems have been deployed in the libraries to:

- detect and deter unauthorised removal or theft of library materials,
- locate and relocate out-of-order items
- video, view and monitor patrons' activities
- provide video record evidence of the patrons' activities, including library staff misconduct
- conveniently and remotely monitor library activities
- support, ease and free library staff from routine work such as identification, authentication, and application processing.

These findings give support to numerous works that shows the extensive application of ESS to control, minimise and avert theft, vandalism, and mutilation of resources and other unethical practices that lead to losses of information materials in libraries. Exemplary works that can provide an explanation to the extensive application of ESS in libraries include those of Serfontein, (1995); Perrault (2006) and Harwell (2014) who assert that many libraries have come to the realisation of the importance of electronic security systems. In the same vein, several authors attest to specific electronic security systems application in libraries. For example, Tinuade (2007) in his work, "*book theft and its preservation*", postulates that the electronic security gate has an alarm system that is programmed with an engrained sensor that makes the gates trigger when any books not legally checked out are being taken out of the library, and by so doing, the library staff on duty at the issuing desk and library security personnel at the exit gate are alerted.

Boss (2003) avers that a form of electronic security system has in-built readers with a sorter and conveyor automated device for taking materials back to the proper area of the library. Corroborating this, Boss (2003), Kern (2004) and Jharotia (2010) point out that the in-built

application of radio frequency identification (RFID) technology facilitates automated materials handling and consists of conveyer and sorting systems that can enhance the movement of library materials and sorting by category into different bins or onto distinct carts. This considerably reduces the number of staff time required to make materials ready for re-shelving. Additionally, Hasan (2012) notes that the RFID automatically identifies and tracks library materials through the combination of radio-frequency-based device and microchip technology which helps to track, sort, identify, or detect library materials. This method, concludes that it is very efficient in managing the collections of the library and in enhancing effective service delivery to the teeming patrons.

In the same vein, the capacity of electronic security systems to video-record the various activities in the libraries, has been echoed by several authors. McCahill and Norris (2002) as quoted by Omoisejimi, Ijiekhuanmhen and Ojeme (2015:51) aptly sums this up in their statement:

Libraries can use closed-circuit television (CCTV) cameras to identify visitors and employees, monitor work areas, deter theft and ensure the security of library materials. It can also be used to monitor and record evidence on clientele and staff misconduct in the library

Boss (2003) points out that some electronic security systems have an interface between the departure sensors and the circulation system to recognize the items being taken out of the library. This helps the library to keep track of materials that have not been charged or issued and yet are taken past the exit sensors. In the same manner, CCTV cameras have been used to enhance the security of the collections of the library from unauthorised intrusions (Kumar, 2014; Randall and Newell, 2014; Richens and Laws, 2016).

Findings of the study also showed that ESS has been deployed for remote monitoring by the University Librarians of the activities within the library. This concurs with the observation made by Kumar (2014) in his paper on “*Library security through networking of CCTV surveillance...*” that, for the monitoring of activities, the closed circuit television cameras can be used in academic libraries to monitor the activities of the students within various segments of the library. The fact that one (especially the University Librarians) can administer some functions from the convenience of their office together with the finding that showed the deployment of ESS to do

certain routine operations, such as identification, authentication, and application processing, broadens our understanding of the extent of ESS use in academic libraries. Not only is ESS used to monitor, control and deter unethical use/handling of library information resources, but they have been used to free staff time, thereby according them opportunity to focus on other functions. This corroborates with Boss (2003); Kern (2004) and Jharotia (2010) who suggest that ESS considerably reduces the number of staff time required to make materials ready for re-shelving, and Baba and Tripuram (2014) who noted that the use of ESS has helped to reduce the issue of book loss or ease the job of library personnel, especially from routine activities at the Maulana Azad National Urdu University library in India.

From the above discussion, we can reasonably argue that the extent of the use of electronic security systems in university libraries is determined to a large extent by two factors: firstly, the characteristics of the ESS, that is, what the system can do or support and secondly, form of problem for which the system is expected to address. Collectively, CCTV cameras, electronic security gates and RFID system have effectively been deployed to deal with most of the commonly known unethical practices that result in theft, vandalism and mutilation of library information resources. However, each of these electronic security systems have one unique advantage or another over the rest. This explains why any single library would implement more than one type of electronic security at a time.

6.5 Use of ESS to Discourage Patrons from Pilferage

The findings from table 5.10 on use of electronic security systems (ESS) revealed that using ESS seem helpful in discouraging patrons from pilfering library (print) resources. The mean score of the items were above the expected mean of 2.5; this is an indication that indeed the presence of ESS in academic libraries had positively dissuaded the library patrons from pilfering the information materials. Submissions by the respondents from the academic libraries investigated, shows that the installation of electronic security systems (ESS) has helped in discouraging library patrons from pilfering library information resources and taking them away from the library without due process at the circulation desk. This confirms previous studies findings. Michalko and Heidtmann (1978:267) in a survey carried out at the University of Pennsylvania, discovered that the introduction and implementation of electronic security gates led to the

reduction of the overall loss rate in the library by 55%. This was made possible because library patrons were discouraged from illegally taking away library books without due process, knowing fully well that they would be caught in the act due to the presence of and the implementation of electronic security systems (ESS) in the library. The loss rate of latest library materials was reported to have drastically reduced due to the installation of electronic security systems at the University library. At the Benue State University library in Nigeria, Akor (2013) in his study on the effectiveness of electronic security systems used in academic libraries, established that the use of CCTV cameras installed in the library drastically reduced the rate of theft and mutilation of library information resources. 60% of the respondents who took part in the survey, indicated that the implementation of the closed circuit television cameras in the library was a measure put in place to discourage the act of theft and mutilation of the library information resources at the Benue State University library, Nigeria. Similarly, in a survey carried out on “*security measures adopted to prevent theft of library resources in selected academic libraries*” driven by incessant loss of library information resources in academic libraries, found that 7.2% of the libraries investigated installed closed circuit television (cameras) to help enhance the proper security of their library collections and to prevent the library materials from theft and mutilation by the clientele (Urhiewhu, Emojorho and Omah, 2018). Ramana (2007) reiterates that the use of electronic security systems (ESS) such as closed circuit television (CCTV) cameras in the libraries, can enhance the ability to control book thefts and ripping off pages from books and magazines in libraries, thereby, helping to discourage general pilfering of information resources in libraries.

Additionally, the installation of the radio frequency identification (RFID) technology in some libraries helped to protect library materials from being illegally taken out without due process, and thus safe-guarding the information resources from being pilfered by patrons as they are thereby discouraged from carrying out such antisocial acts (Ranawella, 2006; Galhotra and Galhotra, 2009). The findings from this study also showed that materials in the library are tracked or monitored with the aid of electronic security devices to discourage patrons from pilferage. As several authors (Hasan, 2012; Akor, 2013; Kumar, 2014) note, this has been achieved with the aid of closed circuit television (CCTV) cameras that are installed at the various sections of the libraries for this purpose. Yamson and Cobbalh (2016) opine that the installation

of the closed circuit television (CCTV) cameras at the Central University library, Ghana, tremendously enhanced the security of the library collections. The findings also showed that the presence of the electronic security systems (ESS) drastically led to reduction of the loss of library materials through theft and mutilation, thereby discouraging library patrons from engaging in the acts.

The installation or implementation of electronic security systems (ESS) in academic libraries have made library users to be more conscious of their conducts while in the library. Respondents from the surveyed universities indicated that users are now conscious of the presence of electronic security systems (ESS) in the libraries. This awareness could be as a result of the beeping of the alarm system at the exit of the libraries from the electronic security gates, and presence of surveillance or Closed Circuit Television (CCTV) cameras in the libraries (Lindquist, 2003; Tinuade, 2007; Rathinasabapathy and Rajendran, 2009; Kumbhar and Veer, 2016). From the findings shown in table 5.10, the use of electronic security systems (ESS) installed or implemented in the academic libraries investigated helped to discourage library clientele from pilfering information resources.

6.6 Magnitude/Immensity of Loss of Library Materials

Respondents of the study acknowledged that great proportion of library (print) materials were being lost through theft, mutilation and vandalism (table 5.11) resulting in reduction of library collections. Specific forms of malpractices identified include theft, mutilation and vandalism. Large proportion of the respondents were of the opinion that there was complete ripping off some books- pages. In addition, removal of cover pages of library materials including reference and serials materials were also being affected.

These findings of the study are not uncommon, since extensive literature reveal that materials are being stolen, mutilated and vandalised by library patrons regularly in the libraries. Generally, stealing or theft of library books and other materials has always cut across social lines. From available evidences, library book thieves throughout recorded history have included high-ranking individuals and church leaders, as well as librarians themselves (Shuman, 1999:6). Respondents from the academic libraries surveyed indicated that some pages of books are ripped off

completely and cover pages of some books are also removed by deviant library patrons. This finding of the study agrees with the study of Cravey (2001) who submitted that a young female student was held for ripping off some pages from library materials at the Ohio State University's library. Similarly, Oyesiku, Buraimo and Olusanya (2012) carried out a study on "disrupting patrons in academic libraries" at the Olabisi Onabanjo University Library, Ago-Iwoye, Ogun State, Nigeria; their findings showed that the most and very common disruptive behaviour of the library patrons was theft of library materials, and illegal removal of some pages of library books. Jato (2005) in a survey conducted on the "*causes and effect of delinquent behaviour in academic libraries, using Kenneth Dike Library (university of Ibadan, Nigeria) as a case study*", submitted that disreputable behaviours such as theft and mutilation, hiding of library information materials, outright refusal to return library books that are long overdue, among others, have become a regular happening in academic libraries, and that if these anomalies are not properly checked, such will culminate in severe dearth of information resources in the libraries. Agreeing to this assertion, Sharma (2017) confirms that the most common delinquent acts in any academic library, are that, significant pages of the books are either completely ripped off or mutilated and books are constantly being stolen by deviant library clientele. The rate at which materials disappear in academic libraries is so alarming that it has led to tremendous reduction in library collections. Similarly, Oyekisu, Buraimo and Olusanya (2011) and Tefera (2016) asserted that library patrons steal library materials by throwing out print materials (books) through the windows (especially) at night when there is power outage. They revealed further, that clientele take out books from the library without getting them charged out properly at the circulation desk, removal of date due slips, tearing off some pages, etc.

Tefera (1996) submits that in Ethiopia, delinquent library users mutilate and vandalise library information materials, by tearing or ripping off pages of books, cover pages and other relevant portions of library information resources. Similarly, in a survey on "*illegal practices in Engineering college libraries*" at "Dr. Babasaheb Ambedkar Marathwada University and Swami Ramanand Teerth Marathwada University", both at the Marathwada region of India, conducted by Gadekar and Golwal (2013), the results showed that 81.42% of the library users hide library materials (prints) inside their clothes as well as tear off some pages away from library books and periodicals. This delinquent act of ripping off some pages of library books is the practice the

world over and virtually in all academic libraries. Ali (2017) in his survey on “*Library book theft and audits in university libraries of Pakistan*”, discovered from the inventory of stolen books in the library, that 38 (40.42%) of the respondents indicated that stolen or missing books were between the range of 1–50 books. Furthermore, some respondents, 31 (32.97%) testified that between the range of 51 to 100 library books were missing, 10 libraries (10.63%) reported that between 101–300 books were either physically stolen by library patrons or missing, and 6 (06.38%) of the libraries indicated that materials between the range of 301–500 books were lost.

American Library Association (2005) reports that, at the Northern Alabama libraries in the United States of America, and at the beginning of March 2004, several hundreds of children’s materials (books) were discovered to have been mutilated by library patrons. Many of the books had some pages completely ripped off with razor blades. These acts of theft, mutilation and vandalism led to drastic loss of materials, thereby leading to the extreme reduction of the collections of the libraries in that region. The same was the experience of several libraries across the United States of America; the report showed radical depletion of the collections of the libraries and great loss of materials, as well as illegal removal of information materials from the libraries. Gadekar and Golwal (2013) in a survey on “delinquent behaviour of library clientele”, discovered that 81.42% of the respondents claimed that library patrons hide library materials inside their clothes and tear off some pages from library books and periodicals. It was further disclosed from the survey, that 32.54% of the users steal library books by throwing them through the windows that have no burglary protection. All these cited cases go to portray magnitude/immensity of loss of library information resources due to antisocial acts by patrons such as theft, mutilation and vandalism. In a survey carried out by Burrows (1997) relating to theft and the loss of library materials in the United Kingdom (UK), the findings revealed that, to prevent loss of library books alone cost more than 100 million pounds per year. This goes to portray that library information resources are lost and being lost due to antisocial acts by patrons such as theft, mutilation and vandalism.

In some parts of African countries, there have also been recorded cases of library materials loss as literature shows. Among them, Senyah (2004) noted that some texts and reference materials were susceptible to abuse and theft by clientele at the Kwame Nkrumah University of Science

and Technology library in Kumasi, Ghana. In a different case, the popular Royal Library of Alexandria, Egypt, was attacked by soldiers in the seventh century BC, where they looted several library information materials and also set some parts of the library aflame (Lorenzen, 1996; Fishburn, 2008).

Meanwhile, in the Nigerian context, there have been incidences of book thefts and loss of materials in academic libraries. For example, students at some higher institutions in Ekiti State, Nigeria, abused library materials, according to a survey conducted by Fasae and Adedokun (2016). The survey shows that library patrons who were majorly students, abused library materials by completely tearing off some pages of the library books. The results of the survey of Fasae and Adedokun (2016) show that 92.10% of the respondents that took part in the study, indicated that the abuse of library materials was done through ripping off some pages of library materials. They further postulate that several library information materials were constantly abused by library patrons in academic libraries in Ekiti State, Nigeria. Their study revealed that textbooks had 74 (92%), record, projects and dissertations stood at 48 (60%), while newspapers stood at 47 (58.75%) among the many library materials abused by patrons.

There have been several other studies that revealed the loss of library information resources. Isebe (2014) opines that for four consecutive years spanning 1980-1984, the annual reports of the Kashim Ibrahim Library of the Ahmadu Bello University, Zaria, Nigeria, showed cases of book theft and mutilation in the library. This invariably affected the library collections as the materials drastically reduced. Raji, et al. (2017) assert in their survey that due to much loss of library books, it negatively affected the lending services of the libraries surveyed. They postulated further that the frequent loss (disappearance) of books from the library shelves of the universities they investigated (Benue State University, Markudi, Nigeria, and the Ibrahim Badamosi Babangida University, Lapai, Nigeria) greatly had adverse effects on the general library collections and also the lending services of the two university libraries. In 1980/81, the annual report captioned "*Delinquent Patrons*" revealed cases of book theft and mutilation, as well as illegal use of privately designed date due stamps by library patrons to stamp fictitious dates on books. In addition, some books had some of its pages ripped off completely, while others had cover pages removed. Reference materials, periodicals, such as journals, magazines and

newspapers were also significantly affected as several pages were found to have been completely ripped off (Ajala and Oyaboade, 2008). Theft and mutilation of library information resources (books) has also led to the reduction of library collections drastically. Moreover, at the University of Calabar library, Nigeria, it was revealed through the 1984/85 university's yearly report, put together by the library committee who did a survey that students illegally stole so many books from the library which led to drastic reduction of its collections (Isebe, 2014).

In a related development, Adewuyi and Adekanye (2011:25-37) aver that so many of the materials of the Law Library of the University of Abuja were considerably reduced due to incidences of theft by the library users. They reported further in their survey, that, over, “70 issues of Nigerian Weekly Law Reports (NWL), 49 volumes of Halsbury's Law of England, and 7 volumes of Encyclopedia of Islam were stolen from the library” by the library patrons. The library of Olabisi Onabanjo, Ago-Iwoye, Ogun State, Nigeria, had eighty-nine volumes of the Nigerian Weekly Law Reports (NWL) removed from its library collection. It was also reported that the complete set of the “2003 edition of McGraw-Hill Encyclopedia of Science and Technology” were stolen practically from the Federal University of Technology, Akure, Nigeria library in 2009 (Adewuyi and Adekanye, 2011; Abioye and Rasaki. 2013). Adewale (2007) posited in a survey carried out, that several library books were stolen. The findings from the survey showed that 24 volumes of the “*Encyclopedia Britannica*” were illegally taken away from the Hezekiah Oluwasanmi Library of the Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria in 1997.

Books disappearing from the libraries with others being mutilated at an alarming rate, coupled with the challenge of reduction in budgetary provisions for libraries by the parent institutions year after year raises concerns over what should or must be done to avert theft and vandalism in libraries, archives, and special collections across nations (Higgins, 2015). The level of sophistication of theft and vandalism is unmatched. Nwalo (2003:72-79) in a study, discovered that library information resources are generally lost through theft, as patrons use different devices to illegally take out materials from the library without due process at the circulation desk. Amongst these methods include, but are not limited to: concealing books in clothes; mutilation of books by ripping off very important pages; throwing books through the windows

(especially libraries without burglary devices); borrowing books legally and using the date-due-slip on them to smuggle out many other books as many times as possible; walking out of the library with books, when the security personnel is not alert; collusion with library security personnel, etc. Jato (2005:25) lists the effects of antisocial behaviour on library clientele and the library to include the following:

- It reduces library stock
- It reduces the life span of the mutilated materials
- It leads to extra cost, time and personnel needed to replace the stolen and mutilated library materials
- It makes the serious users not to locate the needed materials
- It reduces the image of the library
- It can lead to low performance of students in examinations
- It also leads to frustration among users

The cited cases underscore not only the massiveness of library losses but also how global the phenomenon is. Such massive loss of library materials has resulted in serious measures being taken. In a survey carried out by Burrow (1997) relating to theft and the loss of library information resources in the United Kingdom (UK), the findings revealed that, to prevent loss of library books alone cost more than 100 million pounds per year. In Pakistani university libraries, library profession staff were compelled to pay for stolen and/or lost library books from their personal pockets (Ali, 2017)

6.7 Effectiveness of the Use of ESS in Academic Libraries

Based on a five-point Likert scale (table 5.12), the results showed that the respondents perceived the effectiveness of the use of electronic security systems to be generally positive. Majority of the respondents were of the opinion that the use of electronic security systems has: (1) promoted effectiveness and efficiency in the security of information resources in the library; (2) brought about decrease in theft and mutilation of library materials; (3) drawn patrons' conscious that their various activities within the library were being monitored; (4) significantly to eased staff routine job such as constant moving round to check on users; (5) eased financial strain on the library since money that was usually used to replace stolen library

materials was now being channeled to take care of other things in the library. The impact or effectiveness of the use of electronic security systems (ESS) in curbing theft and mutilation of library materials has become so pronounced among librarians because the manual (traditional) methods of checking library patrons' excesses are found unfavourable (McComb, 2004; Rajendran and Rathinasabapathy, 2007). The participating libraries' experience with ESS is comparable to most other libraries. For example, ESS has caused book loss rates to decrease significantly at the University of Kentucky (Ogunyade, 2005) and Maulana Azad National Urdu University library in India (Baba and Tripuram, 2014), thereby decreasing the excesses of theft and mutilation of library information resources (Molnar and Wagner, 2004; Yu, 2007; Muhammad, 2017).

Findings of the study also revealed that electronic security systems has been used to observe (monitor) and record the various activities of library clientele, including the conducts of the library staff. This sharpened library clientele and employees' awareness and consciousness of the fact that they are being monitored. In turn, they have to put under check their activities and conduct (Randall and Newell, 2014; Ozowa Aba and Aba, 2016). The findings of the study further indicated that money could now be diverted for other use as losses and replacement of library materials had reduced with the help of ESS in monitoring, trailing and curbing theft and mutilation of library information resources. Additionally, the use of electronic security systems had eased library staff routine jobs such as routine movements within the library to monitor users within various segments of the library. Subsequently, as Shahid (2005) notes, this has given the library staff the opportunity to pay attention to other tasks.

Venkatash et al. (2003:447) explains that Performance expectancy, a construct of the Unified Theory of Acceptance and Use of Technology (UTAUT), is seen as the degree to which the user expects that using the system (electronic security system) "will help him or her attain gains in job performance". Inadvertently, the impact and use of electronic security systems (ESS) in libraries according to the findings of this study, helps to ease the job of the library personnel. In the light of this, it is the degree to which electronic security systems (ESS) are used in academic libraries in selected universities surveyed that helped in the security of the information resources from theft, mutilation and vandalism. In the same vein, Effort expectancy, "the degree of ease

associated with the use of the system” (Venkatesh et al., 2003:450) made the usage of electronic security systems (ESS) ease the problem of checking the excesses of library patrons and thus easily helped to discourage the menace of thefts, mutilation and vandalism of library materials (prints) in academic libraries.

Findings from the study also revealed that the influence of the use of electronic security systems enhances the efficiency and effectiveness in securing library materials. Baba and Tripuram (2014) suggest that the overriding purpose of electronic security systems is to help in securing library materials. This they achieve by: solving the book loss challenges in the library; enhancing accuracy by doing away with staff manual process and errors; and ensuring that the time of the user and also staff is saved as evidenced at the Maulana Azad National Urdu University library in India (Baba and Tripuram, 2014).

6.8 Factors Influencing/Motivating the Use of ESS in the Library

Three UTAUT constructs were used to draw an understanding of what motivates the implementation of electronic security systems in the participating university libraries. Overall results (Table 5.13) indicated that performance expectancy, effort expectancy/perceived ease of use and social influence were significant determinants of ESS implementation in the libraries.

Perceived expectations of ESS performance were all realised. Earlier results presented on extent of use (Table 5.9), of ESS in discouraging pilferage (Table 5.10) and effectiveness of ESS use (Table 5.12) all established that ESS has been instrumental in: controlling and curbing theft, vandalism and mutilation of library information resources; easing staff of some of their routine jobs such as routine checks of library staff, patrons and visitors; providing video recordings of activities within the library that could be used as evidence of proof when needed; tracking information sources by use of electromagnetic tapes inserted into the books amongst other purposes. These functions of ESS are unique to the university libraries under study; several studies attest to these attributes (McComb, 2004; Molnar and Wagner, 2004; Ramana, 2007; Rajendran and Rathinasabapathy, 2007; Akor, 2013; Ozowa, Aba and Aba, 2016).

When asked for reasons for implementation of ESS, the respondents identified three reasons: To beautify the library; monitor users' activities, and prevent unethical losses (Table 5.8). These may be deduced to be amongst the perceived expectations of ESS performance, all of which the study established to functions of the electronic security systems from the respondents' perspectives.

Like many other technologies, electronic security systems require some level of expertise, knowledge and skills to install, operate and effectively use the systems. Perceived ease of use or effort expectancy according to Venkatesh et al. (2003:450) refers to "the degree of ease associated with the use of the system" In the context of this study, EE was taken to mean the degree of ease associated with the use of electronic security systems (ESS) in curbing thefts, mutilation and vandalism of information resources in academic libraries. A large proportion of the respondents agreed ($\bar{x} = 4.0$) to the statement that using the electronic security systems is not frustrating, suggesting that they were at ease with using ESS as a technology.

In the same vein, findings of the study suggest that social influence played a significant role in the implementation of ESS in the participating university libraries. All the three items (statements) received a response rate mean of over 2.5. Venkatesh et al., (2003:451) explained that social influence (SI) is "the degree to which an individual perceives that important others believe that he or she should use the new system". It is underpinned by three elements: subjective norm, social factors and image. Respondents of this study indicated that use of ESS enhanced library status, increased prestige, and met societal expectations. Amongst reasons given for the installation of ESS in the libraries (Table 5.8), included 'to beautify the library'. If we argued that beauty is a social aspect, defining perceived image, then it can be relate to one reason given by the respondents for ESS implementation in the library which was to meet the expectations of society.

The above discussion renders support and makes important contribution to the applicability of UTAUT in understanding the underlying considerations in the implementation of electronic security systems in libraries.

6.9 Discussion of Qualitative Findings from Interviews

This section provides discussion from findings obtained through interviews with purposively selected respondents constituting four (4) heads of the libraries (University Librarians) and the four (4) Information Technology (IT) personnel attached to the four participating university libraries. The responses obtained from respondents through the structured interview were further structured and discussed thematically.

6.9.1 Security Policy

This section covers three key elements which include: awareness of the presence of security policy in the library, policy relating to use of ESS in libraries, and policy provisions on thefts, mutilation and vandalism of library materials.

6.9.1.1 Awareness of Security Policy in the Library

The study sought to find out from the heads of the libraries (University Librarians) about their awareness of any existing library security policy in their university. All the heads of the libraries acknowledged the existence of library security policy in their respective libraries to safeguard library and information materials from theft, mutilation and vandalism. All the heads of the university libraries investigated also admitted to having both written and unwritten security policy. Some of the participants noted that there exists both written and unwritten security policy in the libraries to safeguard library and information materials from theft, mutilation and vandalism. In the words of one of the interviewees:

“Our library has both written and unwritten security policy in place. The policy ensures that library books are used in the appropriate manner, and that users do not take out books without the proper procedures”.

The findings from the interviewees showed that academic libraries, just like any other department(s) of organisations have security policy guarding their operations. The findings from this study concur with the survey of the library security policy of Avondale College (2017) which revealed that the library policy was established to ensure that library security is appropriately managed and also efficient at all times, that patrons using the library have sense of

security and safety, and that the library facilities, resources and buildings are held in a secure manner. Security policies in libraries exist to help control the activities of library clientele (Brown, 2007). In the survey of Maidabino (2010) on collection security issues in Malaysian academic libraries, 53 (88%) of the respondents admitted that their libraries had security policy, while 6 (10%) indicated that the library security policies were both in written and unwritten form. In the same vein, there exists a security policies in a libraries in the United States of America. For example, at the Quincy public library, the security policy states that “security tags” are inserted into library books; the alarm at the electronic security gate sounds or beeps if any library clientele decide to take away library books without legally processing them at the circulation desk (Quincy Public Library, 2017). The University of Canterbury (2015) policy statement explicitly outlines the following measures aimed at ensuring that the library premises and collections are protected from unauthorised external intrusion and vandalism:

- *Authorised users of the library and terms of borrowing from the library shall be in accordance with the library regulations.*
- *The following actions constitute violations against library property: to steal or knowingly possess stolen library property; to remove or attempt to steal or knowingly possess stolen library property; to remove or attempt to remove library property from the library without proper authorization; deface, mutilate, or damage library property; to make unlawful use of the library computer equipment or digital content; to be in non-public areas without authorization, or in library facilities after closing time without authorization.*
- *In order to fulfil the library’s responsibility for securing its collections and property, library staff are authorized to: check books and possessions of persons as they leave the library; request to see identification of any person in the library; monitor access to and use of library computer equipment and digital content; question any person if it appears that library regulations are being violated; enlist campus security assistance if concerned about the behaviour of any person in the library.*
- *In order to fulfil the library’s responsibility for securing its collections and property, the library reserves the right to utilize security cameras.*

- *In pursuing this policy, the library will refer cases of theft or significant, deliberate or reckless damage, to the police. Students of the university who commit violations will also be subject to university disciplinary procedures. University staff who commit violations will also be subject to disciplinary procedures in accordance with their contract of employment (University of Canterbury, 2015:3)*

The above policy statement of the University of Canterbury is to ensure strict adherence and compliance to the rules and regulations of the library. It also spells out the punitive measures to be meted on any defaulters.

6.9.1.2 Policy and Use of ESS in Libraries

The responses from the University librarians showed that the existence of security policy in the libraries enhanced the use of electronic security systems (ESS) in safeguarding library information resources. All the participants concurred that the existence and adherence to library security policies helped to curtail the excesses of library users, thereby curbing theft, mutilation and vandalism of library materials. They used such words as:

“...electronic security devices are in place to monitor and guard against unauthorised movement of books out of the library”

“...library books have tattle tapes/strips inserted into them...”

“... gates have a sensor...”

“... CCTV cameras are in place that also help monitor the activities of library users...”

“... which in turn alerts the library staff at the exit gate, as well as the security personnel around”

These sample extracts demonstrate the use of ESS, as enforced in the security policies in making sure that library materials are preserved and secured from being stolen, mutilated or vandalised by library users.

The significance of security policy in libraries cannot be underestimated. Maidabino (2010) underscores this significance by asserting that the existence of such security policies in the library is very important in the governance and general management of collection security in libraries. Udoumoh and Okoro (2007) posit that libraries formulate security policies in order to ensure that their information resources are secured and utilised effectively. The findings of this study is largely in agreement with the assertion of Udoumoh and Okoro (2007) as it clearly shows that security policies in the participating university libraries are functional and useful in aiding the curbing of theft and mutilation of materials in the libraries, and regulating library clientele's behaviour. In essence, the security policies of the participating university libraries are common or have similarities and functionality.

6.9.1.3 Policy Provisions on Theft, Mutilation and Vandalism of Library Materials

The study established that in all the participating university libraries, there were punitive measures against patrons caught violating library security provisions spelled out in the policies. The form of disciplinary action against such offenders varied depending on the gravity of the offense; they included dismissal, suspension or expulsion from the university, repayment/replacement, and police arrest. All these disciplinary measures are included in the library security policies and/or regulations governing the use of the library, so it is expected that the library patrons are familiar with the provisions.

Punitive measures against library rules and regulations violators is a common practice internationally. Straub, Goodman and Baskerville (2008) stressed that violations of security policy should have appropriate penalties to make the violators face what the policy states for defaulting. Libraries seem to have indeed heeded to this call and evidence of this is bountiful in the literature. Examples include but are not limited to: Ali (2017) reference to Pakistani university libraries where the library professional staff were compelled to pay for stolen and/or lost library books from their personal pockets. In the same manner, in 2003, the "Kenyon College in Ohio was awarded over \$1 million in a judgment against former library circulation night supervisor David Breithaupt and his accomplice Christa Hupp, who stole and sold hundreds of rare items from the college library starting in the mid-1990s" (Eberhart, 2003:20). Similarly, a warrant of arrest was issued to arrest the Phoenix City, Alabama librarian, Irma

Duke, who it was alleged made away with more than \$50,000 from the library by writing dishonest checks (Rogers, 2004).

In the Nigerian context, library security policies are in operation. Violators are made to face the consequences of their actions. For example, Olajide (2017) submitted that any culprit caught at the Federal University library at Oye-Ekiti faces punitive measures stipulated in the library security policy. Additionally, several other authors agreed that violators of library policies face one form of punitive measure and the other (Ajala and Oyaboade, 2008; Fishburn, 2008; Adewuyi and Adekanye, 2011).

6.9.2 Budgetary Provisions for the Libraries

To understand the fiscal sustainability of electronic security systems, the study examined budgetary allocation, provisions how and regularly participating libraries get them. The findings of this research revealed that libraries prepare annual budgets for its resources and activities. As one librarian noted: “...*the budget is all-encompassing as it covers all aspects of library operations.*” This adds another head of library, “...*includes that of the electronic security systems operations for the year*”. The library budget is then forwarded to the university finance office for consideration and approval alongside other budgets from other departments within the university. There is no guarantee however, that all the amount requested by the library is fully approved as noted by one of the librarians: “*when the final budget of the various departments/units are approved, that of the library is approved also. The library may sometimes not get the exact amount budgeted for*”.

The findings of this study seem to be in agreement with larger literature on the issue of poor funding of academic libraries (Mutula, 2008; Hoskins and Stilwell, 2011; Abioye and Rasaki, 2013). Limited budgetary provisions for libraries, ultimately affects all aspects or operations of the libraries, including the implementation, maintenance of electronic security systems, and capacity building/training of library staff in the use of ESS. Several authors have highlighted the implication of such poor funding to libraries. For example, Ifidon (2006) noted that inadequate funding has become the bane of the educational segment which has culminated in drastic reduction in budgetary provisions for books in tertiary institutions, and has ultimately made

university libraries very vulnerably affected, thereby not being able to meet the requisite information needs of their teeming clientele. Oyedum, et al., (2014) added that inadequate funding has not helped matters because much financial resources are required for proper security of library information resources to be achieved. Ozowa, Aba and Aba (2016) asserted that poor funding of libraries goes a long way to hamper procurement of requisite information resources, as well as rendering services to the teeming library clientele.

The importance of budgetary provisions for maintaining ESS in the library is very paramount. The ESS require regular and/or periodic service and maintenance, therefore the provision of regular funding would go a long way in ensuring its functionality on a sustainable basis. While the University librarians acknowledged that there was regular funding for the libraries- done annually, they pointed out the budget did not cover requisite resources for implementation and sustainability of ESS. A case was none separate budgetary provisions for the training and re-training of library staff on the use of electronic security systems (ESS) as one university librarian noted:

To be candid, we do not set aside any budget for the training and re-training of library staff on the use of our ESS. This is because everything that has to do with all units of the library and general library operations as far as finance is concerned is factored into the yearly library budget.

From the excerpt above, it establishes fact that in the university libraries investigated, no budget was set aside for the training and re-training of library staff on the use of ESS. The fund for training is incorporated into the general annual library budget.

In the Nigerian context, existing literature shows that the academic libraries have been encumbered with the challenge of poor funding by the parent institutions, this has ultimately affected library and information services delivery, including the installation and maintenance of electronic security systems. Idiodi and Aliu (2003), as well as Achebe (2012) observed that the National Universities Commission (NUC) a Nigerian government parastatal established for ensuring the quality of higher education in Nigeria, officially made it known that 10% of every Nigerian university's approved recurrent annual budget should be set aside for library development. Although, the reverse has been the case as this directive has never been adhered to by the Vice Chancellors of universities, and the libraries are continually being starved of

adequate funding, which ultimately affects all operational activities that includes implementation of ESS, maintenance, training and re-training of personnel. Thanuskodi (2009) observed that such declining rate of budgetary provisions for universities has adversely affected academic libraries, thereby making it impossible to cope with the rising information needs of their numerous clientele, as well as attend to other activities of the libraries. This decline in funding of libraries culminate in the various antisocial activities of library patrons, as they resort in stealing and mutilating the few materials available in the library.

6.9.3 Implications of High Cost of Implementing ESS in Academic Libraries

Findings from the study revealed that the cost of implementing electronic security systems is exorbitant, and this has ultimately hindered or delayed many libraries from installing the devices to safeguard their collections. All the university librarians concurred that the high cost of procuring ESS and their implementation has made many libraries handicapped from procuring and installing the ESS, even though the usefulness of the devices is well acknowledged (Okiy, 2005; Mutula, 2008; Hoskins and Stilwell, 2011; Kelly, 2015; Ozowa, Aba and Aba, 2016). Global economic downturn has also affected high cost of implementing ESS in libraries; as this has equally affected several sectors of the world's economy leading to recessions and consequently cuts in public spending. Academic libraries are particularly susceptible to changes in the economy of the world because of their dependence on highly priced globally-sourced information products, their total reliance on budgetary allocations from parent institutions, and sometimes total reliance on public funding.

6.9.4 Criteria for Procuring ESS

The study findings shows that the libraries considered some criteria before venturing into procuring and installing or implementing electronic security systems in their libraries. Notable amongst these considerations include: cost of procuring and installing the ESS, the peculiarity of the library-building structure, value addition of installation of the ESS such as ease of library operations, ease of operating the ESS devices, functionality of the ESS, including their strengths and weaknesses, credibility of vendor/supplier, financial involvement and after sales support, as well as technical capacity of the systems. Moreover, 50% of the participants averred that feasibility study or benchmarking with other libraries that have implemented, and are using the

ESS is necessary. Westenkirchner (2008) acknowledged that a number of factors are considered before procuring any electronic security systems. For libraries, this elaborate before-purchase considerations is important given the restricted budgets they are working with on hand, and the escalating and expensive losses they incur with each theft, vandalism or mutilation.

6.9.5 User Education Programmes

In analysing data on user education programmes, five themes emerged and are discussed in this section. These themes were: The mode of delivery; frequency of delivery; target group; content; and enforcement.

User education is offered in all the participating universities to both new students and staff. Different modes of delivery are used, including Library orientation programmes. Library tours and course work (for students). These programmes are offered regularly; often at the beginning of the academic year and whenever there are new staff. The objectives of the user education programmes include, acquainting the library patrons with knowledge and skills on library information resources, library rules and regulations, information access and library security. To enforce the significance of the programme, the students are required to take library skill programme as an examinable module. The programme is also free for the library patrons and open for new staff.

The findings of this study are therefore in agreement with the work of Kumar and Phil (2009) who established that user education programme was organised in academic libraries to teach library patrons how to make use of the library and the materials (information resources available), the different types of information available in the library, library opening hours, library rules, and more. Downard (1992); Brunton (2005) and Suleiman (2012) confirmed that the use of different types of user education programmes are organised by academic libraries to sensitise and acquaint patrons with a wide scale of library knowledge and skills. Such programmes include library orientation, information skills teaching, bibliographic instructions, course-related instructions and on-line instructions, research skills, among others. The essence of

such instructions is to get the patrons familiar with the different library operations, services, including the rules and regulations (policies) governing the library operations and services.

Moyane, Dube and Hoskins (2015) evaluated the nature and application of user education programmes for postgraduate students “in the School of Management, Information Technology and Governance at the Westville Campus of UKZN” and established that the library organised user orientation programme at the beginning of every academic session for students and also for the faculty and staff of the university. The study also submitted that subject librarians do offer “impromptu assistance” (user education) to students and staff who come to the library for such on a regular basis. The findings of this study are in agreement with Akor (2013), who suggested in a survey on security management at the Benue State University library, Nigeria, that more orientation (user education) programmes should be conducted for library users. Findings from the survey showed that 23.3% of the respondents were of the opinion that more user education programmes should be carried out to ensure that users are well informed on the best ways to make use of library materials, so as to guide against unethical behaviours in the library.

While most of the cited cases appear to provide user education programmes that acquaint patrons with library knowledge and skills, Trang and Cuc (2018) drawing from Learning Resource Center of a Mekong Delta University, Vietnam, noted that part of the essence of the user education programmes was to forestall security issues. By educating the patrons on ethical handling of information resources, and sensitising them on library security measures in place, the libraries are taking proactive measures against loss of information materials through theft, vandalism and mutilation.

6.9.6 After-Sales Service Support

The Information Technology personnel who participated in the study concurred that their library enjoyed after sales services from the ESS vendors. Such after service sales support included maintenance. In the words of one of the participants:

“We, at our university library, always ensure that we get at least one year warranty for any equipment we procure or install. Within that one year, if the device(s) develop any fault, based on the warranty, the supplier or vendor is called to come and effect repairs. Once the one year warranty is over, we have an

agreement with a company that does maintain our electronic devices. Not until two years ago, the University management decided that once any warranty elapses, the computer unit (ICT unit) of the university takes charge of the repairs of all computer and electronic related devices”.

Findings revealed that libraries enjoy after-sales service support from vendors of electronic security systems (ESS), with one participant terming it as ‘cordial’. This is however limited to the contract agreement period after which the vendors are reluctant to render any further assistance. In the words of one of the participants:

“The after sales service is not too good/encouraging. At the initial point of sales and installation, it is always easy to get the vendors. But once the maintenance fee expires, getting them becomes a huge task. Some of them demand for renewal of contracts which is very outrageous”.

From the excerpts above and as submitted by one of the participants, after-sales service and support is not enjoyed by the libraries. This assertion is in disagreement with Baines (2007) and Sheng, et al. (2009) that manufacturers of equipment provide after-sales services to their clients. According to Visnjic, Wiengarten and Neely (2016) it is appropriate for product manufacturers to offer maintenance agreement and provide professional after-sales service and training to clients. The findings revealed that the library staff are usually trained on how to use the electronic security systems (ESS) when the vendor is installing the devices for their library. There are also instances, according to the participants that the IT unit of the university services effect minor repairs:

“Well, the university has an IT unit; technical issues that have to do with our ESS are handled by them. But in a situation where the issue becomes more than what they can handle, the ESS vendors or suppliers and even other professionals are contacted or notified and invited to come fix it”.

The findings also revealed that the libraries conduct training and re-training programmes for the library staff on different aspects of library operations and also on the use of ESS. The participants unanimously submitted that their libraries carry out one form of training programme or another for their staff covering various areas of their job, including how to handle equipment. One of the participants had this to say:

‘We have bi-monthly training programme in the library and the training covers all aspects of the library operations. Most of our staff were trained during installation of the ESS in our library. We also have general workshops, training programmes organised by the university ICT unit for all IT personnel of the university, including the staff of the ICT unit of our library’.

The findings underscore the significance of in-house training and workshops for library staff on the use of library security devices in order to enhance proper service delivery. Library personnel, including the IT personnel attached to the library, undergo training programmes both within and outside the university campus through conferences and workshops. Librarians need opportunities to learn more about these services either on campus or through attendance at workshops and professional conferences (Tenopir et al., 2014). Brown, Wolski and Richardson (2015) in their study, stated that there was the need for a continual programme in form of in-service training to make room for on the job skills development for library personnel for effective information and service delivery to the library clientele.

6.9.7 Capacity Building of IT Personnel Attached to the Library

The study sought to elicit information on the various ways the information technology (IT) staff update their IT skills to enhance service delivery. The respondents observed that they usually attend conferences and workshops organised within and outside the university campus and sometimes outside the shores of their country. For instance, in the words of one of the interviewees:

“As the IT staff (personnel) of the University library, I read very widely so as to keep abreast with recent happenings as far as my job is concerned. I download many relevant lecture materials, both audio and videos from the Internet, that would enhance my job and skills. I am sometimes privileged to be sponsored to workshops, seminars and training programmes by the University. For example, in the year 2010, I was sponsored to the UK for a workshop and I spent two weeks. I have also been to the USA for same kind of workshops/training. You have the opportunity to see the way things are being done in other libraries in the developed nations, copy and come back home to duplicate same so as to enhance better library services”.

Participants were of the opinion that apart from organised in-house training workshops and conferences, they also attended workshops and conferences both locally and internationally to enhance and update their capacity and skills on the job. Two of the four IT personnel also indicated that they embraced personal development strategies to enhance their skills on the job. They suggested further that they make use of the Internet to update their skills on the job and on the use of electronic security systems (ESS) in their library. The findings corroborates the survey of Delaney and Bates (2014) that there is the need for self and professional development for library personnel on the job.

6.10 Summary

This chapter discussed the outcomes of the study that were presented in the preceding chapter (five). The discussion of the findings was centred on the research questions and the correlated themes from the literature review. Additionally, the review of existing literature and theory that was used to underpin the study guided the discussion of the study. The section covered the demographic characteristics of the respondents; the types of ESS in use in academic libraries which included the closed circuit television cameras, electronic security gates and the radio frequency identification (RFID) system; the extent of use of ESS, use of ESS in discouraging pilferage of library information; magnitude/immensity of loss of library materials; effectiveness of the use of ESS; factors influencing/motivating the use of ESS; policy provisions; budgetary allocation; user education; vendor support and capacity building.

Findings of the study further revealed that the commonly used electronic security systems in academic libraries to curb theft, mutilation and vandalism of library and information resources are closed circuit television cameras, electronic security gates and radio frequency identification (RFID) system.

Findings through the literature further unveiled the magnitude/immensity of loss of library materials. One major way library materials get lost was through ripping off some pages of books. In addition, the findings revealed the effectiveness of the use of electronic security systems in academic libraries. Based on a five-point Likert scale, majority of the respondents agreed that use of electronic security system (ESS) enhances effectiveness and efficiency in securing library information resources from theft and mutilation.

Furthermore, factors influencing/motivating the use of ESS in libraries were considered. The Unified Theory of Acceptance and Use of technology (UTAUT) constructs (performance expectancy, effort expectancy and social influence) were largely consistent with the findings of this study. It was deduced that prevention of library information resources from unethical loss was amongst the perceived outcomes of ESS performance, all of which the study point out as functions of the electronic security systems from the respondents' perspectives. Finally, findings

revealed the various views of the interview participants which corroborated the findings of the survey questionnaire.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter offers the summary of the findings, conclusion, as well as the recommendations of the study; including the contributions of the study to policy, theory and suggestions for further research. The purpose of the study was to investigate the use of electronic security systems in academic libraries in selected universities in South-West, Nigeria. The study addressed the following research questions:

1. What library security systems are in place to curb theft and mutilation of library materials in selected Nigerian universities?
2. To what extent are the electronic security systems used in academic libraries in South-West, Nigeria?
3. How are electronic security systems used to discourage patrons from pilfering information resources from the library?
4. What is the magnitude/immensity of loss of library materials through theft, mutilation and vandalism?
5. How effective is the use of electronic security systems in curbing theft, vandalism and mutilation of information resources in academic libraries in South West Nigeria?
6. What are the factors influencing/motivating the use of ESS in libraries

The study adopted the post-positivist paradigm, while the underpinning theory for the study was the Unified Theory of Acceptance and Use of Technology (UTAUT) propounded by Venkatesh, et al. (2003). Additionally, the study embraced the survey design to select participants from the selected academic libraries in South-West, Nigeria. The census, and purposive sampling techniques were used to select respondents for the survey which included the librarians and paraprofessional library staff, heads of the university libraries (University Librarians) and the Information Technology personnel of the four selected universities. Data were gathered through

self-generated questionnaire and interview schedule and were analysed using the Statistical Package for the Social Sciences (SPSS) to generate descriptive statistics, such as frequency counts, percentages (%), and mean (\bar{x}), while qualitative data was transcribed and thematically analysed. The remaining part of this chapter presents the summary of findings, conclusion, recommendations and contribution of the study to theory, practice, policy and suggestions for further research.

7.2 Summary

The first chapter, provided the introduction to the study, statement of the problem, research objectives and research questions. Additionally, the chapter presented the significance of the study, brief description of literature, theories and research methods.

Chapter two presented the theoretical framework used for the study and highlighted various technology acceptance theories, which included Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB), Combined Technology Acceptance Model and Theory of Planned Behaviour (C-TAM and TPB), Motivational Model (MM), PC Utilization Model (MPCU), Social Cognitive Theory (SCT), Diffusion of Innovation Theory (DOI) and the Unified Theory of Acceptance and Use of Technology Model (UTAUT). The Unified Theory of Acceptance and Use of Technology (UTAUT) was chosen to underpin the study because it is the most recent theory among the eight other related theories of use of technology/information systems. Moreover, the Unified Theory of Acceptance and Use of Technology (UTAUT) combines the constructs of the other related technologies and has the capacity to elucidate about 70% of the variance in technology usage.

Chapter three of the study presented a review of relevant literature. The extant studies reviewed covered both western, African, and the Nigerian contexts on the subject of use of electronic security systems in academic libraries. The literature reviewed were predicated on the research problem and research questions. The chapter discussed the most popular electronic security systems used in academic libraries to curb theft, mutilation and vandalism of library materials in university libraries; the extent to which electronic security systems are used in the academic libraries in South-West, Nigeria; the use of electronic security systems (ESS) to discourage patrons from pilfering information resources from the library; the magnitude/immensity of loss

of library materials through theft, mutilation and vandalism; the effectiveness of the use of electronic security systems in curbing theft and mutilation of information resources in academic libraries and, factors influencing/motivating the use of electronic security systems in academic libraries.

Chapter four focused on the research methodology and design. It discussed the research paradigms, research design, the research approaches, population of the study, data collection techniques, sampling techniques, data analysis, reliability and validity as well as the ethical considerations of the study. The post-positivist paradigm was discussed, the mixed method research approach, which combined both quantitative and qualitative research techniques were covered in the chapter and the census (total enumeration) method was adopted as sampling technique for the study. Questionnaires were designed and administered to elicit quantitative data from the respondents which comprised the para-professional library staff and the professional librarians in the universities surveyed, while a structured interview guide was used to elicit qualitative data from the heads of the libraries (University Librarians) and the Information Technology personnel attached to the four libraries surveyed. The population for the study consisted of four purposively selected universities in South-West, Nigeria, that included the University of Lagos, University of Ibadan, Covenant University, Ota and Babcock University, Ilesan, Iremo. The pre-testing of the instruments was conducted at the Federal University of Agriculture (FUNAAB), Abeokuta, Ogun State, Nigeria. Finally, the Statistical Package for Social Sciences (SPSS) was applied to sort, code and analyse the quantitative data collected through survey questionnaire, while the qualitative data collected through structured interview was analysed using thematic content analysis. Finally, the standards and ethical policies of research of all the institutions involved were strictly adhered to. In addition, the ethical requirements as set out by the University of KwaZulu-Natal (UKZN) research policy was fully complied with.

Chapter five covered data analysis and the presentation of findings. Data gathered from the para-professional library staff and professional librarians were described and presented accordingly in tables and charts. The chapter covered response rate, demographic variables of the respondents, characteristics and types of electronic security systems; the extent to which ESS are used in academic libraries; the use of electronic security systems to discourage patrons from pilfering

information resources from the library; the magnitude/immensity of loss of library materials through theft and vandalism, effectiveness of the use of ESS in curbing theft and mutilation of information resources in academic libraries; and factors motivating/influencing the use of ESS in academic libraries. Other areas covered included policy matters, budgetary provisions, capacity building, support, maintenance and staff training.

Chapter six discussed the research findings from the data presented in chapter five. The discussion of the findings focused on the research questions and the interrelated themes from the extant studies reviewed. The results revealed that there were more female participants 92 (56.1%) than male respondents 72 (43.9%). The results further showed that majority of the respondents were within the age range of 35-44 (45.1%). The findings also revealed that the most commonly used electronic security systems in libraries were the closed circuit television (CCTV) cameras, electronic security gates and radio frequency identification system. These electronic security systems helped to curb theft, mutilation and vandalism of library information resources, thereby enhancing the security of library (print) materials. The findings further showed the extent to which electronic security systems are used to curb the issue of theft and mutilation of materials in the library; magnitude/immensity of loss of library materials; and the effectiveness of the use of electronic security systems in libraries. The chapter also assessed the influence of performance expectancy, effort expectancy and social influence on the use of electronic security systems in academic libraries. Finally, the qualitative data was gathered from the University Librarians and the Information Technology personnel through use of structured interview guide.

Lastly, chapter seven is the summation of the findings, the conclusion, as well as recommendations of the study. The chapter further unveils the contributions of the study to policy, practice and theory and makes suggestions for future areas of research.

7.3 Summary of Findings

This section gives a summary of the research findings of the study, in addition to the demographic characteristics of the participants, which included gender, age, educational level, as well as designation of participants.

The first research question sought to identify the types of electronic security systems used in the academic libraries investigated. The findings revealed that the libraries surveyed have one form of electronic security system or the other. Popularly used ESS were closed circuit television (CCTV) cameras, electronic security gates and radio frequency identification systems. Finally, findings depicted that various forms of electronic security systems were implemented in the academic libraries investigated in order to curb theft, mutilation and vandalism of library and information (print) resources.

The second research question investigated the extent to which electronic security systems are used in the academic libraries in South-West, Nigeria. Overall, the results revealed that electronic security systems strongly help to curb theft, mutilation and vandalism of library materials in the libraries. In this regard, the results specifically revealed that:

- There is inbuilt sensor that triggers alarm in the electronic security systems installed and this helps in detecting illegal removal or outright theft of materials from the library;
- A combination of audio and visual feedback device that supports in tracing the exact location of library books;
- The electronic security systems have the capacity to digitally video record patrons' activities within the various segments of the library. This could be played back and serves as proof in case there is any form of misconduct in the library;
- ESS provides opportunity for live video viewing as well as the monitoring of library patrons' activities within designated sections of the library;
- The University Librarian can monitor the activities of users within the various sections of the library remotely from the office;
- Library materials (books) are barcoded and with electromagnetic tags inserted into them unknown to the library patrons. The in-built device in the ESS makes a beeping sound and display of flashlight to alert library staff at the circulation desk, and the security personnel in case of illegal removal of unprocessed materials.

The third research question sought to examine how electronic security are used to discourage patrons from pilfering information resources. Overall, the result revealed that the implementation of ESS in libraries has proven to be effective in discouraging library clientele from pilfering information resources from the library, as the mean score (\bar{x}) on each of the item were greater than the expected mean (\bar{x}) of 2.5. This was made possible through the inbuilt features of the ESS that allowed either direct observation of the library patrons or alert prompts activated in the event of illegal removal of a library material. In this regard, majority of the respondents indicated that library patrons are conscious of the presence of the availability of/or the installation of electronic security systems. Further results revealed that the installation of electronic security gates in libraries have been effective in discouraging patrons from illegally removing materials from the library. In addition, the results revealed that the surveillance monitoring cameras (closed circuit television- CCTV cameras) have proven to be useful in monitoring the activities of library patrons, thereby discouraging them from pilfering library resources. Also, the findings revealed that the entire library collections are catalogued, programmed (automated) and linked to the electronic security systems. The materials (prints/books) also have tattle tapes or electromagnetic tapes inserted into them to safeguard them from being stolen. Finally, the findings revealed that the electronic security systems have been advantageous in tracking and monitoring library information resources and patrons within the library.

The fourth research question examined the magnitude/immensity of loss of library materials through theft, mutilation and vandalism. Findings revealed that library and information resources have been lost over time in academic libraries through various methods which library clientele have cleverly devised. These included, completely ripping off some pages of books, as well as removal of cover pages of books. It was also revealed that reference and serials materials were mostly affected amongst information resources that are lost due to theft, mutilation and vandalism. Finally, findings showed that library information resources have been reducing drastically due to loss over time.

The fifth research question sought to ascertain the effectiveness of the use of electronic security systems (ESS) in curbing theft and mutilation of information resources in academic libraries.

Findings revealed that the use of electronic security systems (ESS) was efficient and effective in securing library materials. It had:

- Led to a significant decrease in the way library materials are being stolen and mutilated by patrons;
- Created in patrons the consciousness that their activities within the library were being monitored;
- Helped to ease the routine job of the library staff, especially movements to check users within the various sections of the library as patrons' activities could be monitored using the closed circuit television cameras;
- Saved the library of money lost in replacing books. Libraries can now take care of other things.

The last question on factors influencing/motivating the use of ESS in the library, findings revealed that performance expectancy was discernible in the implementation of electronic security systems (ESS) in libraries and in easing the routine job of library staff, because it reduced their movements within some sections of the library to check the activities of clientele. It also showed that electronic security systems have the capacity to efficiently and effectively secure library materials ($\bar{x} = 4.1$).

Findings from the qualitative analysis revealed that the heads of the libraries (University Librarians) and the Information personnel attached to the libraries of the selected universities were aware of the existence of security policies in their libraries. Such security policies enhanced the use of electronic security systems in securing library and information resources. The policy has punitive measures prescribed for any patron(s) caught pilfering, mutilating and vandalising library materials. Findings revealed further that there were provisions of budgetary allocations to the libraries for various operations, including the maintenance, training, and re-training of staff in the use of electronic security systems. This was despite of inadequate funding to the libraries.

In addition, the study established that there were several factors put into consideration. These included cost of implementing electronic security systems, the after-service sales/technical support by the suppliers or vendors, value addition of installation of the ESS such as ease of library operations, ease of operating the ESS devices, functionality of the ESS, including their

strengths and weaknesses, credibility of vendor/supplier, financial involvement and technical capacity of the systems, etc. Different user education programmes for library patrons were also to be in place. The findings revealed that IT personnel were responsible for technical repairs of the electronic security systems (ESS) in their libraries and the training and re-training of library staff on the use of electronic security systems (ESS). In this regard, they updated their skills on the job regularly through attending training workshops/conferences within and outside their university environments. Findings also showed that most of them attended workshops and conferences in developed nations.

7.4 Conclusion

This section presents the conclusion of the study. The conclusion covers the following areas: demographic characteristics of respondents; electronic security systems used in libraries; extent of use of ESS; use of ESS to discourage patrons from pilfering library information resources; magnitude/immensity of loss of library materials; effectiveness of the use of ESS; and factors influencing/motivating the use of ESS in the library. The study revealed that the university libraries investigated have one form of electronic security systems in use. For instance, the most commonly used or implemented electronic security systems (ESS) in the libraries were: the closed circuit television (CCTV) cameras, radio frequency identification (RFID) system, and the electronic security gates. The result seem to suggest that the implementation of ESS in academic libraries helps to curb the menace of theft, mutilation and vandalism of library and information resources in the academic libraries, thereby, enhancing their security. Findings on the types of electronic security systems (ESS) in use in the libraries investigated seem to suggest that it is worth the effort and price to secure library information materials from external intrusion.

The findings from the second and third research questions on the extent to which electronic security systems are used to secure library materials, revealed that the electronic security systems installed in the various libraries surveyed had in-built sensors that cause the alarm device to beep at the exit gate area of the library when books not legally processed are being taken out of the library; electromagnetic strips or tattle tapes are inserted into the books that also work in consonance with the electronic security systems (ESS), especially the electronic security gates. Findings further revealed that the installation of electronic security systems (ESS) in the libraries

investigated created the awareness in the users that they were being monitored; hence, they take precautionary measures not to fall victim to the electronic security systems' (ESS) functionality. Additionally, findings revealed that the entire library collections are catalogued/automated and programmed in alignment with the security devices, and the library books are barcoded, to help discourage patrons from abusing library materials or misbehaving in the library.

The findings of the study revealed the magnitude/immensity of loss of materials through theft, mutilation and vandalism. It was discovered that theft, mutilation and vandalism had led to drastic reduction of library collections in academic libraries. The findings revealed further that library materials were stolen, with some pages of books completely ripped off, as well as cover pages removed by deviant patrons. Other disruptive behaviour of clientele according to the study included hiding library books, outright refusal to return books that were long overdue, etc.

The study revealed the effectiveness of the use of electronic security systems in safeguarding library and information (print) resources in academic libraries. It was discovered that the system was effective and efficient in securing library materials against theft, mutilation and vandalism. This corresponds with Molnar and Wagner (2004) and Muhammad (2017). Finally, findings seem to suggest that the implementation of ESS in academic libraries is of great influence in ensuring that library and information resources are secured from abuse (mutilation), vandalism and theft.

The findings on the factors influencing/motivating the use of ESS showed that UTAUT constructs were used to draw an understanding of the factors that influence/motivate use of ESS in academic libraries. Findings indicated that performance expectancy, perceived ease of use and social influence were important determinants of the installation of electronic security systems in academic libraries.

7.5 Recommendations

From the findings, it was evident that libraries investigated had one form of electronic security system (ESS) and the other to help curb theft, mutilation and vandalism of library and information resources. Security issues have become like a cankerworm that has impeded quality

library and information services delivery, it has also become the clog in the wheel of progress of libraries and librarians the world over. It was also evident that the traditional (manual) methods of safeguarding library materials have not been able to curb this menace, hence, the introduction and the implementation/installation of modern technologies (electronic security systems).

Recommendation 1: The National Universities Commission (NUC) should ensure that electronic security systems (ESS) are installed or implemented in all academic libraries (university libraries) in Nigeria to safeguard library information resources from thefts, mutilation and vandalism. This should be enshrined in the policy guiding the operations of Nigerian university systems.

Recommendation 2: The surveyed institutions should ensure that the University Management is educated on the importance of the use of electronic security systems (ESS) in the libraries and ensure that adequate funds are made available through the annual budgetary provisions.

Recommendation 3: The electronic security systems (ESS) installed in the libraries should be constantly upgraded.

Recommendation 4: The heads of the surveyed libraries (University Librarians) should create platforms where the library personnel would be educated on the importance of loyalty to their jobs and the essence of securing the library materials from being illegally taken away from the library. Moreover, the library staff should be given incentives to encourage them to be more faithful, dedicated and conscientious in the discharge of their duties.

Recommendation 5: The library management should consider publishing the names and photographs of any culprit(s) found guilty of theft of library materials in conspicuous notice boards around the university premises, including the university websites. This would dissuade others from pilfering library materials.

Recommendation 6: The library management must diligently enforce policy of theft, vandalism and mutilation of library materials. The policy clearly should stipulate the penalty to be meted to

those found illegally removing or vandalising library materials. Such punitive measures should include expulsion and dismissal. Efforts should also be made by library management to provide adequate photocopying machines within the libraries to enable patrons to make copies of library books, and at affordable prices.

Recommendation 7: Regular budgetary provision to the university libraries as contained in the policy of National Universities Commission (NUC), the regulatory body in charge of university education in Nigeria, should be enforced, thereby, compelling the parent institutions to adhere strictly to the minimum funding policy as contained in the said NUC documented policy. The parent institutions, should adequately make funds available for their libraries to enable them procure requisite materials, including the implementation of electronic security systems (ESS). Besides, the heads of the university libraries (University Librarians) should seek for external funding to augment their already limited funding from the parent institutions and government. Such funds would help in training staff and maintenance of electronic security systems (ESS).

Recommendation 8: The user education programmes organised for the clientele should be intensified, both for the students and the university faculty and staff. Moreover, orientation of users (students and staff) should be done at least twice a year, and not once at the beginning of the academic session, as is the current practice with the surveyed universities. In addition, bulletin boards should be mounted at strategic places within the libraries to contain information about library use.

Recommendation 9: The heads of libraries should get the legal department fully involved when drafting future procurement/maintenance agreements with suppliers or vendors of electronic security systems (ESS). This is to ensure that there is adequate and solid warranty to cover after-sales service/technical support for the electronic security systems (ESS).

Recommendation 10: Further studies can be done to cover other States of the region covered, as some universities may have implemented the use of ESS after this study was conducted. Subsequent studies can also be conducted to cover the students and other library clientele who are the users of the academic libraries.

7.6 Originality and Contributions of the Study

The study investigated the use of electronic security systems (ESS) in academic libraries in selected universities in South-West, Nigerian geopolitical zone. From extant literature reviewed, it was revealed that virtually all studies carried out relating to the security of information resources in Nigerian academic libraries, the safeguarding of library materials were based on manual methods (traditional ways of securing library materials). Very few studies recommended the implementation or installation of electronic security systems in libraries, but none investigated the installation of electronic security systems (ESS) and/or how the use of same has helped in curbing the menace of theft, mutilation and vandalism of library materials (Omoniyi, 2001; Oyekisu, Burair and Olusanya, 2011; Maidabino, 2012; Uzuegbu and Okoro, 2012; Okogwu and Nnam, 2013). Previous studies reviewed as far as the security of information resources in academic libraries in Nigeria is concerned, have hardly been underpinned by Unified Theory of Acceptance and Use of Technology (UTAUT). Prior studies have also not applied research paradigm(s) to address research problems in order to achieve deep understanding of the problems relating to library security. This does not however suggest that such studies were not methodologically structured. This is the point of departure between this study and past studies carried out on library security, especially in the Nigerian university libraries' context.

The study has established the significance of the use of electronic security systems (ESS) to curb the issues of theft, mutilation and vandalism of materials in academic libraries in South-West, Nigeria. The study has also brought to the fore the extent to which electronic security systems (ESS) are used in curbing the menace of theft, mutilation and vandalism of library materials in university libraries in Nigeria. The study contributes towards information and library security, as well as practice on the use of modern technologies in library security. In summary, the study contributes towards existing literature, extends the frontiers of learning and widens the horizons of research in this field and other cognate fields in the developing country's context.

7.7 Limitations and Suggestions for Further Research

The present study investigated the use of electronic security systems in academic libraries, with reference to selected universities in South-West, Nigeria. The study was limited to investigating only four institutions in South-West geo-political zone of Nigeria. However, this limitation was informed by the preliminary study carried out by the researcher which showed that only the universities surveyed had implemented electronic security systems in their libraries. Future study could cover other universities in the geo-political region as some may have implemented the use of electronic security systems (ESS) after this study was done. Furthermore, since the study was conducted only in the South-West geo-political region of Nigeria, it is recommended that further studies be extended to other geo-political regions of Nigeria. Finally, the study was limited to professional librarians and paraprofessional library staff only. However, future studies could be extended to include the library patrons, particularly the students, staff and faculty of the universities.

REFERENCES

- Abioye, A.A. and Rasaki O.E. 2013. Survey of Security Challenges in University Libraries in Southwest, Nigeria. *Library and Archival Security*, 26(1&2):1-13.
- Achebe, N. 2012. *Current Trends and Challenges in Reference and Information Services in Nigerian Libraries*. Lagos: Elis Associates, p. 247.
- Adefila, J.J. 2008. *Research Methodology in Behavioural Sciences*. Kaduna: Apani Publications.
- Adewale, T.O. and Oluwasanmi, H. 2007. Book Theft and its Prevention in Nigerian Academic Libraries. *Gateway Library Journal*, 10(1):73-84.
- Adewuyi, O.W. and Elizabeth A. Adekanye, E.A. 2011. Strategy for Prevention of Crime in Nigerian University Libraries: The Experience of the University of Lagos. *Library and Archival Security*, 24(1): 25-37. Retrieved 17 December 2017 from <https://doi.org/10.1080/01960075.2011.552315>.
- Agarwal, R. 2000. Individual Acceptance of Information Technologies, in: R.W. Zmud (Ed.) *Framing the Domains of IT Management: Projecting the Future Through the Past*. Cincinnati, OH: Pinnaflex Educational Resources, pp. 85-104.
- Aina, L. O. 2004. *Library and Information Text for Africa*. Ibadan: Third World Information Services.
- Aina, L.O. 2012. The Information Environment for Agricultural Stakeholders in Botswana. *Information Development*, 28 (2): 149-159.
- Ajala, I.O. and Oyeboade, S.A. 2008. Theft and Mutilation of Library Materials in Nigerian Academic Libraries. *Library and Archival Security*, 21(1): 21-32.
- Ajebomogun, F.O. 2004. Users Assessment of Library Security: a Nigerian University Case Study. *Library Management*, 25(8/9): 386-390
- Ajzen, I. and Fishbein, M. 1980. *Understanding Attitudes and Predicting Social Behaviour*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Ajzen, I. 1991. The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, (50): 179-211.
- Akbar, F. 2013. *What Affects Students' Acceptance and Use of Technology? A Test of*

- UTAUT in the Context of a Higher-Education Institution in Qatar* (Unpublished Senior Honours Dissertation). Carnegie Mellon University
- Akinade, E.A. and Owolabi, T. 2009. *Research Methods: A Pragmatic Approach for Social Sciences and Education*. Lagos: Connel Publications
- Akinbobola, O. I., and Adeleke, A. A. 2016. External Variables as Antecedents of Users' Perception in Virtual library usage. *Interdisciplinary Journal of Information, Knowledge and Management*, (11):73-87.
- Akinfolarin, W.A. (1992).Towards Improved Security Measures in Nigeria University Libraries. *African Journal of Library, Archives and Information Science*, 2(1): 51.
- Akintola M., Yusuf H. T. and Odutayo A. O. 2017.Universities' Sociability in Social media/ Era: Towards Sustainable University Education in Nigeria. *Nigerian Journal of Educational Technology*,1(2):27-53.
- Akor, P.U. 2013. Security Management for Prevention of Book Thefts in University Libraries: A Case Study of Benue State University Library. Nigeria. *Library Philosophy and Practice (e-journal)*. Paper 99. Retrieved 7 July 2017 from <http://digitalcommons.unl.edu/libphilprac/995/>
- Akussah, H. and Bentil, W. 2010. Abuse of Library Materials in Academic Libraries: A Study of the University of Cape Coast Main Library. *African Journal on Librarianship, Archival and Information Science*, 20(2): 103-112.
- Alatawi, F.M.H., Dwevedi, Y.K., Williams, M.D. and Rana, N.P. 2012. Conceptual Model for Examining Knowledge Management System (KMS) Adoption in Public Sector Organisations in Saudi Arabia. *tGov Workshop, '12*, Brunel University, West London.
- Allen, S.M. 1997. Preventing Theft in Academic Libraries and Special Collections. *Library & Archival Security*, 14(1): 29-43.
- Ali, M.Y. 2017. Library Book Theft and Audits in University Libraries of Pakistan. *Journal of Library Administration*, 57(1): 87-98.
- Al-Mamary, Y.H., Al-nashmi, M., Hassan, Y.A.G and Shamsuddin, A. 2016. A Critical Review of Models and Theories in Field of Individual Acceptance of Technology. *International Journal of Hybrid Information Technology*, 9(6): 143-158.
- Al-Quesi, K.I. 2009. Analyzing the Use of UTAUT Model in Explaining an Online Behaviour: Internet Banking Adoption. Unpublished PhD Thesis, Brunel University.

- Alreck, P. and Settle, R. 1995. *The Survey Research Handbook* (2nd ed.). Michigan: Irwin.
- Al-Shafi, S. and Weerakkody, V. 2009. Understanding Citizens' Behavioural Intention in the Adoption of E-Government Services in the State of Qatar. A Paper Presented at the 17th European Conference on Information Systems. Retrieved 10 February 2016 from <http://www.ecis2009.it/papers/ecis2009-0420.pdf>.
- Alshehri, M.; Drew S.; Alhussain, T. and Alghamdi, R. 2012. The Effects of Website Quality on Adoption of E-government Service: an Empirical Study Applying UTAUT Model Using SEM. A Paper Presented at 23rd Australasian Conference on Information Systems Website Quality and E-Government Service, Geelong. Retrieved 13 April 2015 from <http://arxiv.org/ftp/arxiv/papers/1211/1211.2410.pdf>.
- Al-Shubaihi, A. A. 2003. Sample Size Determination. Influencing Factors and Calculation Strategies for Survey Research. *Saudi Medical Journal*, 24 (4): 323-330.
- American Library Association. 2005. Police Investigate Book Vandalism in Northern Alabama Libraries. *American Libraries*. Retrieved 9 August 2017 from <http://www.americanlibrariesmagazine.org/archive/2005abc/march2005ab/alavandals>.
- Antonious, R. 2003. *Interpreting Quantitative Data with SPSS*. London: Sage Publications.
- Anyaeche, C. 2007. *The 2006 Nigeria Census Figures*. Retrieved 23 March 2017 from nigeriaworld.com/articles/2007/jan/112.html
- Anyaku, E.N. 2016. Librarians Conceptions of Information Literacy in Three Federal Universities in South East Nigeria: Implications for Effective Implementations of Information Literacy Programmes. *Library Philosophy and Practice (e-journal)*. Retrieved 12 November, 2018 from <http://digitalcommons.unl.edu/libphilprac/1357>
- Armitage, C.J. and Conner, M. 2001. Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review. *British Journal of Social Psychology*. 40(4): 471-499.
- Attuquayefio, S.N. and Addo, H. 2014. Using the UTAUT Model to Analyze Students' ICT Adoption. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 10 (3): 75-86
- Australian Bureau of Statistics. 2013. Statistical Language-Census and Sample. Retrieved 3 August 2015 from <http://www.abs.gov.au/websitedbs/a3121120.nsf/home/statistical+language++census+and+sample>

- Avondale College. 2017. Library Security and Procedures, Version 3.0- May 2017. Retrieved 18 September, 2018 from <http://www.avondale.edu.au/departments/library/library-security-2008-.pdf>
- Baba, M.A.K. and Tripuram, V.S.R. 2014. Implementation RFID Technology for Library Security: A Proposal of Malana Azad National Urdu University (MANUU). *International Journal of Innovative Research and Development*, 3(12): 151-157.
- Babbie, E. and Mouton, J. 1998. *The Practice of Social Research* (South African ed.). Cape Town: Oxford University Press.
- Babbie, E., Mouton, J., Vorster, P. and Prozesky, B. 2001. *The Practice of Social Research*. (Southern African Edition). Oxford: Oxford University Press.
- Babbie, E. and Mouton, J. 2003. *The Practice of Social Research* (South African ed.). Cape Town: Oxford University Press.
- Bagozzi, R. P., Davis, F. D., and Warshaw, P. R. 1992. Development and Test of a Theory of Technological Learning and Usage. *Human Relations*, 45(7): 660–686.
- Baines, T.S., Lightfoot, H.W., Evans, S., Neely, A., Greenough, R. Peppard, J., Roy, E.; Shehab, A., Tiwari, A., Braganza, A., Lockett, H., Martinez, V., Michele, P., Tranfied, D., Walton, I.M., and Wilson, H. 2007. State-of-the-Art in Product-Service Systems. *Proceedings of the Institution of Mechanical Engineers, Part B, Journal of Engineering Manufacture*, 221(10). Retrieved 18 October 2017 from <https://doi.org/10.1243/09544054JE858>
- Bandura, A. 1986. *Social Foundations of Thought and Action: A Social Cognitive Theory*, Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. 1989. Human Agency in Social Cognitive Theory. *American Psychologist*, (44): 1175–1184.
- Bandura, A. 2005. The Evolution of Social Cognitive Theory. In K.G. Smith and M.A. Hitt (Eds.) *Great minds in management*. Oxford: Oxford University Press, 9-35.
- Bandura, A. (2006). On Integrating Social Cognitive and Social Diffusion Theories. In A. Singhal and J. Dearing (Eds.), *Communication of Innovations: A Journey with Rogers*, Beverley Hills: Sage Publications, pp.111-135.
- Barnett, W. and Presley, A. 2004. Theory of Planned Behaviour Model in Electronic Learning: A Pilot Study. *Issues in Information Systems*, 5(1): 22-28.

- Baro, E., Idodi, E. and Godfrey, Z. 2013. Awareness and Use of Web 2.0 Tools by Librarians in University Libraries in Nigeria. *Systems & Services*. 29 (3). Retrieved 12 November, 2018 from https://www.researchgate.net/publication/263226474_Awareness_and_use_of_Web_2_0_tools_by_librarians_in_university_libraries_in_Nigeria
- Basbanes, N. A. 1995. *A Gentle Madness*. New York: Henry Holt and Company.
- Bechhofer, F. and Paterson, L. 2012. *Principles of Research Design in the Social Sciences*. London: Routledge.
- Behrens, S., Jamieson, K., Jones, D. and Cranston, M. 2005. Predicting System Success Using the Technology Acceptance Model: A Case Study. 16th Australasian Conference on Information Systems Predicting Success using TAM 9 Nov – 2 Dec, Sydney. Retrieved 19 November 2015 from <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1181&context=acis2005>.
- Bello, A.S. 2001. Library Use Malpractices: A Case Study of the Polytechnic Ibadan. *Nigerian Libraries*, 35(1): 23-32.
- Bertram, C. and Christiansen, I. 2010. *Understanding Research* (3rd ed.). Pietermaritzburg: Faculty of Education, University of KwaZulu-Natal.
- Beveridge, S., Weber, S. and Beveridge, A.A. 2011. *Librarians in the US. From 1880-2009*. OUPblog (blog). Retrieved 23 November, 2018 from <http://blog.oup.com/2011/06/librarian-census/>
- Bhandarkar, P.C. and Wilkinson, T.S. 2010. *Methodology and Techniques of Social Research*. Mumbai: Himalaya.
- Bhattacharjee, A. 2012. *Social Science Research: Principles, Methods, and Practices*. Florida: Global Text Project Publishers.
- Blaikie, N. 2007. *Classical Research Paradigms, Approaches to Social Enquiry*, Cambridge: Polity Press.
- Blaikie, N. 2010. *Designing Social Research*. (2nd ed.) Cambridge: Polity Press.
- Blanche, M.J.T., Durrheim, K., Painter, D. 2006. *Research in Practice. Applied Methods for The Social Sciences*. Cape Town: UCT Press.
- Bluff, R. 1997. Evaluating Qualitative Research. *British Journal of Midwifery*. 5(4):232–35.
- Bobbitt, L.M. and Dabholkar, P.A. 2001. Integrating Attitudinal Theories to Understand and

- Predict Use of Technology-Based Self-Service: The Internet as an Illustration. *International Journal of Service Industry Management*, 12 (5): 423–450.
- Boote, D.N. and Beile, P. 2005. Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation. *Educational Researcher* 34(6): 3-15.
- Bosnjak, M., Tuten, T.L. and Wittman, W.W. 2005. Unit (Non) Response in Web-based Access Panel Surveys: An Extended Planned-Behaviour Approach. *Psychology and Marketing*, 22 (6): 489-505.
- Boss, R. W. 2003. RFID Technology for Libraries. *Library Technology Reports*, November-December 2003. Retrieved 12 February 2017 from <https://journals.ala.org/index.php/ltr/about/editorialPolicies#publicationFrequency>
- Boston University School of Public Health. 2018. The Social Cognitive Theory. Retrieved 14 December, 2018 from <http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories5.html>
- Braun, V. and Clarke, V. 2006. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2): 77-101.
- Brink, H., Walt, C. V., and Rensburg, G. V. 2012. *Fundamentals of Research Methodology for Healthcare Professionals* (3rd ed.). Cape Town: Juta Publishers.
- Brown, R.A., Wolski, M. and Richardson, J. 2015. Developing New Skills for Research Support Librarians. *The Australian Library Journal*, 64(3): 224-234.
- Brown, S.A. and Venkatesh, V. 2005. A Model of Adoption of Technology in the Household: a Baseline Model Test and Extension Incorporating Household Life Cycle. *Management Information Systems Quarterly*, 29 (3): 399-426.
- Brunton, C. 2005. The Effects of Library User-Education Programmes on the Information-Seeking Behaviour of Brisbane College of Theology Students. *Journal of Religious and Theological Information*, 7(2): 55-74.
- Bryman, A. 2008. *Social Research Methods* (3rd ed.) Oxford: Oxford University Press.
- Burns, N. and Grove, S. K. 2011. *Understanding nursing research* (5th ed.). Philadelphia: Saunders Publishers.
- Burrell, G. and Morgan, G. 1979. *Sociological Paradigms and Organisational Analysis: Elements of Corporative Life*. London Exeter: Heinemann.

- Burrows, T. R. 1997. Reference Groups of Future Oriented Men. *Journal of Social Forces*, (34):110-125.
- Butters, A. 2007. RFID Systems, Standards and Privacy within Libraries. *Electronic Library*, 25(4): 430-439.
- Byrne, M. 2001. Evaluating the Findings of Qualitative Research. *Association of Operating Room Nurses Journal*, 73(3):703–6.
- Campbell, D. 1963. Social Attitudes and other Acquired Behavioural Dispositions. In S. Koch (Ed.), *Psychology: A Study of a Science*, Vol. 6, pp. 94-172. New York: McGraw-Hill.
- Chau, P.Y.K. and Hu, P.J.H. 2001. Information Technology Acceptance by Individual Professional: a Model Comparison Approach. *Decision Sciences*, 32 (4): 699-719.
- Chau, P.Y.K., and Hu, P.J. 2002. Examining a Model of Information Technology Acceptance by Individual Professionals: An Exploratory Study. *Journal of Management Information Systems* 18 (4): 191-229.
- Chen P. 2002. Virtual Representation: Australian Elected Representatives and the Impact of the Internet. *The Journal of Information, Law and Technology*, Vol.3 (JILT). Retrieved 11 August 2016 from www2.warwick.ac.uk/fac/soc/law/elj/jilt/2002_3/chen/
- Chen, C. F. and Chao, W. H. 2011. Habitual or Reasoned? Using the Theory of Planned Behaviour, Technology Acceptance Model, and Habit to Examine Switching Intentions Toward Public Transit. *Transportation Research Part F: Traffic Psychology and Behaviour*, 14(2): 128-137.
- Clark, A. M. 1998. The Qualitative-Quantitative Debate: Moving from Positivism and Confrontation to Post-Positivism and Reconciliation. *Journal of Advanced Nursing*, (27):1242-1249.
- Cocosila, M., Archer, N. and Yuan, Y. 2009. Early Investigation of New Information Technology Acceptance: A Perceived Risk-Motivation Model. *Communication of the Association of Information Systems*, 25 (30), 334–349.
- Compeau, D., Higgins, C. and Huff, S. 1999. Social Cognitive Theory and Individual Reactions to Computing Technology: A Longitudinal Study, *MIS Quarterly* 23(2): 145-158.
- Compeau, D. and Higgins, C. 1995. Computer Self-Efficacy: Development of a Measure and

- Initial Test, *MIS Quarterly* 19 (2), 189-211.
- Connelly, L.M. 2013. Demographic Data in Research Studies. *Medsurg Nursing*, 22(4): 269-270.
- Cotterall, S. 2011. Doctoral Students Writing: Where's the Pedagogy? *Teaching in Higher Education*, 16 (4): 413-425.
- Cravey, P. 2001. Protecting Library Staff, Users, Collections, and Facilities. New York, NY: Neal-Schuman Publishers, Inc.
- Creswell, J.W. 2003. Research design: Qualitative, Quantitative and Mixed Methods Approaches (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J.W. and Plano Clark, V.L. 2011 Designing and Conducting Mixed Methods Research. 2nd ed.). Los Angeles: Sage Publication.
- Creswell, J. W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approach* (3rd ed.). Los Angeles: Sage Publications.
- Creswell, J. W. 2013. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks. CA: Sage Publications.
- Curtis, L., Edwards, C., Fraser, K.L., Gudelsky, S., Holmquist, J., Thornton, K. and Sweetser, K.D. 2010. Adoption of Social Media for Public Relations by Non-Profit Organisations. *Public Relations Review*, 36(1): 90-92.
- Davis, F.D. 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13 (3): 319-340.
- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. 1989. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science* (35): 985-1003.
- Davis, F.D., and Warshaw, P.R. 1992, Extrinsic and Intrinsic Motivation to Use Computers In the Workplace. *Journal of Applied Social Psychology* 22 (14): 1111-1132.
- Deci, E. L., Connell, J. P., & Ryan, R. M. 1989. Self-Determination in a Work Organization. *Journal of Applied Psychology*, 74(4): 580-590.
- Delaney, G. and Bates, J. 2014. Envisioning the Academic Library: A Reflection on Roles, Relevancy and Relationships. *New Review of Academic Librarianship*, 21(1): 30-51.
- Denscombe, M. 2014. The Good Research Guide: for Small-Scale Social Research Projects. London: McGraw-Hill Education.
- Dillon, A. and Morris, M. 1996. User Acceptance of New Technology: Theories and Models.

- In: M. Williams (ed.) *Annual Review of Information Science and Technology* Vol 31. Medford, NJ: Information Today.
- Dills, C. R. and Romiszowski, A. J. 1997. The Instructional Development Paradigm: An Introduction. In C.R. Dills, and A. J. Romiszowski (Eds)., *Instructional Development Paradigms*. Englewood, New Jersey: Educational Technology Publications, Inc.
- Dombeck, M. 2008. Learning Theory. Mental Help Net: Psychotherapy. Retrieved 28 August 2016 from http://www.mentalhelp.net/poc/view_doc.php?type=doc&id=9285/
- Downard, K. 1992. User Education in Academic Libraries. *Library Management*, 13(3): 29-38.
- Dulle, F.W. and Minishi-Majanja, M.K. 2011. The Suitability of the Unified Theory of Acceptance and Use of Technology (UTAUT) Model in Open Access Adoption Studies. *Information Development* 27 (1): 32-45.
- Durojaiye, A.M., Yusuf, S.A. and Balogun, O.L. 2014. Determinants of Demands for Microcredit Among Grain Traders in South Western State, Nigeria. *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, 7(11):1-7.
- Dwivedi, Y. K., Williams, M. D., and Lal, B. 2008. The Diffusion of Research on the Adoption and Diffusion of Information Technology. In *Open IT-Based Innovation: Moving Towards Cooperative IT Transfer and Knowledge Diffusion* (pp. 3-22). Springer, US.
- Eberhart, G. M. (2003). Kenyon College wins \$1-million theft judgment. *American Libraries*, 34 (6): 20.
- Eckhardt, A., Laumer, S. and Weitsel, T. 2009. Who Influences Whom? Analysing Workplace Referents' Social Influence on IT Adoption and Non-adoption. *Journal of Information Technology*, 24 (1): 11-24.
- Emojorho, D. and Adomi, A. 2006. An Assessment of the Use of Information Technology Facilities for Academic Pursuit. *The Electronic Library*, 24 (5): 706-713.
- Engels, E. 2006. RFID Implementation in California Libraries: Costs and Benefits. Sacramento, CA: California Library Association. Retrieved 24 August 2017 from <http://www.clanet.org/included/docs/IT3.pdf>.
- Fasae, J.K. and Adedokun, F.O. 2016. Abuse of Information Materials in Academic Libraries By Students of Tertiary Institutions in Ekiti State, Nigeria. *Library Philosophy and*

- Practice (e-journal)*. Retrieved 12 July 2017 from <http://digitalcommons.unl.edu/libphilprac/1426/>.
- Fincham, J.E. 2008. Response Rates and Responsiveness for Surveys, Standards, and the Journal. *American Journal of Pharmaceutical Education*, 72(2): 43.
- Fishburn, M. 2008. Burning books. New York, NY: Palgrave Macmillan.
- Fossey, E., Harvey, C., McDermott, F., and Davidson, L. 2002. Understanding and Evaluating Qualitative Research. *Australian and New Zealand Journal of Psychiatry*, (36): 717–32.
- Fox, E. and ElSherbiny, N. 2011. Security and Digital Libraries, Digital Libraries-Methods and Applications. In Kuo, H.H. (Ed.) InTech. Retrieved 23 September 2018 from <http://www.intechopen.com/articles/show/title/security-and-digital-Libraries>.
- Franklin, M. I. 2013. *Understanding Research: Coping with Quantitative-Qualitative Divide*. London: Routledge.
- Gadekar, S.J., and Golwal, M.D. 2013. Illegal Practices in Engineering College Libraries. *Online International Interdisciplinary Research Journal*, 3(6): 461-470.
- Gage, N. L. 1989. The Paradigm Wars and their Aftermath: A “Historical” Sketch of Research on Teaching Since 1989. *Educational Researcher*, 18(7): 4-10.
- Galhotra, M.K. and Galhotra, A.M. 2009. Application of Radio Frequency Identification Technology in Libraries. *DESIDOC Journal of Library & Information Technology*, 29(3): 59-64.
- Gastel, B. (2012). Preparing the Literature Review Section of a Dissertation. Retrieved 14 September 2016 from <http://www.authoraid.info/resource-library/preparing-the-literature-review-section-of-a-dissertation>.
- Gefen, D., Karahanna, E. and Straub, D.W. 2003. Trust and TAM in Online Shopping: an Integrated Model. *MIS Quarterly*, 27 (1): 51-90.
- Gelernter, J. 2005. Loss Prevention Strategies for the 21st Century Library: Why Theft Prevention should be High Priority. *Information Outlook* 9(12):12-22.
- Gentry, L. and Calantone, R. 2002. A Comparison of Three Models to Explain Shop-Bot Use on the Web. *Psychology and Marketing*, 19 (11): 945-956.
- Ghobakloo, M., Zulkiflu, N.B. and Aziz, F.A. 2010. The Interactive Model of User Information Technology Acceptance and Satisfaction in Small and Medium-sized

- Enterprises. *European Journal of Economics, Finance and Administrative Sciences*, (19):7-27.
- Gibb, F., Thornley, C., Ferguson, S., and Weckert, J. 2011. The Application of RFIDs in Libraries: an Assessment of Technological, Management and Professional Issues. *International Journal of Information Management*, 31(3): 244-251
- Goel, M. L. 1988. *A Methods Handbook: Political Science Research*. Iowa: Iowa State University Press.
- Godin, G. 1994. Theories of Reasoned Action and Planned Behaviour: Usefulness for Exercise Promotion. *Medicine and Science in Sports and Exercise*, 26 (11): 1391-1394.
- Grandon, E.E. and Mykytyn, P.P. 2004. Theory-Based Instrumentation to Measure The Intention to Use Electronic Commerce in Small and Medium Sized Businesses. *The Journal of Computer Information Systems*. 44 (3): 44-57.
- Guba, E.G. 1990. *The Paradigm Dialog*. California: Sage Publications.
- Guba, E.G. and Lincoln, Y. S.1996. Competing Paradigms in Qualitative Research. In Denzin & Lincoln (Eds.), *Handbook of Qualitative Research*. USA: Sage Publishers.
- Guest, G., Bunce, A. and Johnson L. 2006. How Many Interviews are Enough? An Experiment with Data Saturation and Variability. *Field Methods*, 18(1):59-82.
- Hansen, T., Jensen, J.M. and Solgaard, H.S. 2004. Predicting Online Grocery Buying Intention: a Comparison of the Theory of Reasoned Action and the Theory of Planned Behaviour. *International Journal of Information Management*, 24(6): 539–550
- Harwell, J.H. 2014. Library Security Gates: Effectiveness and Current Practice. *Journal of Access Services*, 11(2):53-65.
- Hasan, N. 2012. Roadmap for RFID Implementation in Libraries: Issues and Challenges. *Journal of Library Information Science*, 1(1): 1-17.
- Hasim, M.S. and Salman, A. 2010. Factors Affecting Sustainability of Internet Usage Among Youth. *The Electronic Library*, 28 (2): 300-313.
- Heffner, C.L. 2014. Historical Research. Retrieved 22 December 2016 from <http://allpsych.com/researchmethods/historicalresearch/>
- Hess, D. 2004. How to Write an Effective Discussion. *Respiratory Care*. 49 (10): 1238-41.
- Higgins, S.P. 2015. Theft and Vandalism of Books, Manuscripts, and Related Materials in

- Public and Academic Libraries, Archives, and Special Collections. *Library Philosophy and Practice (e-journal)*. Retrieved October 2016 from <http://digitalcommons.unl.edu/libphilprac/1256>.
- Hjorland, B. 2005. Empiricism, Rationalism and Positivism in Library and Information Science. *Journal of Documentation*, 61(1): 130–155.
- Hoskins, R. and Stilwell, C. 2011. Library Funding and Journal Cancellations in South African University Libraries. *South African Journal of Libraries and Information Science*, 77(1): 51-61.
- Hsu, M. and Chiu, C. 2004. Predicting Electronic Service Continuance with a Decomposed Theory of Planned Behaviour. *Behaviour & Information Technology*, 23(5):359-373.
- Hughes, J. 1980. *The Philosophy of Social Research*. London: Longman Publishers.
- Hussey, J and Hussey, R. 1997. *Business Research: A Political Guide for Undergraduate and Postgraduate Students*. London: Macmillan Press.
- Idris, M., Hassan, U. and Abdul-Qadir, F. 2013. Theft and Mutilation of Library Materials in Academic Libraries: The Case Study of Kano University of Science and Technology, Wudil, Kano State, Nigeria. *Journal of Research in Education and Society*, 4(3): 63-71.
- Ifidon, S.E. 2006. *Essentials of African University Library Management*. (2nd ed.). Lagos: The National Library Press Ltd.
- Ifidon, S.E. and Ifidon, E. 2007. *Basic Principles of Research Methods*. Benin City: Goodnews Express Communications.
- Ifijeh, G.I. 2011. Assessing Faculty Use of University Library Collection and Services in Nigeria: A Case Study of Covenant University, Ota. *Library Philosophy and Practice (e-journal)*. Retrieved 23 January 2018 from <http://www.webpages.uidaho.edu/~mbolin/ifijeh.htm>.
- Isebe, L.E.M. 2014. Causes and Effects of Theft and Mutilation of Information Material in Academic Library Services in Delta State. *Information and Knowledge Management*. 4(10): 76-82.
- Isebe, L.E.M. 2015. Vandalism of Information Materials in Colleges of Education in Delta State. *International Journal of Library and Information Science Studies*, 1(1):1-11.
- Israel, G.D. 1992. *Sampling the Evidence of Extension Program Impact: Program Evaluation and Organizational Development*, IFAS, University of Florida. PEOD-5.

October.

- Jang, H.Y. and Noh, M.J. 2011. Customer Acceptance of IPTV Service Quality. *International Journal of Information Management*. 31(6): 582-592.
- Jankowska, MA. 2004. Identifying University Professors' Information Needs in the Challenging Environment of Information and Communication Technologies. *The Journal of Academic Librarianship*, 30(1):51-66.
- Jato, M. 2005. Causes and Effect of Delinquent Behaviour in Academic Libraries: Kenneth Dike Library as a Case Study. *Owena Journal of Library and Information Science*, 2(1): 25-34.
- Jharotia, A.K. 2010. RFID Technology: Security System in Modern Libraries. *International Journal of Librarianship and Administration*, 1 (1): 31-43
- Johnson, R.B., Onwuegbuzie, A.J., and Turner, L.A. 2007. Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*. 1, 112-134
- Johnson, T. P., and Wislar, J. S. (2012). Response Rates and Nonresponse Errors in Surveys. *Journal of the American Medical Association*, 307(17): 1805-1806.
- Johnson, T., and Owens, L. 2003. Survey Response Rate Reporting in the Professional Literature. In *58th Annual Meeting of the American Association for Public Opinion Research, Nashville* (Vol. 2003). Retrieved 18 October 2018 from <https://ww2.amstat.org/sections/srms/Proceedings/y2003/Files/JSM2003-000638.pdf>
- Ka, Y.O. and Lorraine, W. 2015. A Modified Innovation Model for E-Trading Systems in South Korean Businesses. *Business Process Management Journal*, 21(6): 1319 – 1336.
- Kaufman, P. 2005. Role and Mission of Academic Libraries: Present and Future. *Japan Association of Private University Libraries Symposium*, Held at Kansai University 18 November 2005. Retrieved 29 June 2015 from <https://www.ideals.illinois.edu/bitstream/handle/>
- Kavulya, J.M. (2014) Use of RFID Technology in Libraries: A Perspective from the Catholic University of Eastern Africa (CUEA), Nairobi. *Proceedings and Report of the 7th UbuntuNet Alliance Annual Conference*, 2014, pp.133-142.
- Kelley, K., Clark, B., Brown, V. and Sitzia, J. 2003. Good Practice in the Conduct and

- Reporting of Survey Research. *International Journal for Quality in Health Care* 15 (3): 261-266.
- Kelsey, P. 2009. Profiles of Best Practices in Academic Library Interlibrary Loan. London: Emerald Group Publishing Limited.
- Kieserman, R.H. 2014. Exploring the Question: who is a Librarian? The Bottom Line: Managing Library Finances, 27(1): 26 – 28.
- Kerlinger, F. N. 1979. Behavioural Research: A Conceptual Approach. New York: Holt, Rinehart and Winston.
- Kern, C. 2004. Radio Frequency Identification for Security and Media Circulation in Libraries. *The Electronic Library*, 22(4):317-324.
- Koehler, W.C., Hurych, J.M., Dole, W.V. and Wall, J. 2000. Ethical Values of Information and Library Professionals — an Expanded Analysis. *The International Information & Library Review*, 32 (3-4): 485-507
- Koivumaki, T., Ristola, A. and Kesti, M. 2008. The Perceptions Towards Mobile Services: An Empirical Analysis of the Role of Facilitators. *Personal and Ubiquitous Computing*, 12(1): 67-75.
- Kotler, P. and Armstrong, G. 2006. *Principles of Marketing*. (11th ed.) New Jersey: Pearson Prentice Hall.
- Kraft, P., Rise, J., Sutton, S. and Roysamb, E. 2005. Perceived Difficulty in the Theory of Planned Behaviour: Perceived Behavioural Control or Affective Attitude? *British Journal of Social Psychology*. 44 (3): 479-496.
- Kripanont, N. 2007. Examining a Technology Acceptance Model of Internet Usage by Academics within Thai Business Schools. Thammasat University, Thailand, an Unpublished PhD Thesis.
- Kumar, R. 1999. Research Methodology: a Step-by-Step Guide for Beginners. London: Sage Publications.
- Kumar, N. 2014. Library Security Through Networking of CCTV Surveillance: A Study of Sikkim University, Sikkim. Retrieved 13 October 2015 from <http://hdl.handle.net/1944/1798>
- Kumar, R. 2005. *Research Methodology: A Step-by-Step Guide for Beginners*. Second

Edition London: Sage Publications Ltd.

- Kumar, B.R. and Phil, M. 2009. User Education in Libraries. *International Journal of Library and Information Science*. 1(1): 001-005 June, 2009
- Kumbhar, K.N. and Veer, D.K. 2016. Study of Security System Used in College Libraries. *International Journal of Research in Library Science*, 2(1):1-8.
- Lai, D. C. F., Lai, I. K. W. and Jordan, E. 2009. An Extended UTAUT Model for the Study of Negative User Adoption Behaviours of Mobile Commerce. *The 9th International Conference on Electronic Business, Macau*, November 30 – December 04, 2002.
Retrieved 22 July 2016 from <http://iceb.ncu.edu.tw/proceedings/2009/720-728.pdf>.
- Lapan S.D., Quartaroli, M.T., and Riemer, F.J. 2012. *Qualitative Research: An Introduction to Methods and Design*. San Francisco, CA: John Wiley & Sons.
- Lather, P. 1986. Research as Praxis. *Harvard Educational Review* 56(3): 257-276
- Lavrakas, P.J. 2008. *Encyclopedia of Research Methods*. London: Sage Publications.
- Lee, Y.H., Hsieh, Y., C., and Hsu, C.N. 2011. Adding Innovation Diffusion Theory to the Technology Acceptance Model: Supporting Employees' Intentions to use E-Learning Systems. *Educational Technology & Society*, (14)4: 124–137.
- Legris, P., Ingram, J. and Colletrette, P. 2003. Why Do People Use Information Technology? A Critical Review of the Technology Acceptance Model. *Information & Management*, 40 (3):191-204.
- Leonard, L.N.K., Cronan, T.P. and Kreie, J. 2004. What Influences IT Ethical Behaviour Intentions—Planned Behaviour, Reasoned Action, Perceived Importance, or Individual Characteristics? *Information & Management*, 42 (1): 143-158.
- Li, L. 2010. A Critical Review of Technology Acceptance Literature. Retrieved 13 July 2016 from http://www.swdsi.org/swdsi2010/sw2010_preceedings/papers/pa104.pdf.
- Limayen, M. and Hirt, S.G. 2003. Force of Habit and Information Systems Usage: Theory and Initial Validation. *Journal of the Association for Information Systems*, 4 (1): 65-97.
- Lincoln, A. J. and Lincoln, C. Z. 1987. *Library Crime and Security: An International Perspective*. New York: Haworth.
- Lindquist, M.G. (2003). RFID in Libraries: Introduction to the Issues. *World Library and Information Congress: 69th IFLA General Conference and Council, 1-9 August 2003*. Retrieved 13 August 2017 from <http://www.ifla.org/IV/ifla69/papers/161e-Lindquist.pdf>.

- LoBiondo-Wood, G. and Haber, J. 2014. *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice*. Missouri : Elsevier.
- Lorenzo, M.G. 1996. Security Issues of Academic Libraries. *A Seminar Paper Presented to the Faculty of College of Education, Ohio University*. Retrieved 25 May 2015 from <http://www.eric.ed.gov/EricDocs/data/ericdocs2sq/content>.
- Lori, B.A. 2004. RFID and Libraries. Retrieved 15 June 2010 from http://www.galecia.com/included/docs/position_rfid_permission.pdf.
- Lwin, M.O. and Williams, J.D. 2003. A Model Integrating the Multidimensional Developmental Theory of Privacy and Theory of Planned Behaviour to Examine Fabrication of Information Online. *Marketing Letters*, 14(4): 257-272.
- McCahill, M.N and Norris P. 2002. Electronic Security: A case Study of IIT, *Bombay Central Library, Proceedings of the CALIBER 3*. Retrieved 2 August 2015 from www.library.iitb.ac.in/-mnj/caliber3.pdf.
- Machi, L.A. and McEvoy, B.T. 2012. *The Literature Review: Six Steps to Success*. London: Sage publications.
- Madu, E.C. (2010) Perception of Nigerian Lawyers About the use of ICTs in Law Firms: the Imo State Example. *Information Impact: Journal of information and knowledge Management*, 1(3):1-8.
- Maidabino, A.A. 2010. Collection Security Issues in Malaysian Academic Libraries: an Exploratory Survey. *Unpublished Master Dissertation*, Faculty of Computer Science and Information Technology, University of Malaya, Malaysia.
- Maidabino, A.A. 2012. Theft and Mutilation of Print Collections in University Libraries: a Review of Literature and Proposed Framework of Action. *Annals of Library and Information Studies*, (51): 240-246.
- Makori, E. O. 2013. Adoption of Radio Frequency Identification Technology in University Libraries: A Kenyan Perspective. *The Electronic Library*, 31(2): 208-216.
- Maponya, P.M. 2004. Knowledge Management Practices in Academic Libraries: a Case Study of the University of Natal, Pietermaritzburg. Retrieved 25 May 2015 from <https://www.researchgate.net/publication/22858195/>
- Marler, J. and Dulebohn, J.H. 2005. A Model of Employee Self-Service Technology Acceptance. In Martocchio, J.J. (Ed.), *Research in Personnel and Human Resource*

- Management*, Vol. 24, JAI, Greenwich, CT, pp. 139-182.
- Mathieson, K. 1991. Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behaviour. *Information Systems Research*, 2(3):173-191
- Maxfield, M. G., and Babbie, E. R. 2015. *Research Methods for Criminal Justice and Criminology* (7th ed.). Stamford, CT: Cengage Learning.
- Mbachu, O. 2005. *Social Science research Methods: for Policy and Strategic Studies*. Kaduna: Medusa Academic Publishers Limited.
- McCahill, M.N and Norris P. 2002. Electronic Security: A case Study of IIT, *Bombay Central Library, Proceedings of the CALIBER 3*. Retrieved 2 August 2015 from www.library.iitb.ac.in/-mnj/caliber3.pdf.
- McComb, M. 2004. *Library Security*. San Francisco: RLS Inc.
- McComb, M. and Libris Design Project. 2004. *Library Security*. Cerritos, Calif: Libris Design Project. Retrieved 23 May 2016 from <http://www.librisdesign.org/docs/LibrarySecurity.pdf>.
- McMillan, J. H. and Schumacher, S. 2001. *Research in Education: a Conceptual Introduction*. (5thed.) New York: Longman Inc.
- Md Nor, K., Abu Shanab, E. and Pearson, J.M. 2008. Internet Banking Acceptance in Malaysia Based on the Theory of Reasoned Action. *Journal of Information Systems and Technology Management*, 5(1): 3-14.
- Meetoo, D. and Temple, B. 2003. Issues in Multi-Method Research: Constructing Self-Care. *International Journal of Qualitative Methods*, 2(3). Retrieved 21 January 2018 from http://www.ualberta.ca/iqmq/backissues/2_3final/html/meetootemple.html.
- Michalko, J., and Heidtmann, T. 1978. Evaluating the Effectiveness of an Electronic Security System. *College and Research Libraries*, 39(4): 263-267.
- Mikkelsen, B. 2005. *Methods for Development Work and Research: A New Guide for Practitioners*. (2nd ed.). London: Sage Publication.
- Miller, J. and Khera, O. 2010. Digital Library Adoption and the Technology Acceptance Model: A Cross-Country Analysis. *The Electronic Journal of Information Systems in Developing Countries*, 40 (6):1-19.
- Mohamed-Arraid, A. 2011. Information Needs and Information Seeking Behaviour of Libyan

- Doctors Working in Libyan Hospitals. (Unpublished Doctoral Thesis), Loughborough University.
- Molnar, D. and Wagner, D.A. 2004. Privacy and Security in Library RFID: Issues, Practice and Architectures. *CSS '04 Proceedings of the 11th ACM Conference on Computer and Communication Security*. Retrieved 24 May 2016 from <http://www.cs.berkeley.edu/dmolnar/library.pdf>.
- Momodu, M.A. 2002. Delinquent Readership in Selected Urban Libraries in Nigeria. *Library Review*, 51(9):469-473.
- Montano, D. E. and Kasprzyk, D. 2002. The Theory of Reasoned Action and the Theory of Planned Behaviour. In K. Glanz, B. K., Rimer, and F. M. Lewis (Eds.), *Health Behaviour and Health Education: Theory, Research and Practice*. San Francisco: Jossey Bass.
- Mores, J. 1995. The Significance of Saturation. *Qualitative Health Research* (5): 147–49.
- Morris, M.G., Venkatesh, V. and Ackerman, P.L. 2005. Gender and Age Differences in Employee Decisions About New Technology: An Extension to the Theory of Planned Behaviour. *IEEE Transactions on Engineering Management*, 52(1):69-84.
- Moyane, S.M.; Dube, L.; and Hoskins, R. 2015. Evaluating User Education Programmes for Postgraduate Students in the School of Management, Information Technology and Governance at the University of KwaZulu-Natal. *South African Journal of Libraries and Information Science*, 81(1):28-40.
- Mpoeleng, D., Totolo, A., and Jibril, L. 2015. Perceptions of University of Botswana Librarians on the Potential of Web 2.0 Tools. In IFLA WLIC, Cape Town.
- Muhammad, Y.A. 2017. Library Book Theft and Audits in University Libraries of Pakistan. *Journal of Library Administration*, 57(1): 87-98.
- Mutula, S.M. 2008. Supply-Demand Gaps in Meeting Research Needs in Networked Environment: Challenges for Academic Libraries. *Stellenbosch Library 2008 Symposium-Stellenbosch University*. Retrieved 16 February 2015 from <http://www.lib.su.ac.za/symposium/sym2008/.../Mutula-Stellenbosch2008.pp>
- Myers, M. 1997. Interpretive Research in Information Systems. In J. Mingers and F. Stowell (Eds.), *Information Systems: An Emerging Discipline?* London: McGraw-Hill.
- Narayanan, A., Sanjay, A., and Somasekharan, M. 2005. Implementing RFID in Library:

- Methodologies, Advantages and Disadvantages. Retrieved 7 November 2018 from <http://library.igar.gov.in/readit-2005/conpro/Igw/s5-8.pdf>.
- Neuman, W. L. 2006. *Social Research Methods: Qualitative and Quantitative Approaches* (4th ed.). Boston: Allyn and Bacon.
- Neuman, W. L. 2007. *Basics of Social Research: Qualitative and Quantitative Approaches* (2nd International ed.). Boston, Mass; London: Pearson, Allyn and Bacon.
- Neuman, WL. 2011. *Social Research Methods: Qualitative and Quantitative Approaches*. (7th ed.) Boston: Pearson.
- Ngulube, P. 2005. Research Procedures 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 Rates: a Methodological Discourse. *The International Information & Library Review*, 37(2): 127-143.
- Nisha, F.; Bakhshi, S.I.; and Ali, P.M.N. 2006. RFID System: A Boon for Librarians. 4th International Convention CALIBER, Gulbarga, 2-4 February, 2006. Retrieved 28 January 2019 from www.researchgate.net/publication/228959170_Rfid_System_A_Boon_for_Librarians
- Nwalo, K.I. 2003. *Fundamentals of Library Practices: A Manual on Library Routines*. Lagos: Hoder Nig. Publishers Ltd.
- Nwamefor, R.1974. Security Problems of University Libraries in Nigeria. *Library Association Record*, 76(12): 244-245.
- NUC Bulletin, 2014. Retrieved 23 September 2014 from <http://nuc.edu.ng/>
- Nulty, D. D. 2008. The Adequacy of Response Rates to Online and Paper Surveys: What can be Done? *Assessment & Evaluation in Higher Education*, 33(3), 301-314.
- Obikoya, A. 1993. Theft and Mutilation in Academic Libraries: A Case of the Polytechnic Library, Ibadan. *Nigerian Libraries*, (27): 33-41.
- Ogbodo, C.I. 2011. Security of Information Sources in Libraries of Government Owned Polytechnics in South East Nigeria. *Journal of Research in Education and Society*, 2(2): 40-46.
- Ogbonyomi, A.L. 2011. Security and Crime Prevention in Academic Libraries: A Case Study of the Kano State College of Education, Kano, Nigeria. *Library*

- Philosophy and Practice*. Retrieved 23 June 2015 from <http://www.webpages.uidaho.edu~mbolin/ogbonyomi.htm>.
- Ogunlana, K., Okunlaya, R.O.A., Ajani, F.O., Okunoye, T. and Oshinaike, A.O. 2013. Indices of Job Stress and Job Satisfaction Among Academic Librarians in Selected Federal Universities in South West Nigeria. *Annals of Library and Information Studies*. 60(3):212-218
- Ogunyade, T. O. 2005. Theft and Mutilation in an Academic Library: College of Medicine, University of Lagos Experience, Nigeria. *Nigerian Quarterly Journal of Hospital Medicine*, 15(2):83-86.
- Oh, J., Yoon, S. and Park, B. 2012. A Structural Approach to Examine the Quality Attributes of E-Shopping Malls Using the Kano Model. *Asia Pacific Journal of Marketing and Logistics*, 24 (2), pp. 305-327.
- Okebaram, S.M.2014. *Research Methodology for Business and Social Science: an Expository Viewpoint*. Enugu: John Jacobs Classic Publishers.
- Okiy, R.B. 2005. Funding Nigerian Libraries in the 21st Century: will Funding from Alternative Sources Suffice? *The Bottom Line: Managing Library Finances*, 18(2): 71-77
- Okogwu, F.I and Nnam, U M. 2013. The Sociology of Library Crime in Nigerian Academic Libraries.*Library Philosophy and Practice* (e-journal). Retrieved 23 July 2015 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2322&context=libphilprac>
- Okon, E.A. 2013. *Accessibility and Utilization of Electronic Information Resources for Research and it's Effects on Productivity of Academic Staff in Selected Nigerian Universities Between 2005 and 2012*.(PhD Thesis) University of South Africa.
- Okoye, C.O. 2000. *Preservation of Library Materials*. Enugu: Bizeduco Publishers.
- Olajide, O. 2017. Theft and Mutilation Challenges and Management in Academic Libraries: A Case Study of Federal University Oye-Ekiti, Nigeria. *Journal of Information Technology*, 10(1):77-84.
- Olasina, G. 2014. *Predictors of Legislators' ICT Acceptance and Use in the Performance of Legislative Functions at the Nigerian National Assembly*(Unpublished PhD thesis). University of KwaZulu-Natal, Pietermaritzburg campus, South Africa.
- Omoniyi, J.O. 2001. *The Security of Computer and other Electronic Installations in*

- Nigerian University Libraries. *Library Management*. 22(6/7):77-277
- Omorodion, O., Ijeh, C. and Erhabor, J.O. 2018. User Delinquency as a Factor Affecting Effective Service Delivery in University Libraries in Ekiti and Ondo States, Nigeria. *Library Philosophy and Practice (e-journal)*. 1701. Retrieved 27 April 2018 from <https://digitalcommons.unl.edu/libphilprac/1701>.
- Omosekejimi, A.F., Ijiekhuamhen, O.P., and Ojeme, T.N. 2015. Library and Information Resources' Security: Traditional and Electronic Security Measures. *International Journal of Academic Research and Reflection*, 3(3): 45-56.
- Omotayo, B.O. and Ajayi, N.A. 2006. An Appraisal of Security Measures in Hezekiah Library, Obafemi Awolowo University, Ile-Ife. *Nigerian Libraries*, (39): 65-78.
- Onwuegbuzie, A. J. and Combs, J. P. 2010. Emergent Data Analysis Techniques in Mixed Methods Research: A Synthesis. In A. Tashakkori and C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (2nd ed.), Los Angeles: Sage publications, pp. 397-430.
- Oyedum, G.U., Sanni, A.A. and Udoakang, I.O. 2014. Security and Crimes Challenges in Academic Libraries in Nigeria. *Journal of Information and Knowledge Management*, 5(2): 127-140.
- Oyekisu, F.A., Buraimo, O. and Olusanya, O.F. 2011. Disruptive Behaviours in Academic Libraries: a Study of Olabisi Onabanjo University Library. *Journal of Educational Media and Information Studies*, (1): 33-42.
- Ozowa, V., Aba, J., and Aba, T. 2016. Impact of Electronic Surveillance Systems on Theft and Mutilation in Francis Suleimanu Idachaba Library, University of Agriculture Makurdi. *Library Philosophy and Practice (e-journal)*. Retrieved 15 July 2016 from <http://digitalcommons.unl.edu/libphilprac/1429>.
- Pallant, J. 2005. *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS* (2nd ed.). Australia: Allen & Unwin.
- Partridge, B. and Starfield, S. (2007) *Thesis and Dissertation Writing in Second Language*. Routledge, London.
- Payne, G. and Payne, J. 2004. *Key Concepts in Social Research*. London: Sage.
- Perrault, C. 2006. *Library Materials Security*. Retrieved 22 July 2015 from http://www.lrs.org/documents/field_stats/materials_security.pdf.

- Perron, B. E. and Gillespie, D. F. 2015. *Key Concept Measurement*. Oxford: Oxford University Press.
- Phillip, F., Adeboye, K.M. and Obakemi, R.S. 2016. Status, Characteristics and Contribution of Women Librarians to Development in Nigeria. *International Scholars Journals*. 2 (2) : 175-180
- Picazo-Vela, S., Chou, S.Y., Melcher, A.J. and Pearson, J.M. 2010. Why Provide an Online Review? An Extended Theory of Planned Behaviour and the Role of Big-Five Personality Traits. *Computers in Human Behaviour*, 26(4): 686-696.
- Pickard, A. 2007. *Research Methods in Information*. London: Facet Publishing.
- Pickard, A. 2013. *Research Methods in Information*. 2nd ed. London: Facet Publishing.
- Polit, D. F. and Hungler, B. P. (1999). *Nursing Research. Principles and Methods*. (6th ed.) Philadelphia: J.B. Lippincott Company.
- Polit, D. F. and Beck, C. T. 2004. *Nursing Research: Principles and Methods*. (7th ed.) Philadelphia: Lippincott Williams and Wilkins.
- Punch, K. F. 2005. *Introduction to Social Research: Quantitative and Qualitative Approaches*. (2nd ed.). Thousand Oaks, CA: Sage.
- Quantz, R. 1992. On Critical Ethnography (with some postmodern considerations). In M. LeCompte, W. Millroy and J. Preissle (Eds.). *The Handbook of Qualitative Research in Education* (pp. 447-505). New York: Academic Press.
- Quartaroli, M. 2012. Program Evaluation. In Lapan, S.D; Quartaroli, M.T. and Riemer, F. (Eds.) *Qualitative Research: An Introduction to Methods and Designs*. San Francisco: John Wiley and Sons.
- Quincy Public Library. 2017. Library Safety and Security Policy. Retrieved 23 July 2018 from <http://www.quincylibrary.org/policies/>
- Rajendran, L. and Rathinasabapathy, G. 2007. Role of Electronic Surveillance and Security Systems in Academic Libraries. *Conference on Recent Advances in Information Science and Technology (READIT 2007) Proceedings*, (1): 111-117. Retrieved 5 May 2011 from http://library.igcar.gov.in/readit2007/conpro/s4/S4_2.pdf5.
- Raji, R.E., Oyedum, G.U., Akor, P.U. and Abu, A.A. 2017. Book Theft as a Factor Affecting Lending Services to Students in Two States University Libraries in North-Central Nigeria. *Journal of Applied Information Science and Technology*, 10(3): 41-47.

- Ramana, Y.V. 2007. Security in Libraries: Need Surveillance and Biometrics. 5th International Caliber -2007, Panjab University, Chandigarh, 08-10 February, 2007 © INFLIBNET Centre, Ahmedabad.
- Ramamurthy, C.R. 2001. *Information Security: a Source Book for Librarians*. New Delhi: Authors Press, pp. 14-19 & 29-31.
- Ranawella, T.C. 2006. An Introduction to a Library Material Management and Security Control System - Radio Frequency identification (RFID) Technology. *Journal of the University Librarians Association of Sri Lanka*. (10):29-39.
- Randall, D. P., and Newell, B. C. 2014. The Panoptic Librarian: The Role of Video Surveillance in the Modern Public Library. In *iConference 2014 Proceedings* (p. 508–521). doi: 10.9776/14132.
https://www.ideals.illinois.edu/bitstream/handle/2142/47307/132_ready.pdf?Sequence=2. (Accessed 16 July 2015).
- Rathinasabapathy, G. and Rajendran, L. 2009. RFID Technology and Library Security: Emerging Challenges. *Journal of Library Information and Communication Technology*, 1(1):34-43.
- Reio, T. G. 2007. Survey Non-Response Bias in Social Science Research (Perspectives on Research). *New Horizons in Adult Education and Human Resource Development*, 21(1&2):48-51.
- Riemenschneider, C. and McKinney, V. 2001. An Assessment of Small Business Executive Belief Differences in Adopters and Non Adopters of Web-Based E-Commerce. *Journal of Computer Information Systems*, 42(2): 101-107
- Riemenschneider, C.K., Harrison, D.A and Mckytyn, P.P. 2003. IT Adoption Decisions in Small Business: Integrating Current Theories. *Information & Management*, 40(4): 269-285.
- Robinson, C.L., Marshall, J.D. and Cravey, P.J. 1992. Legal and Practical Aspects of Securing the General Collection in Academic Libraries. In McCabe, G.B. (Ed.) *Academic Libraries in Urban and Metropolitan Areas: a Management Handbook*. New York: Greenwood Press.
- Robert, C.M. 2006. Radio Frequency Identification. *Computer & Security*, 25(1): 18-26.
- Robson, C. 1993. *Real World Research*. Oxford: Blackwell.

- Rogers, E.M. 1995. *Diffusion of Innovations*. (4th ed.). New York: Free Press
- Rogers, E. M. 2003. *Diffusion of Innovations*. (5th ed.) New York: Free Press.
- Rogers, E.M. 2004. AL Librarian a Thief? *Library Journal*, 129 (12): 24.
- Ryan, R.M., and Deci, E.L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well Being. *American Psychologist*, (55):68–78.
- Salaam, N.K. and Onifade, F.N. 2010. Perception and Attitude of Students in Relation to Vandalism in a University Library. *Annals of Library and Information Studies*. 57(2):146-149.
- Salma, A. Abdullah, M., Aziz, J., Ahmad, A., Latiff; K. and Chang, P. 2014. Remodelling Technology Acceptance Model (TAM) in Explaining User Acceptance Towards Information and Communication Technology. *International Journal of Arts & Sciences*, (7)1:159-171.
- Sandelowski, M. 1995. Sample Size in Qualitative Research. *Research in Nursing and Health* (18)2: 179–83.
- Santos, R.J. A. 1999. Cronbach's Alpha: A Tool for Assessing the Reliability of Scales. *Journal of Extension*, 37(2): 1-5.
- Saunders, M., Lewis, P. and Thornhill, A. 1997. *Research Methods for Business Students*. London: Financial Times – Pitman Publishing.
- Saunders, M., Lewis, P. and Thornhill, A. 2012. *Research Methods for Business Students* (6th ed). London: Pearson Education Limited.
- Schachter, H. L. and R. R. Liu. 2005. Policy Development and New Immigrant Communities: A Case Study of Citizen Input in Defining Transit Problems. *Public Administration Review (PAR)*, 65(5): 614-623.
- Schwandt, T. 2007. *Sage Dictionary of Qualitative Inquiry* (3rd ed.). Thousand Oaks, CA: Sage.
- Seenaa, S.T. and Sudhier, K.G. 2014. A study of ICT skills among library professionals in the Kerala University Library System. *Annals of Library and Information Studies*, (61): 132-141.
- Senyah, Y. 2004. Library Security, Book Theft and Mutilation: a Case of the University Library System of Kwame Nkrumah University of Science and Technology, Kumasi. *Ghana Library Journal* (16):9–27.

- Serfontein, T.E. 1995. *Collection Security in Natal Libraries*. (Unpublished Master Dissertation) University of Natal, Pietermaritzburg
- Shahid, S.M. 2005. Use of RFID Technology in Libraries: a New Approach to Circulation, Tracking, Inventorying, and Security of Library Materials. *Library Philosophy and Practice (e-journal)*. Retrieved 7 September 2017 from <http://digitalcommons.unl.edu/libphilprac/62>.
- Sharma, S.D. 2017. Theft and Vandalism in Academic Library(s). *Library Progress (International)* 37(1): 135-141.
- Sheeran, P., Norman, P. and Orbell, S. 1999. Evidence that Intentions Based on Attitudes Better Predict Behaviour than Intentions Based on Subjective Norms. *European Journal of Social Psychology*. 29(2-3): 403-406.
- Shih, B., Shih, C., Li, C., Chen, T., Chen, Y., and Chen C. 2011. Elementary School Student's Acceptance of Lego NXT: The Technology Acceptance Model, a Preliminary Investigation. *International Journal of the Physical Sciences*, 6(22):125.
- Shih, Y. and Fang, K. 2004. The Use of a Decomposed Theory of Planned Behaviour to Study Internet Banking in Taiwan. *Internet Research*, 14(3): 213 –223.
- Sheng, T., Chen, X., Yi, S., Gao, X, Ye, Q. and Lee, J. 2009. Probe on Network-Based Collaborative Maintenance Model for After-Sales Equipment. *Yugoslav Journal of Operations Research*, 19(2): 229-313.
- Shuman, B. A. 1999. *Library Security and Safety Handbook*. Chicago, IL: American Library Association.
- Silva, P.M. and Dias, G.A. 2007. Theories about Technology Acceptance: Why the Users Accept or Reject the Information Technology? *Brazilian Journal of Information Science* 1(2):60-86.
- Simmonds, P.L. and Saad, S. 2001. Usage of Academic Libraries: the Role of Service Quality, Resources and User Characteristics. *Library Trends*, 49(4): 626-634.
- Singh, J., Brar, N. and Fong, C. 2006. The State of RFID Applications in Libraries. *Information Technology and Libraries*, 25(1): 24-32
- Singh, N.K. and Mahajan, P. 2017. Application of Radio Frequency Identification Technology in

- Libraries and Information Centres: An Indian Perspective. *Library Philosophy and Practice (e-journal)*. Retrieved 24 March 2018 from <http://digitalcommons.unl.edu/libphilprac/1614>
- Sivo, S. A., Saunders, C., Chang, Q., and Jiang, J. J. 2006. How Low Should You Go? Low Response Rates and the Validity of Inference in IS Questionnaire Research. *Journal of the Association for Information Systems*, 7(6): 352-414.
- Slavin, R. 2007. *Educational Research in an Age of Accountability*. Boston: Pearson Education Publications.
- St. Lifer, E. 1994. How Safe Are Our Libraries? *Library Journal*, 119(13): 35-39.
- Staurt, M. 1988. The Crime of Dr. Pichler: A Scholar-Biblioklept in Imperial Russia and His European Predecessors. *Libraries & Culture*, 23 (4): 401-426
- Strassberg, R. 2000. Library and Archives Security. In Banks, P.N. and Pilette, R. (Eds.) *Preservation: Issues and Planning*. Chicago and London: American Library Association, pp.166-184.
- Straub, D.W., Goodman, S. and Baskerville, R. 2008. *Information Security: Policy, Processes and Practices (Advances in Management Information Systems)*. New York: Routledge
- Strydom, P. 2011. *Contemporary Critical Theory and Methodology*. New York: Taylor and Francis.
- Suleiman, S.A. 2012. User Education Programmes in Academic Libraries: The Experience of the International Islamic University Malaysia Students. *Library Philosophy and Practice (e-journal)* Retrieved 30 October 2017 from <http://digitalcommons.unl.edu/libphilprac/774>
- Tan, M. and Teo, T.S.H. 2000. Factors Influencing the Adoption of Internet Banking. *Journal of the Association for Information Systems* 1(1): 1-44
- Tan, P.J.B. 2013. Applying the UTAUT to Understand Factors Affecting the Use of English E-Learning Websites in Taiwan. *Sage Open*.3(4): 1-12
- Tashakkori, A., and Teddlie, C. 2003. The Past and Future of Mixed Methods Research: From Data Triangulation to Mixed Model Design. In A. Tashakkori & C. Teddlie (Eds.), *The Handbook of Mixed Methods in Social and Behavioural Research*. Thousand Oaks: Sage Publications, pp. 671-701.
- Tashakkori, A., and Teddlie, C. 2010. Current Developments and Emerging Trends in

- Integrated Research Methodology. In C. Tashakkori, A. and Teddie (Ed), Handbook of Mixed Methods in Social and Behavioural Research (2nd ed.). Thousand Oaks, CA: Sage.
- Taylor, S. and Todd, P.A. 1995. Assessing IT Usage: The Role of Prior Experience. *MIS Quarterly*, 19(4): 561–570.
- Taylor, S. and Todd, P. A. 1995. Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 6(4): 144-176.
- Taylor, G.R. 2000. Quantitative Research Methods. In G.R. Taylor(Ed.) *Integrating Quantitative and Qualitative Methods in Research*. New York: University Press of America.
- Taylor, S.A., Celuch, K. and Goodwin, S. 2004. The importance of Brand Equity to Customer Loyalty. *Journal of Product & Brand Management*, 13(4): 217-227.
- Taylor, B., Kermode, S. and Roberts, K. 2007. Research in Nursing and Health Care: Evidence for Practice (3rd ed.). Sydney: Thomson.
- Teferra, B. 1996. Security Management of Collections in Ethiopian Academic Libraries. *African Journal, Archival and Information Science*, 6 (2):121-127.
- Teferra, V. 2016. Library User Education: Examining its Past, Projecting its Furture. *Library Trends*, 44(2): 318-338.
- Teijlingen, E.R and Hundle, V. 2002. The Importance of Pilot Studies. *Nursing Standard*, 16(40): 33-36.
- Tekale, K.U. Veer, D.K. and Rathod, R. 2010. Importance of CCTV in Libraries for Better Security. *Conference Paper, UGC Sponsored National Level Seminar on New Dimension in Library Management, held at S.B.E.S. College of Science, Aurangabad*. Retrieved 6 November 2018 from <https://www.researchgate.net/publication/315098570>.
- Tenopir, C., Hughes, D., Allard, S., and Birch, B. 2014. Research Data Management Services in Academic Research Libraries and Perceptions of Librarians. *Library and Information Science Research*, 36(2): 84-90.
- Thanuskodi, S. 2009. The Environment of Higher Education Libraries in India. Retrieved 5 November 2018 from <http://unllib.unl.edu/LPP/thanuskodi-higherhd.htm>
- Thatcher, R. W. 2010. Validity and Reliability of Quantitative Electroencephalography. *Journal of Neurotherapy* 14(2):122–152.
- The CIA World Factbook. 2009. New York: Skyhorse Publications.

- Thomas, P.Y. 2010. *Research Methodology and Design*. Retrieved 30 April 2015 from https://www.google.co.za/?gfe_rd=cr&ei=LEJLVZWIC-yo8wewgoGwAw#q=Interpretivist+paradigm.
- Thompson, R. L., Higgins, C. A., and Howell, J. M. 1991. Personal Computing: Toward a Conceptual Model of Utilization. *MIS Quarterly*, 15(1):125-143.
- Tibenderana, P.K.G. and Ogao, P.J. 2009. Information Communication Technologies Acceptance and Use Among University Communities in Uganda: a Model for Hybrid Library Services End-Users. *International Journal of Computing and ICT Research, Special Issue*, 1(1): 60-75.
- Times Higher Education. 2018. *World University Rankings*. Retrieved 16 October 2018 from <http://www.timeshighereducation.com/world-university-rankings/covenant-university>.
- Tinuade, A.O. 2007. Book Theft and its Preservation. *Gateway Library Journal* 10(1): 78-79.
- Trang, T. H., and Cuc, H.L. 2018. Enhancing Librarianship Students' Awareness of Preservation at the Learning Resource Center of a Mekong Delta University *Information and Learning Science*, 119(7/8): 414-421
- Triandis, H. C. 1977. *Interpersonal Behaviour*. Monterey, CA: Brooke/Cole.
- Triandis, H. C. 1980. Values, Attitudes, and Interpersonal Behaviour. In Howe, H. & Page, M. (Eds.), *Nebraska Symposium on Motivation*. Lincoln: University of Nebraska Press.
- Udumoh, C.N. and Okoro, C.C. 2007. The Effect of Library Policies on Overdue Materials in University Libraries in the South-South Zone, Nigeria. *Library Philosophy and Practice* (e-journal). Retrieved 12 November 2018 from <http://unllib.unl.edu/LPP/udumoh-okoro.htm>.
- United Nations, 2015. Nigeria Declared World 7th Most Populous: Revision of World Population Proposal. Retrieved 28 March, 2018 from [esa.un.org?unpd/wpp](http://esa.un.org/unpd/wpp).
- University of Canterbury. 2015. *Library Security Policy, Vol. 2*. Retrieved 23 October 2018 from <http://www.canterbury.ac.nz/ucpolicy/GetPolicy.aspx?file=Library-Security-Policy.pdf>
- Urhiewhu, L., Emorjorho, D. and Omah, J. 2018. Security Measures Adopted to Prevent Theft of Library Resources in Selected Academic Libraries. *International Journal of Library and Information Science Studies*, 4(1): 1-10.

- Utah Code Title. 2004. Offenses Against Property Pertaining Library. *Library Philosophy and Practice (e-journal)*. Retrieved 21 October 2017 from <http://unllib.unl.edu/LPP?utahcode.htm>
- Uzuegbu, C. and Okoro, C. A. 2012. An X-Ray of Security Practices in Nigerian Academic Libraries. *Greener Journal of Social Sciences*. 2 (6):197-205.
- Vallerand, R. J. 1997. Toward a Hierarchical Model of Intrinsic and Extrinsic Motivation. In Zanna, M. (ed.), *Advances in Experimental Social Psychology* (29), New York: Academic Press.
- Vallerand, R. 2001. A Hierarchical Model of Intrinsic and Extrinsic Motivation in Sport and Exercise. In: G. Roberts (Eds.) *Advances in Motivation in Sport and Exercise*, IL, Champaign: Human Kinetics.
- Vaus, D. 2001. *Research Design in Social Research*. London: Sage Publications.
- Venkatesh, V., Morris, M.G. and Ackerman. P. 2000. A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes. *Organizational Behaviour and Human Decision Processes*, 83 (1):33–60.
- Venkatesh, V. and Brown, S.A. 2001. A Longitudinal Investigation of Personal Computers in Homes: Adoption Determinants and Emerging Challenges. *MIS Quarterly*, 25(1): 71-102.
- Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478.
- Venkatesh, V., Brown, S., Maruping, L., and Bala, H. 2008. Predicting Different Conceptualizations of System Use: The Competing Roles of Behavioural Intention, Facilitating Conditions, and Behavioural Expectation. *MIS Quarterly*, 32 (3):483-502.
- Venkatesh, V., Thong, J.Y.L and Xu, X. 2012. Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36 (1): 157-178.
- Vijayakumar, A. and Anthony, S.M. 2015. ICT Skills among Women Library Professionals in SSUS and CUSAT: an Analytical Study. *Asian Journal of Multidisciplinary Studies*, 3 (5). Retrieved 21 November, 2017 from <http://www.ajms.co.in/sites/ajms2015/index.php/ajms/article/view/1127>
- Visnjic, I., Wiengarten, F. and Neely, A. 2016. Only the Brave: Product Innovation, Service

- Business Model Innovation, and their Impact on Performance. *Journal of Product Innovation Management*, (33): 35-52.
- Vogt, W.P. and Johnson, R.B. 2011. Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences (4th ed.). Los Angeles: Sage.
- Wainwright, D. 1997. Can Sociological Research Be Qualitative, Critical and Valid? *The Qualitative Report*, 3(2):1-17
- Welman, C., Kruger, F. and Mitchell, B. 2005. Research Methodology (3rd ed.). London: Oxford University Press.
- Werner, P. 2004. Reasoned Action and Planned Behaviour. In S.J. Peterson and T.S. Bredow (Eds), *Middle Range Theories: Application to Nursing Research*, Philadelphia: Lippincott Williams and Wilkins pp. 125-147.
- Westenkirchner, S. 2008. Integrated Library Security Systems. *Library and Archival Security*. 21(2):159-167.
- Wintson, C. 2012. Biography and Life Story Research. In Lapan, S.D., Quartaroli, M.T. and Riemer, F. (Eds.) *Qualitative Research: An Introduction to Methods and Designs*. San Francisco: John Wiley and Sons.
- Workman, M. 2005. Expert Decision Support System Use, Disuse, and Misuse: a Study Using the Theory of Planned Behaviour. *Computers in Human Behaviour*. 21(2):211–231.
- Wu, Y., Tao, Y., and Yang, P. 2007. Using UTAUT to Explore the Behaviour of 3G Mobile Communication Users. Retrieved 12 February 2016 from <http://tao.nuk.edu.tw/papers/IEEM2007.pdf>.
- Yamson, G.C. and Cobblah, M. 2016. Assessment of Collection Security Management in Academic Libraires: A Case Study of Central University Library. *European Scientific Journal*, 12(10): 392-405.
- Yeboah, E.B., Kwafoa, P., and Amoah, G.B. 2017. Security of Staff in Academic Libraries: A Study of Sam Jonah Library, University of Cape Coast. Retrieved 15 July 2018 from <http://hdl.handle.net/123456789/3047>
- Yin, R.K. 2003. *Case Study Research Design and Methods*. (2nd ed.): Vol. 5, Applied Social Research Methods Series. Thousand Oaks, CA: Sage.
- Yusuf, M.O and Derus, A.M. 2013. Measurement Model of Corporate Zakat Collection in

Malaysia: A Test of Diffusion of Innovation Theory. *Humanomics*, 29 (1):61-74.

Zhang, D., Wang, L., Lv, F., Su, W., Liu, Y, Shen, R. and Bi, P. 2007. Advantages and Challenges of Using Census and Multiplier Methods to Estimate the Number of Female Sex Workers in a Chinese City. *Psychological and Socio-Medical Aspects of AIDS/HIV*. 19(1): 17-19.

LIST OF APPENDICES

Appendix 1: Letter of Informed Consent



Information Studies Department
School of Social Sciences
University of KwaZulu-Natal
Pietermaritzburg Campus
Private Bag X01
Scottsville 3209
South Africa
Telephone: 033 -260-6286
Email : osasodaro@yahoo.com
24 November, 2015.

Dear Respondent

Informed Consent Letter

Researcher: Odaro OSAYANDE
Institution; University of KwaZulu-Natal
Telephone number: +27611623941
Email address: osasodaro@yahoo.com

Supervisor: Prof. Mutula Stephen
Institution: University of KwaZulu-Natal
Telephone number: 033-260 5093
Email address: mutulas@ukzn.ac.za

I, **Odaro OSAYANDE**, of the University of KwaZulu-Natal, South Africa, kindly invite you to participate in the research project entitled '**Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria**'.

This research project is undertaken as part of the requirements of the PhD, which is undertaken through the University of KwaZulu-Natal, Information Studies Department.

The aim of this study is to investigate the extent and impact of the use of electronic security systems in curbing thefts, mutilation and vandalism in academic libraries in South-West, Nigeria.

Participation in this research project is voluntary. You may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Department of Information Studies, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact myself or my supervisor at the numbers indicated above.

It should take you about 15 minutes to complete the questionnaire.

Thank you for participating in this research project.



Signature

24 November, 2015

Date

I hereby consent to participate in the above study.

Name: Date: Signature:

Supervisor's details

Prof. S. Mutula
+27712750109

Student's details

Odaro Osayande
+27611623941

HSSREC Research Office: Ms P Ximba
Institution: University of KwaZulu-Natal
Telephone number: +27 (0) 31 260 3587
Email address: ximbap@ukzn.ac.za

Appendix 2: Ethical Clearance from UKZN



21 June 2016

Mr Odaro Osayande 214582638
School of Social Sciences
Pietermaritzburg Campus

Dear Mr Osayande

Protocol reference number: HSS/0785/016M

Project Title: Use of Electronic Security Systems in Academic Libraries: Experiences of selected Universities in South-West, Nigeria

Full Approval – Expedited Application

In response to your application received 02 June 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shamila Naidoo (Deputy Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Professor Stephen Mutula
Cc Academic Leader Research: Professor Sabine Marschall
Cc School Administrator: Ms Nancy Mudau & Stella Shulika

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: ximbap@ukzn.ac.za / snymnm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za



Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

Appendix 3: IP2 Form

IP
TTO

THE UNIVERSITY OF KWAZULU-NATAL



FORM IP2

INTELLECTUAL PROPERTY AND PROPRIETARY INFORMATION AGREEMENT

Entered into by and between

THE UNIVERSITY OF KWAZULU-NATAL
("UKZN")

a higher education institution and a juristic person in terms of the Higher Education Act 101 of 1997, as amended

represented herein by **PROFESSOR NELSON MUTATINA IJUMBA** in his capacity as **DEPUTY VICE-CHANCELLOR: RESEARCH**, duly authorized,

and

***Legal Name: First, Middle & Last (Please print or type):**

(hereinafter "IP Creator"/"I"/"my")

***Title (Dr/Mr, etc.) Mr. Odaro OSAYANDE**

***UKZN Staff/Student No.: 214582638**

***E-mail address: osasodaro@yahoo.com *UKZN Tel. Ext.: N/A *Cellphone: +27611623941**

***Faculty, School and Department _Humanities, Social Sciences, information Studies**

***All items above must be completed in full before returning to the IP & Technology Transfer Office.**

This agreement is made in consideration of the following:

- my continuing or anticipated employment at the University of KwaZulu-Natal

(UKZN); and/or

- my performance of research at UKZN; and /or
- opportunities made or to be made available to me to make significant use of UKZN administered funds and/or UKZN facilities; and/or
- opportunities to share in royalties and other inventor/author rights outlined in the UKZN Commercial Initiatives Policy and/or UKZN Intellectual Property Policy.

In exchange for the consideration listed above, I agree to each of the following:

1. To disclose to UKZN promptly (within 90 days of its identification and before it is made public) all intellectual property, including inventions, designs, copyrightable materials, trade marks, domain names, computer software, semiconductor mask works, plant breeders' rights and tangible research property ("Intellectual Property") conceived, invented, authored, or reduced to practice by me, either solely or jointly with others, which:
 - a. has been developed in the course of or pursuant to a sponsored research or other agreement in which I was or am a participant as defined in Part 2 of UKZN's Intellectual Property Policy; and/or
 - b. results from the significant use of UKZN administered funds or UKZN facilities as defined in Paragraph 2.1.2. in the UKZN Intellectual Property Policy; and/or
 - c. results from a "work for hire" funded by UKZN as defined in Paragraph 2.1.4. of the UKZN Intellectual Property Policy; and/or
 - d. emanates from publicly financed research and development as contemplated in the *Intellectual Property Rights from Publicly Financed Research and Development Act* No. 51 of 2008;

and I hereby assign (and/or confirm assignment of, as appropriate) all such Intellectual Property, as well as my rights in and to such property, to UKZN subject to the understanding that I shall share in the benefits of any commercialization of such property and/or rights, such benefit sharing to be arranged in accordance with UKZN's Intellectual Property Policy and legal requirements existing as at the date of my signature of this Agreement.

2. To execute all necessary papers and otherwise provide proper assistance, promptly upon UKZN's request and at UKZN's expense, during and subsequent to the period of

my UKZN affiliation, to enable UKZN to obtain, maintain, and/or enforce for itself or its nominees, patents, registered designs, trade marks, copyrights, domain names, plant breeders' rights or other legal protection for such Intellectual Property.

3. To prepare and maintain for UKZN adequate and current written records of all such UKZN Intellectual Property together with proposed routes for exploitation thereof, commercial or otherwise, and frameworks for compensation of UKZN and the relevant IP Creators.
4. To deliver promptly to UKZN when I leave UKZN for whatever reason, and at any other time as UKZN may request, copies of all written records referred to in Paragraph 3 above as well as all related memoranda, notes, records, schedules, plans or other documents, and Tangible Research Property made by, compiled by, delivered to, or manufactured, used, developed or investigated by UKZN, which will at all times be the property of UKZN.
5. Not to disclose to UKZN or use in my work at UKZN (unless otherwise agreed in writing with UKZN):
 - a. any proprietary information of any of my prior employers or of any third party, such information to include, without limitation, any trade secrets or confidential information with respect to the business, work or investigations of such prior employer or other third party; or
 - b. any ideas, writings, or Intellectual Property of my own which are not included in Paragraph 1 above within the scope of this Agreement (please note that inventions previously conceived, even though a patent application has been filed or a patent issued, are subject to this Agreement if they are actually first reduced to practice under the circumstances included in Paragraph 1 above).
6. That the ownership of the full copyright in any treatise, dissertation and/or thesis created by me, relating to any degree conferred by UKZN (whether undergraduate or postgraduate), vests in UKZN if any of the Fundamental Ownership Rules of Paragraph 2.1.1 of UKZN's Intellectual Property Policy is satisfied, and that in circumstances where the Fundamental Ownership Rules of Paragraph 2.1.1 are not satisfied, ownership of limited pre-publication copyright rights shall vest in UKZN by virtue of the fact that UKZN

has conferred the degree giving rise to the treatise, dissertation or thesis. In such circumstances, I hereby grant to UKZN a perpetual, non-exclusive, royalty-free licence (i.e. permission) to digitize, reproduce, share, disseminate and/or publicly distribute copies of my treatise, dissertation or thesis for research and study purposes only. Such licence shall be understood to take effect immediately and automatically upon creation of said treatise, dissertation or thesis; howe

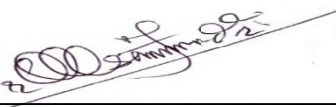
ver, if UKZN requests a written document recording the licence, I agree to do all things necessary to give effect to such document and UKZN shall bear the costs of such written licence document.

7. In the event that my whereabouts cannot be traced and authorisation is required to include the whole or part of a treatise, dissertation or thesis created by me in a publication by any other person, and/or subsequently to reproduce it, I hereby agree that the IP Steering Committee of UKZN may, in Consultation with the UKZN Copyright Office, and on condition that it has been shown evidence of reasonable attempts to trace me and to make provision for remuneration of me, and provided further that it has considered all relevant factors, including my moral rights, make an assessment and recommendation regarding the requested inclusion and subsequent publication of the treatise, dissertation or thesis; and I hereby agree to abide by said recommendation.
8. I undertake to forward master copies and electronic copies of all treatises, dissertations and/or theses created by me to UKZN Libraries by the date, in the numbers and in the format stipulated by UKZN Libraries in their policies as at the time of creation of the treatise, dissertation or thesis concerned.
9. I agree that any software code, patentable subject matter and/or other underlying intellectual property contained in or referenced by any treatise, dissertation or thesis created by me is owned by UKZN subject to the Fundamental Ownership Rules of UKZN's Intellectual Property Policy.

This Agreement replaces all previous agreements relating in whole or in part to the same or similar matters that I may have entered into with UKZN. It may not be modified or terminated, in whole or in part, except by agreement in writing signed by an authorised representative of

UKZN. Discharge of my undertakings in this Agreement will be an obligation of my executors, administrators or other legal representatives or assignees.

I represent that, except as identified on pages attached hereto, I have no agreements with or obligations to others in conflict with the foregoing.



Your signature (i.e. signature of IP Creator) (include full first name)

Odaro OSAYANDE

Print name

SIGNED AT: UKZN, Pietermaritzburg Campus, on this 14th .day of. September, 2015.

FOR THE UNIVERSITY OF KWAZULU-NATAL

PROFESSOR NELSON MUTATINA IJUMBA in his capacity as DEPUTY VICE-
CHANCELLOR: RESEARCH

SIGNED AT WESTVILLE on this.....day of.....20....

Please return to: UKZN Intellectual Property & Technology Transfer Office (“IPTTO”), 8th Floor, Library Building, Westville Campus. For further information see the UKZN Intellectual Property Policy, visit the IPTTO website (which may be accessed from the Research Office webpage) or contact the Director of the IPTTO on Tel. +27 (0) 31 260 3326.

Appendix 4: Contract with Supervisor

College of Humanities



CONTRACT BETWEEN SUPERVISOR AND CANDIDATE

The relationship between supervisor and a candidate for a research degree is one of mentorship. A supervisor should advise about the structure of the degree, should direct the candidate to sources and material, may suggest better forms of expression, but in the end the dissertation or thesis must be the candidates own work.

CORRECTION OF STYLE AND GRAMMAR

A completed dissertation or thesis must be satisfactory as regards form and literary expression. Although the supervisor will point out any passages in it which are stylistically poor, or which are grammatically weak, it is not possible for a supervisor to correct great numbers of language errors, nor is it the supervisor's responsibility to do so. A student may, if necessary, and at his or her own cost, employ a copy editor to proofread the dissertation or thesis and correct errors of expression or style.

PLAGIARISM

A candidate may not include in the dissertation or thesis any quotations from another writer, or adopt substantial ideas from another writer, without acknowledgement and without reference to the source of the quotation. Direct quotations must be indicated by the use of quotation marks. All cases of plagiarism will be reported to the University Proctor for disciplinary action, and may lead to the dissertation or thesis and the degree being failed.

EXPECTATIONS OF SUPERVISOR AND CANDIDATE

Projected date for the submission of the research proposal: **September, 2015**

Will the candidate be expected to attend group seminars? **No**

Approximate frequency of such seminars: **N/A**

How often will the candidate present written work? E.g. monthly, quarterly, etc. Monthly: **N/A**

How often will the supervisor and the candidate expect to meet? e.g. monthly, every two months, etc. Every two weeks: **Monthly**

Approximately how soon after submission of written work may the candidate expect comments from the supervisor? **Two weeks**

Any other special provisions agreed on? **None**

Candidate

Supervisor



.....
Signed

.....
Signed

Odaro OSAYANDE

.....
Full Name: (print)

.....
(print)

Full Name:

...**214582638**.....
Student number:

...**14/09/2015**.....
Date:

.....
Date

NOTE:

The supervisor's consent is required in order to submit the completed dissertation or thesis for examination and no thesis will be accepted by the College Office for examination without the supervisor's approval. The supervisor must see the final version of the thesis before submission. A candidate may, if he/she wishes, insist on submission without the supervisor's consent, but this fact will be noted in the supervisor's report.

Appendix 5: Questionnaire for Librarians/Para-professional Library staff

Thank you for sparing your precious time to take part in this survey for the completion of a PhD study. The purpose of this study is to assess the extent and impact of the implementation of electronic security systems (ESS) in curbing the activities of users as it relates to thefts, mutilation and vandalism of library materials (prints) in selected universities in South-West, Nigeria. The questions will not take much of your time and will not require any personal identification. The information provided will be used for research purpose only.

OSAYANDE, Odaro

A: Demographic Data

1. Please indicate your library of affiliation:

* Please choose **only one** of the following:

A1. University of Lagos Library [] A2. University of Ibadan Library [] A3. Covenant University Library [] A4. Babcock University Library []

2. Gender

Male [A6] Female [A7]

3. What is your age bracket?

Less than 24 [A8] 25-34 [A9] 35-44 [A10] 45+ [A11]

4. What is your level of qualification?

S/N	Qualification	Remark
A12	PhD	
A13	Masters	
A14	First Degree	
A15	N.C.E	
A16	Diploma	
A17	Others, please specify	

5. Designation?

Library Assistant [A18] Library Officer [A19] Assistant Librarian [A20] Librarian II [A21] Librarian I [A22] Senior Librarian [A23] Principal Librarian [A24] Deputy University Librarian others, please specify.....

6. Department?

Technical Services [A25] Readers Services [A26] Collection Development [A27] Serials [A28]
Administrative [A29] others, please specify.....

7. Years of experience on your present job.

Less than 4years [A30] 5-9years [A31] 10-14years [A32] 15-19years [A33] 20+years
[A34] 26years and above

B:Electronic Security Systems in use in Academic libraries

8. Do you have any electronic security system(s) in your library?
Yes [B1] No [B2]

9. If yes, what type of electronic security system(s) do you have in your library? Please tick
what applies to your library

Surveillance cameras- Closed Circuit Television (CCTV) Cameras [B3]

Electronic security gates [B4]

Radio Frequency Identification (RFID) system [B5]

Others, please, specify.[B6]

10. How long has the ESS in your library been installed?

Less than 4years [B7] 5-9years [B8] 10+years [B9]

11.What would you say are the reasons for choosing/installing ESS in your library?

To beautify the library [B10] To monitor the activities of users [B11] To avoid unethical
losses[B12]

Others, please, specify [B13]

12.How are library materials taken out of the library? Please, tick as many options as are
applicable to your library.

Removing some parts of the materials [B14]

Tearing off of the book covers [B15]

Concealing books in clothes [B16]

Beating security check point [B17]

Impersonation (using other students' identity cards [B18]

Others, specify..... [B19]

**C. Magnitude/Immensity of loss of library materials through theft, mutilation and
vandalism**

13. What is the magnitude/immensity loss of library materials through theft, mutilation and vandalism?

Please indicate your agreement with the statements by choosing the appropriate response for each item with the following: **Strongly agree, agree undecided, disagree, and strongly disagree.**

S/N	Magnitude/immensity of loss of library materials	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
C1	Some pages of books are ripped off completely					
C2	Cover pages of materials are always being removed					
C3	Reference and serials materials are greatly affected					
C4	Library collection has drastically reduced (as far as number of copies are concerned)					

D. Methods electronic security systems are used.

14. What are the various methods electronic security systems are used to discourage patrons from pilfering information resources from the library?

Please indicate your agreement with the statements by choosing the appropriate response for each item with the following: **Strongly agree, agree undecided, disagree, strongly disagree.**

S/N	Various methods electronic security systems are used	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
D1	Electronic security systems, especially security gates have been effective in discouraging the theft of library materials					
D2	Tattle tapes/electromagnetic tapes are inserted into books					
D3	Surveillance monitoring cameras are installed in libraries to monitor activities of users					
D4	The entire stock of the libraries are catalogued/automated and programmed in alignment with the electronic security systems					
D5	Library materials are					

	tracked/monitored while with the users are within the library					
D6	Users are now conscious of the installation/presence of electronic security systems in the library					

E. How Electronic Security Systems are used in Libraries

15. How are electronic security systems used in your library?

S/N	Extent of the use of electronic security systems in academic libraries	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
E1	ESS in my library has in-built sensor that triggers alarm to detect unauthorized removal or theft of library materials					
E2	The ESS in use provides a combination of visual and audible feedback to locate the exact position to re-shelf library materials and relocate out-of-order items					
E3	The ESS in my library has the capability of digital video recording of the patrons' activities and recalling some as evidence to prove theft and misconduct at a later date					
E4	The ESS allows for line video, viewing and monitoring of patrons' activities, events facilities and designated sections					
D5	The university librarian can remotely monitor activities in the library from his office					
D6	The ESS allows for migration and interoperability					
D7	The ESS in my library allows for smart cards which provide for identification, authentication, data storage and application processing					
D8	The ESS in my library allows					

	sound beeping and flashlight functionality and the capturing of electronic signature					
D9	The library electronic system is barcode-based with electromagnetic tag that is used for anti-theft purposes					

F. Effectiveness of the Use of Electronic Security Systems in Academic Libraries

16. What would you say has been the effectiveness of the use of electronic security systems in your library?

Please indicate your agreement with the statement by choosing the appropriate response for each item with the following: **Strongly agree, agree undecided, disagree, strongly disagree.**

S/N	Impact of use of electronic security systems in academic libraries	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
F1	Theft and mutilation of library materials decrease significantly.					
F2	Patrons are conscious how they use library resources because they are being monitored.					
F3	Money used for replacing stolen books are now being used for other things					
F4	The use of electronic security systems have eased the job of library staff (especially routine movements to check users)					
F5	Promote efficiency and effectiveness in securing library materials.					

G. Factors Motivating/Influencing Use of ESS in the library.

17. What do you think are the factors motivating/influencing the use of electronic security systems (ESS) in your library?

Please indicate your agreement with the statement by choosing the appropriate response for each item with the following: **Strongly agree, agree, undecided, disagree, strongly disagree.**

S/N	Performance Expectancy	Strongly			Agree	Undecided	Disagree	Strongly
-----	------------------------	----------	--	--	-------	-----------	----------	----------

		agree						disagree
G1	Curb the menaces of theft, mutilation and vandalism of library materials							
G2	High reliability, speed inventorying, automated material handling							
G3	Library activities/patrons could be seen at a glance from workstations by officers in charge							
G4	Ease job of library staff on constant routine checks/movements							
G5	Promote efficiency and effectiveness in securing library materials.							

S/N	Effort Expectancy/Perceived Ease of Use	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
G6	Surveillance of the entire library/users activities have been enhanced					
G7	High reliability, speed inventorying, automated material handling					
G8	Use of electronic security systems make monitoring of library patrons/activities very easy.					
G9	Using the electronic security systems is not frustrating					

S/N	Social influence	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
G10	People and other institutions that are important to me/ours think we should use electronic security systems in our library.					
G11	The use of electronic security systems in the library is a status symbol in my institution					
G12	Increases my prestige/image among my professional colleagues from other					

	institutions					
G13	Using the electronic security systems is not frustrating					

Thank you

Odaro Osayande

Appendix 6: Interview Guide for Heads of Libraries (University Librarians)

Thank you for choosing to be a part of this survey for a PhD study on *Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria*. All information provided will be used only for educational research purposes and will not be disclosed to third parties.

- 1. What is the name of your Library?
- 2. What is your Qualification?
- 3. How many years of experience do you have on this job?

Policy

- 4. Please, are you aware of the existence of any library security policy?
.....
.....
.....
.....
.....
- 5. How functional is the policy in enhancing the use of ESS in your library?
.....
.....
.....
.....
.....
- 6. What does the policy say about any user(s) caught stealing, mutilating or vandalizing library materials?
.....
.....
.....
.....
.....

Budgets

7. Do you have budgetary provisions available for your library?

.....
.....
.....
.....
.....

8. How regular are the budgetary provisions for your library as far as your electronic security system maintenance is concerned?

.....
.....
.....
.....
.....

9. How significant is it for you to budget for ESS maintenance yearly?

.....
.....
.....
.....
.....

10. How do you view the implications of high cost of implementing electronic security systems in academic libraries compared to the slim budgetary allocations to the library?

.....
.....
.....
.....
.....

11. How do you set aside budget for the regular training and re-training of library staff on the use of electronic security systems?

.....
.....
.....
.....
.....

12. What are the criteria you put into consideration for purchasing an electronic security system?

.....
.....
.....
.....
.....

Capacity building

13. What are some of the training programmes you have in place for library staff on the use of electronic security systems?

.....
.....
.....
.....
.....

14. Some manufacturers/vendors of electronic security systems organize training programmes for their clients. How often do you send staff of your library for such trainings?

.....
.....
.....
.....
.....

15. How do you encourage the IT personnel attached to your library enhance and improve his skills in the general maintenance of your ESS?

.....
.....
.....
.....
.....

16. What kind of user education programmes do you have for your library patrons?

.....
.....
.....
.....
.....

Please, if you have further comments/suggestions, kindly feel free to express same.

.....
.....
.....

Thank you

Odaro Osayande

Appendix 7: Interview Schedule for IT Personnel

Demographic Information:

University: _____

Status/ Designation: _____

Gender: Female [] Male []

Age category: 18-25 [] 26-33[] 34-41[] 42 and above []

How many years of experience do you have on your present job.

[] Less than 5years [] 6-10years [] 11-15years [] 16years and above

Support/Maintenance

1. How would you describe the after sales service support/maintenance you get from ESS vendors/suppliers of the electronic security system in your library?

.....
.....
.....
.....
.....

2. Kindly explain how you effect repairs when there are any technical issues with the ESS in your university library?

.....
.....
.....
.....
.....

Training

3. How do you organise training and retraining programmes for library staff in the use of electronic security system in your university library?

.....
.....
.....
.....
.....

4. How do you as an IT personnel attached to the library update your skills on the job in this present ICT age?

.....
.....
.....
.....
.....

Thank you

Odaro Osayande

Appendix 8: Letter of Introduction (UNILAG)



The University Librarian
University of Lagos
Akoka,
Lagos State,
Nigeria.
June 16, 2015

RE: Introducing Mr Odaro OSAYANADE, a PhD Student at University of KwaZulu-Natal

This letter serves to introduce and confirm that Mr Osayande is a duly registered PhD (Information Studies) candidate at the University of KwaZulu-Natal, South Africa. The title of his PhD research is '*Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria*'. The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree, he is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant Mr Osayande permission to carry out research in your organisation. Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula



PhD (Information Studies Programme Coordinator)

Dean & Head: School of Social Sciences

Appendix 9: Gatekeepers Letter (UNILAG)

UNIVERSITY OF LAGOS LIBRARY
AKOKA, YABA, LAGOS, NIGERIA



Our Ref:

Your Ref:

P.M.B. 1012
Tel.: 01-7346348
01-7347162
E-mail: library@unilag.edu.ng

Date: 11th August, 2015

Mr Odaro Osayande
School of Social Sciences
University of KwaZulu-Natal
South Africa.

Dear Mr Osayande,

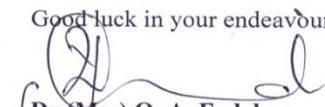
**ACCEPTANCE TO UNDERTAKE RESEARCH STUDY AT
THE UNIVERSITY OF LAGOS**

I write to inform you that approval has been granted in respect of your request to use the University of Lagos Library as one of the Institutional Libraries to undertake research for your PhD degree.

The University Library is ready to provide the needed assistance and support throughout the period of the research.

We therefore look forward to receiving you at the University of Lagos.

Good luck in your endeavours.


Dr (Mrs) O. A. Fadehan
University Librarian



The University Librarian
University of Ibadan
Ibadan
Oyo State,
Nigeria.

October 30, 2015

RE: Introducing Mr Odaro OSAYANADE, a PhD Student at University of KwaZulu- Natal

This letter serves to introduce and confirm that Mr Osayande is a duly registered PhD (Information Studies) candidate at the University of KwaZulu-Natal, South Africa. The title of his PhD research is '*Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria*'. The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree, he is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant **Mr Osayande** permission to carry out research in your organisation. Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula

A handwritten signature in black ink, appearing to read 'Stephen Mutula', with a long horizontal line extending to the right.

PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences

Appendix 11: Gatekeepers Letter (UI)

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

Office of the University Librarian
KENNETH DIKE LIBRARY



University Librarian:
B.A. OLADELE, BLS (ABU), MLS; Ph.D. (Ib.)

Telephone: IBADAN (02) 8101100-8101119
Mobile: 08033487015,
Direct Lines: (02) 8103118
Fax: (02) 8103118
E-mail: librarian@mail.ui.edu.ng

10 September, 2015.

Ref.: KDL/ADM/57

Mr. Odaro Osayande
Department of Information Studies
University of Kwazulu-Natal
South Africa.

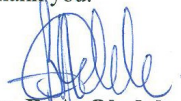
Approval to Conduct Research in Kenneth Dike Library

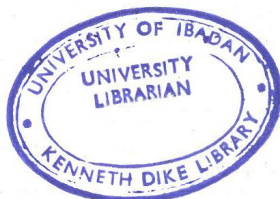
This is a follow-up to your request for approval to conduct your research work in Kenneth Dike Library, which is the hub of the Library System of the University of Ibadan.

By this letter, I am conveying to you the Library Management approval to you to conduct your research in the Library. It is our expectation that the over sixty years of existence of the Library will be of great relevance to your research in relation to information technology deployment and application to information service delivery.

We look to forward to welcoming you to our Library.

Thank you.


Dr. B.A. Oladele
University Librarian



Our Vision:

To be a world-class institution for academic excellence geared towards meeting societal needs.

Our Mission:

To expand the frontiers of knowledge through provision of excellent conditions for learning
To produce graduates who are worthy in character and sound judgement.
To contribute to the transformation of society through creativity and innovation.
To serve as a dynamic custodian of society's salutary values and thus sustain its integrity.

Appendix 12: Letter of Introduction (CU)



The University Librarian
Covenant University
Ota
Ogun State,
Nigeria.
June 16, 2015

RE: Introducing Mr Odaro OSAYANADE, a PhD Student at University of KwaZulu- Natal

This letter serves to introduce and confirm that Mr Osayande is a duly registered PhD (Information Studies) candidate at the University of KwaZulu-Natal, South Africa. The title of his PhD research is *'Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria'*. The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree, he is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant **Mr Osayande** permission to carry out research in your organisation. Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula



PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences

Appendix 13: Gatekeepers Letter (CU)



OFFICE OF THE DIRECTOR, CENTRE FOR LEARNING RESOURCES

Dr. Christopher Nkiko

August 24, 2015

Professor Stephen Mutula
PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences
University of KWAZULU-NATAL
Private Bag X01, Scottsville, 3209
South Africa.

Dear Sir,

RE: Introducing Mr. Odaro OSAYANDE, a PhD Student at University of KwaZulu-Natal

Your letter dated June 16, 2015 in respect of the above captioned subject matter refers. I write to confirm our preparedness to allow Mr. Osayande permission to carry out research in Covenant University Library. The Library is ICT-driven and deploys electronic security systems in its operations. We look forward to receiving Mr. Osayande to our context.

Kind regards,

Nkiko Christopher (Ph.D)
Director, Centre for Learning Resources

Raising A New Generation of Leaders

Vice-Chancellor:
Professor Charles K. Ayo

Registrar:
Dr. Olumuyiwa A. Oludayo

Appendix 14: Letter of Introduction (BU)



The University Librarian
Babcock University
Iremo Ilesan,
Ogun State,
Nigeria.

October 30, 2015

RE: Introducing Mr Odaro OSAYANADE, a PhD Student at University of KwaZulu- Natal

This letter serves to introduce and confirm that Mr Osayande is a duly registered PhD (Information Studies) candidate at the University of KwaZulu-Natal, South Africa. The title of his PhD research is '*Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria*'. The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree, he is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant **Mr Osayande** permission to carry out research in your organisation. Should you need any further clarification, do not hesitate to contact me.

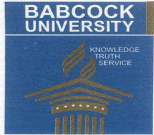
Thank you in advance for your understanding

Prof Stephen Mutula



PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Science

Appendix 15: Gatekeepers Letter (BU)



BABCOCK UNIVERSITY
Laz Oti Memorial Library

22nd February, 2016

Ref: BU/LIB/Vol.3/004/4

Prof. Stephen Mutula
Information Studies Prog. Coordinator
Dean & Head: School of Social Sciences

Dear Sir,

RE: Acceptance Letter – MR. Odaro OSAYANDE

I write to acknowledge receipt of your mail on account of Mr. Odaro OSAYANDE, Ph.D. student at the University of KwaZulu-Natal, South Africa.

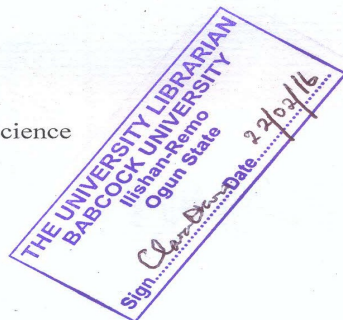
This is also to indicate our willingness to accept him to carry out his research titled:
"The Use of Electronic Security Systems
in Academic Libraries: a Critical Assessment
of the Experiences of Selected Universities
in South-West, Nigeria".

The Library Administration of Babcock University is waiting to have him kickstart the research and to render any assistance in that regard.

I am sorry for responding late. It is not intentional.

Thanks.

Clara C. Okoro
Clara C. Okoro, Ph.D.
Prof. of Library & Info. Science
Archives & Records Mgt.
University Librarian



...A Seventh-day Adventist Institution of Higher Learning
Ilishan-Remo, Ogun State, Nigeria. www.babcockuni.edu.ng

Appendix 16: Editor's Report.



Barbara Mutula
Associate member
Membership number: MUT001
Membership year: March 2019 to February 2020
0786439029
kabangebarbara@gmail.com

www.editors.org.za

20 November 2019

TO WHOM IT MAY CONCERN

This is to confirm that the dissertation written by Osayande Odaro, titled 'Use of Electronic Security Systems in Academic Libraries: Experiences of Selected Universities in South-West, Nigeria' was copy edited for layout (including numbering, pagination, heading format, justification of figures and tables), grammar, spelling, punctuation and references by the undersigned. The document was subsequently proofread, and a number of additional corrections were advised.

The undersigned takes no responsibility for corrections/amendments not carried out in the final copy submitted for examination purposes.

A handwritten signature in black ink, appearing to read 'Barbara L. Mutula-Kabange', written over a horizontal line.

Mrs. Barbara L. Mutula-Kabange

Copy Editor, Proof reader
*BEd (UBotswana), BSSc Hons Psychology (UKZN),
MEd Educational Psychology (UKZN)*