IMPLEMENTATION OF AN INTEGRATED LIBRARY MANAGEMENT SYSTEM IN COMMUNITY LIBRARIES: A CASE STUDY OF WINDHOEK PUBLIC LIBRARY

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF

MASTER OF ARTS IN LIBRARY AND INFORMATION SCIENCE

OF

THE UNIVERSITY OF NAMIBIA

BY

PATIENCE PEDZISAYI VIRIRI

200812807

APRIL 2019

Main Supervisor: Prof. C.T Nengomasha, Department of Information and Communication Studies, University of Namibia

Co- Supervisor: Mr. W. E. Uutoni, Department of Information and Communication Studies, University of Namibia
Abstract

Library automation plays a pivotal role in the growth and development of modern-day public libraries. The purpose of this study “Implementation of an Integrated Library Management System (ILMS) in Community Libraries: A Case Study of Windhoek Public Library” was to establish the reasons that led to the automation of the library and the selection of a proprietary system. The objectives of the study were to: establish reasons that led to library automation; determine why a proprietary system was chosen; establish steps followed during the implementation of Symphony; establish the enablers and barriers in Symphony implementation; and recommend how some of the challenges identified could have been avoided and how they could be solved.

This case study, within an interpretivist paradigm, employed qualitative data collection methods of interviews and document search. The population was community libraries in Namibia that implemented Symphony and the units of analysis comprised of librarians from Windhoek Public Library, Namibia Library and Archives Services (NLAS) management, Millennium Challenge Account- Namibia (MCA-N) and International Research & Exchanges Board (IREX). Windhoek Public Library was randomly selected by applying the lottery sampling technique while the interview participants and documents were purposively selected. The qualitative data were analyzed manually using content analysis technique. The study revealed that the major reason leading to library automation was to modernize information services by adopting dynamic technological trends to meet the diverse information needs of library patrons. A proprietary system was chosen as it met all the requirements and specifications provided by NLAS. The study established that not all staff members were involved in all the phases of implementation.
The study recommends NLAS to set up a participative structure in order enable all levels of staff to engage in the implementation process. For ILMS implementation to be successful, the library staff and management need to make sure all the four phases in the Information Technology Implementation Process model are followed. There is a need for further research on post-implementation of Symphony in a community library in Namibia to get a clearer picture of the success of Symphony as an ILMS.
Table of Contents

Abstract .................................................................................................................................. i
Table of Contents .................................................................................................................. iii
List of Tables ........................................................................................................................ vii
Abbreviations and Acronyms ................................................................................................ viii
Acknowledgements ................................................................................................................ x
Dedication ................................................................................................................................. xi
Declaration of original work ..................................................................................................... xii

Chapter One ........................................................................................................................... 1
1.1 Orientation of the study ........................................................................................................ 1
1.2 Problem Statement ............................................................................................................... 2
1.3 Objectives of the Study ........................................................................................................ 3
1.4 Significance of the Study ..................................................................................................... 3
1.5 Limitations .......................................................................................................................... 3
1.6 Delimitation of the Study .................................................................................................... 4
1.7 Context of the Study .......................................................................................................... 4
1.7.1 NLAS background ......................................................................................................... 4
1.7.2 MCA-N background ....................................................................................................... 5
1.7.3 Vision 2030 for education and libraries ......................................................................... 5
1.7.4 Information and Communication Technology (ICT) Policy for Education ................ 6
1.7.5 Internet and connectivity ............................................................................................... 6
1.8 Definition of Key Terms .................................................................................................... 7
1.8.1 Automation ..................................................................................................................... 7
1.8.2 Implementation ............................................................................................................... 8
1.8.3 Library Patron ............................................................................................................... 8
1.8.4 Open source System ....................................................................................................... 8
1.8.5 Proprietary system ......................................................................................................... 8
1.9 Research Methodology ...................................................................................................... 8
1.10 Research Ethics ................................................................................................................. 11
1.11 Summary ........................................................................................................................... 11
<table>
<thead>
<tr>
<th>Chapter Two</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Review</td>
<td>12</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>12</td>
</tr>
<tr>
<td>2.2 Reasons for automation</td>
<td>13</td>
</tr>
<tr>
<td>2.4 Barriers faced by libraries during ILMS implementation</td>
<td>17</td>
</tr>
<tr>
<td>2.5 Enablers in ILMS implementation</td>
<td>20</td>
</tr>
<tr>
<td>2.5.1 Staff involvement and preparedness</td>
<td>22</td>
</tr>
<tr>
<td>2.6 Theoretical Framework</td>
<td>24</td>
</tr>
<tr>
<td>2.6.1 Implementation process (the four stages)</td>
<td>26</td>
</tr>
<tr>
<td>2.7 Summary</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Three</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Methodology</td>
<td>31</td>
</tr>
<tr>
<td>3.1 Introduction</td>
<td>31</td>
</tr>
<tr>
<td>Philosophical Assumptions of the Study</td>
<td>31</td>
</tr>
<tr>
<td>3.2 Research Design</td>
<td>33</td>
</tr>
<tr>
<td>3.2.1 Case study design</td>
<td>33</td>
</tr>
<tr>
<td>3.3 Population</td>
<td>34</td>
</tr>
<tr>
<td>3.4 Sampling</td>
<td>34</td>
</tr>
<tr>
<td>3.5 Data Collection Methods</td>
<td>37</td>
</tr>
<tr>
<td>3.5.1 Interviews</td>
<td>37</td>
</tr>
<tr>
<td>3.5.2 Document Search</td>
<td>40</td>
</tr>
<tr>
<td>3.5.2.1 Document search checklist</td>
<td>41</td>
</tr>
<tr>
<td>3.6 Procedure</td>
<td>42</td>
</tr>
<tr>
<td>3.7 Data Analysis</td>
<td>42</td>
</tr>
<tr>
<td>3.8 Trustworthiness of the data</td>
<td>43</td>
</tr>
<tr>
<td>3.9 Research Ethics</td>
<td>45</td>
</tr>
<tr>
<td>3.10 Evaluation of Methodology</td>
<td>46</td>
</tr>
<tr>
<td>3.11 Summary</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Four</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data analysis and presentation</td>
<td>49</td>
</tr>
<tr>
<td>4.1 Introduction</td>
<td>49</td>
</tr>
<tr>
<td>4.2 Participants of the Study</td>
<td>51</td>
</tr>
<tr>
<td>4.3 Reasons for automation</td>
<td>52</td>
</tr>
</tbody>
</table>
4.4 Steps followed during implementation process .......................................................... 53
  4.4.1 Identifying the need for an ILMS ........................................................................ 53
  4.4.2 Planning and decision making .......................................................................... 54
  4.4.3 Budget and funding for the ILMS implementation ........................................... 55
  4.4.4 Tour of other public libraries using an ILMS ..................................................... 56
  4.4.5 Tender Process .................................................................................................. 56
  4.4.6 Staff involvement and preparedness .................................................................. 57
4.5 Selecting a proprietary ILMS .................................................................................... 59
4.6 Perceptions and attitudes towards automation .......................................................... 61
4.7 Enablers in successful Implementation of Symphony at the Windhoek Public Library... 62
4.8 Barriers in the Implementation of Symphony at the Windhoek Public Library ......... 63
  4.8.1 Benefits that came post-automation .................................................................. 65
4.9 Summary .................................................................................................................... 66

Chapter Five ..................................................................................................................... 68
Discussion of research findings.......................................................................................... 68
  5.1 Introduction ............................................................................................................. 68
  5.2 Reasons for automation .......................................................................................... 69
  5.3 Steps followed during implementation ................................................................. 69
    5.3.1 Identifying the need to automate Windhoek Public Library ......................... 70
    5.3.2 Planning and decision making ....................................................................... 70
    5.3.3 Budget and funding for ILMS implementation .............................................. 71
    5.3.4 Selecting a proprietary ILMS ....................................................................... 72
    5.3.5 Staff involvement and preparedness .............................................................. 74
    5.3.6 Perceptions and attitudes towards automation .............................................. 75
  5.4 Enablers and barriers in the Implementation of Symphony at the Windhoek Public Library........................................................................................................... 77
    5.4.1 Barriers in the Implementation of Symphony at the Windhoek Public Library .. 77
    5.4.2 Enablers in the Implementation of Symphony at the Windhoek Public Library .. 78
  5.5 Benefits that came post-automation ....................................................................... 79
  5.6 Summary .................................................................................................................... 80

Chapter Six ....................................................................................................................... 82
Summary, Conclusions and Recommendations ................................................................ 82
  6.1 Introduction ............................................................................................................. 82
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Summary of the findings ...................................................................</td>
<td>83</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Reasons for automation .....................................................................</td>
<td>83</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Steps followed during ILMS implementation ....................................</td>
<td>83</td>
</tr>
<tr>
<td>6.3</td>
<td>Conclusions .....................................................................................</td>
<td>86</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Reasons for automation .....................................................................</td>
<td>86</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Selection of a proprietary system for Windhoek Public Library ..........</td>
<td>87</td>
</tr>
<tr>
<td>6.3.3</td>
<td>Steps followed during Symphony implementation ..............................</td>
<td>87</td>
</tr>
<tr>
<td>6.3.4</td>
<td>Enablers and barriers in Symphony implementation ...........................</td>
<td>87</td>
</tr>
<tr>
<td>6.4</td>
<td>Recommendations ..............................................................................</td>
<td>88</td>
</tr>
<tr>
<td>6.5</td>
<td>Areas for further research ................................................................</td>
<td>90</td>
</tr>
<tr>
<td>6.6</td>
<td>Implications for practice ..................................................................</td>
<td>90</td>
</tr>
<tr>
<td>6.7</td>
<td>Final Conclusion ..............................................................................</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>References .......................................................................................</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Appendices .......................................................................................</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>Appendix A - Ethical Clearance Certificate ......................................</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>Appendix B – Research Permission Letter ..........................................</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>Appendix C - NLAS Request Letter ..................................................</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>Appendix D – Consent Form ..................................................................</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>Appendix E – Interview Guide for NLAS Management ............................</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Appendix F – Interview Guide for MCA Stakeholder ............................</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>Appendix G – Interview Guide for Systems Administrator at Windhoek Public Library</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>Appendix H – Interview Guide for Librarians at Windhoek Public Library</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Appendix I – Document Search Checklist ..........................................</td>
<td>119</td>
</tr>
</tbody>
</table>
List of Tables

Table 1 List of Participants ........................................................................................................49
# Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDS/ISIS</td>
<td>Computerized Documentation Service/ Integrated Set of Information Systems</td>
</tr>
<tr>
<td>CLS</td>
<td>Community Library Services</td>
</tr>
<tr>
<td>ERP</td>
<td>Enterprise Resource Planning</td>
</tr>
<tr>
<td>GRN</td>
<td>Government of the Republic of Namibia</td>
</tr>
<tr>
<td>HSRC</td>
<td>Human Science Research Council</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>ILMS</td>
<td>Integrated Library Management System</td>
</tr>
<tr>
<td>IREX</td>
<td>International Research &amp; Exchanges Board</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>MCA-N</td>
<td>Millennium Challenge Account- Namibia</td>
</tr>
<tr>
<td>MCC</td>
<td>Millennium Challenge Corporation</td>
</tr>
<tr>
<td>MoEAC</td>
<td>Ministry of Education, Arts and Culture</td>
</tr>
<tr>
<td>NLAS</td>
<td>Namibia Library &amp; Archives Service</td>
</tr>
<tr>
<td>OPAC</td>
<td>Online Public Access Catalogue</td>
</tr>
<tr>
<td>PMIS</td>
<td>Pharmacy Management Information System</td>
</tr>
<tr>
<td>TOT</td>
<td>Training of Trainers</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
</tbody>
</table>
UKS - Universal Knowledge Software

UNAM - University of Namibia

WHO - World Health Organization
Acknowledgements

This study would not have been possible without the guidance and support of a number of people and institutions. I would like to give thanks to the Almighty God for guiding me throughout the process and I am grateful for God’s provision of joys, wisdom to tackle any challenges and grace for growth.

I would like to extend my most sincere appreciation to my main and co-supervisors Prof. C.T. Nengomasha and Mr W. Uutoni who were patient with me and, provided advice and guidance throughout the course of preparing for and conducting this research, not forgetting the extra mile they went throughout the research.

Special thanks go to my family for their good-natured forbearance with the process, always encouraging me to see this through and for their pride in this accomplishment.

I would like to acknowledge friends, colleagues, lecturers and other librarians who assisted, advised and supported my research and writing efforts throughout my Masters journey.

My sincere appreciation goes to Prof. K. Mchombu and Mr W. Yule who offered unflagging support and advice during the research proposal stage.

It has indeed been a team effort.
Dedication

I dedicate this thesis to my parents and siblings who have been my constant source of inspiration. They have given me the drive and discipline to tackle any task with enthusiasm and determination. They have always encouraged me to strive for greatness in everything I do. Without their love and support this project would not have been made possible.
Declaration of original work

- I, Patience Pedzisayi Viriri, hereby declare that this is a true reflection of my own research and that this work has not been submitted for a degree in any other institution of higher learning.

- Any assistance and all sources of information that I have received or used in this study have been appropriately acknowledged and referenced in the thesis. This thesis is submitted in partial fulfilment of the requirements for the degree of Master of Arts in Information Science at the University of Namibia in the Faculty of Humanities and Social Sciences.

- No part of this dissertation may be reproduced, stored in any retrieval system or transmitted in any form or by any means without the prior permission of the author or the University of Namibia.

Signed…………………………… Date ……………………………

PATIENCE PEDZISAYI VIRIRI
CHAPTER 1

Introduction

1.1 Orientation of the study

The initial automation systems in libraries were solely used to handle circulation activities (Nelson, 2012). This changed with the introduction of integrated library management systems (ILMS). Reitz (2004) defines ILMS as an integrated set of applications designed to perform the business and technical functions of a library such as acquisitions, cataloguing, circulation and the provision of public access. It helps in increasing the scope and quality of library services. ILMS can be open source or proprietary. Breeding (2008) states that open source does not necessarily mean the software for the system is cost-free but means that it is free to use, free to modify and free to share. According to Pratheepan (2012) choosing a proprietary system does not necessarily mean that it would be more expensive than an open source, as libraries may not look into the long-term hidden costs. The Windhoek Public Library currently uses Symphony which is a proprietary ILMS. There are however, challenges that come up with every ILMS implementation process and these include lack of information technology (IT) support, financial constraints, compatibility issues, lack of appropriate training and acceptance (Nelson, 2012; O’Brien, 2004; Shivaram, 2007). A case study on library automation at the University of Botswana also shed light on other challenges like staff anxiety on learning of new skills and raised expectations of users (Mutula, 2012).

The Windhoek Public Library is a community library that provides information services and support to research, studies and employment-related information enquiries. It is also the local centre of information that makes all kinds of knowledge and information readily available to the
The library also provides Information and Communication Technology (ICT) services that can be used for free by community members to fulfill their information needs. The Windhoek Public Library was closed for renovations in 2009 and re-opened on the 28 September 2012 and the new services were introduced while the existing services were improved. Among the new services that were introduced was the new ILMS, Symphony.

In this study, implementation referred to the procedure followed when the library management decided to automate, which entailed four stages namely initiation, adoption, adaptation and acceptance as informed by the Information Technology Implementation Process framework (Cooper & Zmud, 1990).

1.2 Problem Statement

This study explored the process of the initiation, adoption, adaptation and acceptance of Symphony system at the Windhoek Public Library and the reasons for choosing a proprietary system for a community library. Implementation of an ILMS in a library is essential as it increases the efficiency and effectiveness of service delivery in the library (O’Brien, 2004). However, the implementation process takes a great deal of time, dedication and planning as it entails major changes within the library and comes with some challenges (Mutula, 2012; Nelson, 2012; O’Brien, 2004; Shivaram, 2007). Therefore this study focused on exploring the activities involved in the initiation, adoption, adaptation and acceptance of an ILMS while shedding light on the challenges that came up during automation. The study also sought to establish reasons why Windhoek Public Library decided to automate its collection and to establish the reasons that informed the selection of the type of ILMS the library chose.
1.3 Objectives of the Study

The main objective of the study was to establish the reasons that led to the automation of the Windhoek Public Library and its collection. The sub-objectives were:

1. To determine why a proprietary system was chosen for the Windhoek Public Library;
2. To establish the steps followed during the implementation of Symphony;
3. To establish the enablers in the implementation of Symphony;
4. To establish the barriers in the implementation of Symphony;
5. To come up with recommendations on how the challenges identified could have been avoided and how they can be resolved.

1.4 Significance of the Study

The significance of a study focuses on shedding light on why the study is being conducted and its importance, the implications of conducting the study, how it can be linked to other studies and what new perspectives it will bring (Punch, 2006). This study’s findings could help the Windhoek Public Library to enhance its system implementation process as well as inform other community libraries in Namibia about the process of implementing an ILMS. It also contributes to the body of knowledge on ILMS implementation, a few studies have been done on library automation in Namibian community libraries. Furthermore, this study could also inspire and generate a platform for more studies and debates to be conducted on this same topic.

1.5 Limitations

Limitations are potential weaknesses in a study that are usually beyond the control of the researcher (Leedy & Ormrod, 2010). The Millennium Challenge Account Namibia (MCA-N), a programme implementation unit that provided grant funding for public investments in Education,
who were part of the planning process, finalised and closed the project in September 2014 and later handed over the project to the Namibian Government. As a result, engaging them in this study was limited and some of the responses were delayed as most of the communication was through emails. Being a case study, the findings were not generalisable to other community libraries.

1.6 Delimitation of the Study

Leedy and Ormrod (2010) define delimitations as the parameters of the study. The scope of this study was the Windhoek Public Library.

1.7 Context of the Study

This section gives a background of Namibia Library and Archives Services (NLAS), MCA-N, the internet and connectivity in public libraries in Namibia, the administrative structure of community libraries in Namibia and the Vision 2030 theme that covers libraries. The rationale of the study was to investigate ILMS implementation in the Namibian context. The study was conducted in order to establish methods and steps followed by NLAS and Windhoek Public Library during the implementation process as this would provide information for other public and community libraries that would implement an ILMS in the near future.

1.7.1 Namibia Library and Archives Services background

The Directorate of Namibia Library and Archives Services (NLAS) is a central agency for the implementation of national and international standards relating to library and information work. It is falls under the Department of Lifelong Learning within the Ministry of Education, Arts and Culture (Ministry of Education, Arts & Culture, 2018) Its purpose is to secure equal access to knowledge and information for lifelong learning by creating and maintaining professional
expertise and nationwide network of libraries and information centres. The Directorate consists of five sub-divisions: Community Library Services, the National Library, Ministerial Library Services, Education Library Services and the National Archives (NLAS, 2015). There are 64 community libraries in Namibia with only four of them having implemented an ILMS.

1.7.2 Millennium Challenge Account- Namibia background

The Millennium Challenge Corporation (MCC) and the Government of the Republic of Namibia signed a Compact Agreement for a US$ 304.5 million grant (MCC Funding), that had to be implemented within five years. One of the main aims of the Compact was reducing poverty and accelerating economic growth by improving the quality of education and training for communities and populations that were inadequately provided with a service or facilities. The Government of the Republic of Namibia then established an accountable entity, the MCA-N, which was authorised on behalf of the Government to manage and oversee the implementation of this Compact (M. Wilkinson, personal communication, September 18, 2017). The MCA- N Compact focused on upgrading library systems and building new regional library and resource centres (Coward, Fellows & Gordon, 2014). This is how the Windhoek Public Library became one of the community libraries to get an ILMS implemented.

1.7.3 Vision 2030 for education and libraries

In 2004, Namibia adopted Vision 2030, a document that spells out the country's development programmes and strategies to achieve its national objectives (Office of the President, 2004). Vision 2030 focuses on eight themes to realise the country's long term vision. These are: Inequality and Social Welfare; Human Resources Development and Institutional Capacity Building; Knowledge, Information and Technology; Macro-economic issues; Population, Health
and Development; Namibia's Natural Resources Sector; and Factors of the External Environment. Libraries are catered for under the Knowledge, Information and Technology theme. One of the goals under this theme is to “Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements” (Office of the President, 2004). Furthermore, access to information is key as it allows the citizens to make informed decisions and with the right information the citizens can hold their leaders accountable. This is how community libraries come in the picture, as they offer free services to their library patrons with a few cost recovery services that require payment like photocopying and printing services.

1.7.4 Information and Communication Technology) Policy for Education

The ICT Policy for Education for the Republic of Namibia (GRN) states that the government will stimulate the development of the ICT skills and facilitate the establishment of institutions of ICT learning in all the regions. The mission of the GRN is to ensure that every citizen and resident has affordable access to high quality information and communication services hence the upgrade of community libraries that has been taking place (Ministry of Education, Arts & Culture, 2000). The Namibia Information Policy states that the vision for community libraries in Namibia is to provide information services that contribute to the community’s learning and information needs and promote economic empowerment (Mcharazo, Kauaria, & Lahti, 2012).

1.7.5 Internet and connectivity

The Internet for community libraries in Namibia is provided by Telecom Namibia. Their main objectives are to provide universal access to information and communication facilities in Namibia for all, to successfully implement Government ICT initiatives in education and training
and successfully implement e-government initiatives and to establish Namibia as a first class regional ICT hub that will contribute towards education and economic growth. In 2016, Namibia was ranked 99 out of 139 countries in the World Economic Forum global ICT rankings because it lacked what they refer to as ‘Networked readiness’ as it is a key indicator of how a country is performing in the digital world (Baller, Dutta & Lanvin, 2016). Baller et al. (2016) define Network Readiness as the ability of a country to possess the drive necessary for digital technologies to unleash their potential, and whether these technologies are impacting the economy and society. Namibia’s Vision 2030 goal on ICTs stipulates that significant and rapid progress is required to create the conditions in which the goals of Vision 2030 for a knowledge-based economy become feasible and the ‘digital divide’ and inequalities in access to ICTs and information can be rectified (Office of the President, 2004). This means that having community libraries in Namibia that are well equipped with advanced ICTs could contribute to economic and educational growth in the country to curb inequalities in the access to ICTs.

1.8 Definition of Key Terms

This section defines the key terms as they were used in this study, to ascertain the context in which the terms were used. They are presented below:

1.8.1 Automation

According to Sindhav and Patel (2014), the term automation was first introduced by D.S. Harder in 1936 where he described it as a progressive production process in engineering industries. Since then, the term has evolved and is now used to describe anything that refers to any activity that has been a substantial substitution of controlled action for human efforts or intelligence. In
this study, automation refers to the use of a computer-based system to perform the traditional library duties that are usually performed manually.

1.8.2 Implementation
The Oxford English Dictionary (2013) defines implementation as the process of putting a decision or plan into effect or execution.

1.8.3 Library Patron
A library patron is a person who makes use of the services offered by a library (Pundsack, 2015).

1.8.4 Open source System
This is a system or software that is free to acquire and the developer grants the users the right to use it. The system allows the source code to be shared, viewed and modified by other users and organisation (Singh, Bansal & Jha, 2015).

1.8.5 Proprietary system
This is commercial software that remains the intellectual property of the developer or company providing it. This means its source code is dependably kept undisclosed from the outside world (Singh, Bansal & Jha, 2015).

1.9 Research Methodology
This case study adopted an interpretivist research paradigm, applying a qualitative research approach. Triangulation of semi-structured interviews and document research, as data collection methods, were used to overcome the weaknesses of any single method as well as enhance reliability. The documents that were consulted included procedural documents like the minutes of the planning meetings and the written plans from NLAS and MCA-N and IREX. The target population included community libraries using Symphony, NLAS management staff, MCA-N
representatives and the User Services and I.T. staff from the Windhoek Public Library. Windhoek Public Library was randomly selected from the four community libraries that have implemented Symphony by applying the lottery sampling technique. The four community libraries namely Omaheke Regional Library, Oshana Regional Library, Windhoek Public Library and Ohangwena Regional Library all share the same attributes. They are all under NLAS management, their system was sponsored by MCA-N and implemented at the same time and all provide the same services, hence they had an equal probability of being selected for this study. Purposive sampling method was used to select the eight interviewees which comprised of: The Director of NLAS, Head of Community Libraries in Namibia, the Chief Librarian at the National Library, MCA-N representative who was involved in the project, and from the Windhoek Public Library – one Librarian, two Assistant Librarians and one ICT Systems Administrator. The documents for analysis were also purposively selected to only include those relevant to the study.

Three sets of semi-structured interview guides for the NLAS staff, the MCA-N stakeholder and the Windhoek Public Library staff were used. A checklist was used for the document search. The semi-structured interview guides were pre-tested to ensure that the questions were understood by the interviewees the way the researcher intended, thereby enhancing the trustworthiness of the data.

According to Porter (2007), different methodological approaches to qualitative research encompass different approaches to validity, making it impossible to develop a universally accepted approach to the validation of qualitative research. This means validity in qualitative research differs from validity in quantitative research. Noble and Smith (2015) report that qualitative research is frequently criticised for lacking scientific rigour with poor justification of the methods adopted, lack of transparency in the analytical procedures and the findings being
merely a collection of personal opinions subject to researcher bias. This is because terms like validity, reliability and generalisability are more pertinent to quantitative research. Noble and Smith (2015) provide alternative terminology associated to the credibility of qualitative research and these are: truth value (also referred to as trustworthiness), which is similar to validity; consistency and neutrality that refer to reliability and applicability that is similar to reliability.

Triangulation of data ensured consistency and neutrality whereby the two data collection instruments were used to cover up any shortfalls that either of them brought up. To maintain the trustworthiness of the study, the researcher conducted a pre-testing of data collection instruments. Kumar (2012), states that pre-testing a research instrument entails critical examination of the understanding of each meaning as understood by a respondent. After constructing an interview guide, it is important for the researcher to test it out before using it in the field. The purpose is not to collect data but to identify problems that the potential respondents might have in interpreting a question.

The researcher sought authorisation to conduct the study from the head of the organisations namely NLAS, MCA-N and the Windhoek Public Library before setting up appointments with the selected participants.

The researcher used the content analysis method to analyse data from the interviews and the documents analysis. Kumar (2012) defines content analysis as a means of analysing the contents of interviews or observational field notes to identify the main themes that emerge from responses given by the participants. The researcher came up with themes that were related to the research objectives and the problem statement.
1.10 Research Ethics

Research ethics are rules that guide the researcher on what is acceptable and appropriate in the field as a researcher (Esterberg, 2002). Confidentiality of the participants was respected and, to cater for their concerns, certain procedures were followed. These included informed consent were the participants were told from the beginning the purpose of the study. It had to be the participant’s own decision to participate in the interview. The participants were also assured of utmost confidentiality and anonymity as names were not mentioned or recorded. Consent was sought regarding document and records search at NLAS. The researcher sought ethical clearance from the UNAM Postgraduate Studies Committee to collect data in the field. Interview transcripts and the documents for documents analysis were to be discarded in line with best practices.

1.11 Summary

This chapter gave a brief introduction of the study, which focused on the implementation of a proprietary system in a community library in Namibia. There is a lack of studies that shed light on the implementation of proprietary systems in community libraries in Namibia. Therefore, this case study contributes to the body of knowledge and provides much needed information on library automation in community libraries. The study followed a qualitative approach within an interpretivist research paradigm using a case study design. The next chapter reviews related literature on library automation and discusses the study’s theoretical framework.
CHAPTER 2

Literature Review

2.1 Introduction

Kumar (2012) defines literature review as an integral part of the research process and makes valuable contribution to almost every operational step. The purpose of a literature review is to bring clarity and focus to the research problem and broaden the researcher’s knowledge base. Several people or scholars have published in journals both electronic and print format, articles, information science blogs and reports on selection and implementation of an ILMS. Some of the literature is from published books on research in library science and library software and systems. This chapter identifies the areas of ILMS implementation that other researchers or scholars focused on. It also shows the history and background of ILMS implementation, gaps, assumptions, findings and some of the most influential literature works about ILMS implementation in libraries. It also gives an overview of the subject being researched on and present how the implementation process of an ILMS at Windhoek Public Library relates to the theoretical framework chosen for the study.

Related literature on Namibia implementing library systems is limited, for this reason most of the citations are from a few other African countries especially West African countries and other developed countries. However, the researcher reviewed some literature on system implementation in Namibia outside the librarianship field or profession. Literature review should give a summation of what is known about the phenomena being studied and to help put
together questions that need to be further researched on (Silverman, 2010). The literature review
is organised according to thematic issues drawn from the research objectives as follows:

- Reasons for automation
- Proprietary versus open source systems
- Steps to be followed during the implementation of an ILMS
- Barriers to the implementation of an ILMS
- Enablers in the implementation of an ILMS
- Benefits of ILMS implementation

2.2 Reasons for automation

An Integrated Library Management System is a resource-planning system for a library that is
used to track and manage books or information materials in the library (Adebayo, 2007). A
library is created to provide services to users hence one of those measures taken to ensure this is
the implementation of an ILMS.

As use of the Internet grew, so did the ILMS vendors increase and improve the functionality of
the systems that they offered or those on the market because the initial automation systems in
libraries were solely used to handle circulation activities (Nelson, 2012). A study on the
implementation of an ILMS at the World Health Organization (WHO) shows that the major
impact of the introduction of the integrated systems is not the technical change itself, but rather
the implications of the nature of the work and new relationships which are created between staff
members and the quality of service provision (Ruff & Avriel, 1987).
In every library, a library management system is a necessity as it aids in library housekeeping, management and facilitate the dissemination of information to all (Shivaram, 2007). This signifies that the implementation of an ILMS is an important task hence should not be taken lightly. Sahu, Nageswaran and Singh, (2005) assert that in the changing scenario of information storage and retrieval, there is no option but to automate the library information and manual system for various reasons. One of the reasons is that this would help libraries, their staff and users to reach the same goal of adequate information provision and ease of access to any information materials. According to Chile (2012), the purpose of an ILMS is to process, share and provide information in an efficient, useful and timely manner. Early automated library systems usually consisted of several useful modules such as acquisitions, circulation, cataloguing and online public access catalogue (OPAC). They basically aimed at providing another alternative other than the manual system or handling of physical materials (Breeding, 2005). Library automation depends upon adequate infrastructure, and financial resources and an effective and efficient manpower.

According to the fifth law of library science by Ranganathan (1931), a library is a growing organism. This law best relates to the growth of public libraries whereby library collections are increasing in numbers and the need to manage them efficiently and effectively is growing. Manual systems no longer meet the workload demands, hence, automation is the next best solution. The reasons that may lead a library to automation can be the need for easy retrieval of information materials, organising information or easy sharing of information materials as other libraries can check for their availability without being physically present at that library. This part of the literature review is guided by the main objective of this study that seeks to establish the reasons why the Windhoek Public Library implemented Symphony, a proprietary system.
All libraries need to change their infrastructure regarding technology or library automation for them to offer much more prompt responses to their users’ needs, (O’Brien, 2004). Shivaram (2007) states that:

Library automation is the common term for information and communication technologies (ICT) that are used to replace manual systems in the library. This is due to the fact that the growth rate of information being too high has resulted into availability of a bulk of information in libraries that cannot be handled manually and requires an up to standard system to keep up and meet the needs of that library. (p.3)

To achieve this, there is need for proper planning during the initiation phase of the implementation process. Vaughan (2001) states that planning is made up of many detailed components and one of them is a project vision. A project vision must be shared and agreed upon by all the decision makers during the planning phase, as lack of a shared vision may cause obstacles in the implementation process. Regarding to ILMS implementation, the researcher sought to establish whether the decision makers had a clearly defined plan that they all agreed upon before setting it in motion. In this study, the researcher paid attention to the planning phase of the implementation process as it was the start of every activity that was to follow. Information upsurge has resulted in the production of a large amount of literatures in every field of knowledge. Accordingly, the print documents are coming to the library in large numbers making it difficult for a library to manage the collection manually. According to Das and Chatterjee (2015) modern-day users no longer have time to search the required and relevant information from the dense heap of information collection. They have no time to go shelf by shelf to pick up a book and this has necessitated library automation. All libraries have two sections or modules that are the backbone of most libraries and they are the first to be considered and these are
usually the circulation and acquisitions. Mutula (2012) states that cataloguing and acquisition are two modules that are most labour intensive. Acquisition entails selecting, ordering, budgeting and management of information materials to be acquired for the library. This procedure requires utmost attention as mistakes can cost the library in the end. Mutula (2012) also mentions that measures should be taken to keep up with the rapid changes in the library sector for instance library automation. This study sought to also establish if there were any measures put in place to deal with the rapid growth of modern-day community library in Namibia.

2.3 Proprietary versus Open Source system

Nowadays, it is very important for modern libraries to implement an automation system to mechanize the operations and services they provide to their library patrons. An ILMS forms the backbone for any automation process in the library and for any scheme to establish the so-called “electronic library” (Sindhav & Patel, 2014). When choosing to automate, a library may choose between a proprietary system and an open source system. There are several types of systems both open source and proprietary. Koha; Evergreen, NewGenLib, OpenBiblio which are all open source and Sierra, ExLibris, Verso and Symphony that are all proprietary, to name just a few (Capterra, n.d.). The Open Source Initiative defines an open source system as a “software or system that is distributed with human readable source code to allow the freedom to run, review, alter, enhance and modify the code for any purpose” (Engard, 2010, p.3). According to Breeding (2008), open source does not necessarily mean the software for the system is cost-free but means that it is free to use, free to modify and free to share. Proprietary ILMS also known as commercial software is defined by Pratheepan (2012) as the model where the software developed by a commercial entity is typically licensed for a fee to a customer or client. In this case study on the Windhoek Public Library, the library chose a proprietary system instead. Therefore, the
researcher’s aim was to establish the reasons that led to the selection of a proprietary system considering that it is a public library, as some literary works have shown that most public libraries opt for open source systems that are less costly considering the low budget allocation that most libraries get. One of the studies is that of Uzomba, Oyebola and Izuchukwu (2015) on the selection of a library system for a library that states that most libraries, especially in developing countries are poorly funded. There is a need for adequate funding for the efficient running of any library. Therefore, lack of adequate funding poses a great danger to libraries that adopt a new library system and may have a huge impact on service delivery.

2.4 Barriers faced by libraries during ILMS implementation

There are challenges that come with the implementation of an ILMS. Breeding (2005) mentions operational and technical issues that arise during library automation. These are: increase in costs in the long run, less functionality due to internet coverage, security issues and limited technical knowledge when a problem arises during implementation and training due to lack of staff training and preparedness.

According to a report on opportunities and challenges academic libraries in East and West Africa faced, the librarians at the University of Jos in Nigeria experienced bandwidth problems during the implementation process of their new system. Network hindrances potentially delay the whole process of adaptation of a new system (University of Illinois, 2004). The report also states that libraries from East and West Africa were constrained in selecting the vendors for the systems as they would prefer on-site training while most vendors would only be willing to offer support remotely. On-site training proved to be an expensive option offered by the vendors. Some universities never managed to fully implement their systems, as they did not have enough
funding. However, one library that managed to implement a system had received funding from a European university. In this study, the researcher aimed at determining if the Windhoek Public library also faced challenges dealing with the vendors and whether enough support was offered in the ILMS implementation process.

Findings from a study conducted by Samzugí (2016) on the automation of Tanzania’s public university libraries reported that one of the challenges with the system was the issue of depending on the system administrators, who on a few occasions did not respond on time to technical problems they encountered. Another challenge was the inability to apply or implement commercial software (which in this study is referred to as a proprietary system). Samzugí (2016) attributes that is to lack of enough funds, as the software was not only expensive to acquire but also the maintenance costs were not sustainable in the long run. In the same vein, Namibian public libraries also face the same challenge of maintaining the systems that they have implemented due to technical issues and financial constraints.

A case study on library automation at the University of Botswana also shed light on other challenges like staff anxiety on learning new skills (Mutula, 2012). This is because staff members feared that they might lose their jobs if they could not keep up with the changes from the manual system to the new and advanced integrated system. Some feared the possibility of increased or added responsibility, raised expectations of the library users and not being able to keep up with the new trends in librarianship. In this study the researcher is of the notion that implementation of a new ILMS is important in modern-day libraries, however the approach of the library staff may have a huge impact on the success and acceptance of the new system.
A common problem that community libraries in Namibia face is lack of funding to support and maintain what they already have, making it difficult to even bring new ideas or concepts into the picture. This statement by the researcher is supported by a report presented at an IFLA conference in 2012 that states that Namibian community libraries face limited funding, as the funds are usually divided to suit other sectors, inadequate number and training of staff (Mcharazo et al., 2012). The latter will be further elaborated in this review of literature. Studies conducted at Nigerian universities showed that academic libraries also face the problem of funding (Adebayo, 2007; Adegbore, 2010; Uzomba et al., 2015). These researchers went on to state that one of the problems generally affecting higher education in Nigeria was poor funding, as libraries were poorly funded by the universities compared to other departments at the institution. Therefore, this means that it is not only the public libraries that face funding problems. The same study highlighted other challenges that come up during library automation such as lack of maintenance, lack of commitment by staff and negligence by professionals involved in the library automation projects towards preference for the selection of software both operating and application and lack of resources. Adegbore (2010) identifies the challenge of staff members, who were already trained on using the system, leaving the institution. This means new staff to be recruited would require intensive training to keep up with the existing staff members.

According to Weiner (2003), “growth implies change and academic libraries are faced with unprecedented rate of change and very real challenges to their existence in contemporary society” (p.69). However, change does not affect academic libraries, as community or public libraries are also growing due to the increase of community members who use the library facilities offered. The researcher believes public libraries also need to keep up with new trends in this digital era. This brings up the issue of resistance to change or innovation. Library staff
members need to realise that former ways of doing things will not sustain the success of the library. Weiner (2003) asserts that the adoption of an innovation depends partially on attitudes toward the innovation such as level of respect and level of comfort and acceptance of the new concept being introduced.

A library automation overview presented by Das and Chatterjee (2014) states that library professionals’ lack of technical knowhow may be a hindrance to any system implementation process. This agrees with the findings by Adegbore (2010) that none of the staff that represented the two Nigerian universities that were researched on could give the reason for the choice of the software for their systems. This was attributed to negligence and lack of interest from the staff.

2.5 Enablers in ILMS implementation

Despite the challenges automation brings, the benefits outweigh the disadvantages. Automation enables easy access to library materials and allows staff to better serve users and facilitate a multitude of tasks such as acquisitions, cataloguing, circulation, and reference (Egunjobi & Awoyemi, 2012). In this context, enablers are the strategies or actions taken to ensure best results during the adaptation and acceptance stages of the ILMS implementation process.

At current rates of improvement in most libraries in developing countries, there is a growing need for automation as library collections are getting bigger in volume making it difficult to operate with the manual system. A study conducted in Ghana on the advantages and disadvantages of library automation reiterates the issue of time saving that comes with using automated systems in place of the manual ones. Libraries can conduct inventory during automation exercises and circulation that is the busiest section in libraries can provide prompt
services to the library users with the added help from the OPAC that comes with an automated system (Boateng, Agyemang & Dzandu, 2014). This basically leads to an increase and improvement of productivity in the library.

Pandya (2012) shares the benefits of ILMS implementation to library users in a slide share on the need and importance of library automation. These include allowing library users to use search strategies that exceed those that can be used with card catalogue and motivating users to equip themselves with problem-solving and information retrieval skills. All these may help in providing users with the lifelong learning experience and for library staff to eliminate human errors while performing routine library work.

Sarker and Lee (2000) provide three user acceptance enablers in system implementation and these are; having a strong and committed management team, communication and a balanced and empowered staff. Although they focused on the implementation of the Enterprise Resource Planning (ERP) system, these enablers may also apply to the implementation of a library system. These user acceptance enablers shed light on how user perceptions are formed prior to the system implementation and provide the suitable strategies that can be used in ensuring the system is being used accurately after implementation. The ‘users’ in this case are the staff members who are supposed to be trained on how to use the system and learn to accept it and incorporate it in their daily duties. Sarker and Lee (2000) assert that to ensure that there is a strong and committed management team, the first matter to attend to is changing the organisational structure and culture to prepare for ERP software introduction. However, regarding libraries, the organization structure is not normally changed, but the culture should be
tweaked, as the staff members will be transitioning from the manual system to the ILMS. The library management have to be committed, as they are the ones who lay the foundation during the planning session and deciding on how the staff members are to be trained.

The second enabler is communication. This is generally about honest and open communication within the organisation. There should be communication between top management and subordinates. The channels of communication should be functional always (Sarker & Lee, 2000). This is an important factor, as good communication within an organisation means that issues or grievances regarding a new system being implemented may be brought up and management may work out ways of ensuring they are curbed before or during the implementation process. The third enabler is the balanced and empowered staff. After making sure that the channels of communication are open, the management should ensure that staff members are active until the conclusion of the project. Sarker and Lee (2000) refer to this as ‘user involvement’. In this study, the researcher believes that engaging with the staff may motivate the staff members to embrace the new changes and the upgrade to their library system. The next phase gives priority to staff preparedness towards a new ILMS.

2.5.1 Staff involvement and preparedness

In a study conducted in Stellenbosch on the Human Sciences Research Council (HSRC) information services, Sani (2006) asserts that failure to train staff may pose a long-lasting impact on morale and willingness of the staff to embrace technological change. Library staff whose work or duties are more complex and subject to significant productivity pressures require adequate training so for them to master the new system. Kochtanek and Matthews (2002) explain that clear objectives for training staff on the system should be set in advance and an environment
that is conducive should be created as some staff members may be resistant to learning new
skills. In a study on the implementation of an enterprise resource planning system at MVA Fund
in Namibia Shikongo (2013) explains that:

In order to reduce staff resistance, future new users of a system must be involved in the
early phases of the project in order to create a sense of ownership and commitment to the
project. The involvement of future users in the early phases of the project has advantages
because it defines the starting point to address uncertainty and insecurity in an
organisation. The trainings should be planned according to the skills set or capabilities of
the staff members that will use the system.

The researcher agrees with the above assertion, as it is important that staff members have a say
from the start of the implementation of an ILMS. Although everyone is likely to have different
opinions, some useful ideas may be brought up. This is vital as those staff members especially
librarians, will be the ones working with the system daily, hence, they are the best to identify
which features in a system they would need more than any other. One of the recommendations
from the study on automation at two academic libraries was:

“Segregation of certain staff’s involvement in the automation project implementation
should be discouraged totally. Every member of staff should be made stakeholders in the
automation of university libraries. This will discourage them of sabotaging the whole
exercise. They will start to feel involved and offer useful suggestions for improvement
of the whole exercise” (Adegbore, 2010, para. 30).

In public libraries, the same should be done as they serve a diverse community with different
backgrounds and information needs. This study focused on establishing what role staff members
played in the decision-making process. Spacey, Goulding and Murray (2003), in a study conducted in the UK on ICT and change in public libraries; report that staff involvement and attitude are assumed to be fundamental in the acceptance, implementation and success of new technologies. Therefore, for ICT systems to be successful, the researcher believes staff need to share and contribute at some stage of the implementation process as they are the ones who know what is required from them in terms of service delivery and how the system will be of help to them. According to Bissels (2008), in many other library environments, it would be necessary to obtain approval from the IT department before final selection and implementation of an ILMS as they would have the technical know-how of what a system should be able to offer. In this study, the researcher sought to establish how and when the Systems Administrators were consulted regarding ILMS implementation at the Windhoek Public Library.

A report on the implementation of a national Pharmacy Management Information System (PMIS) in Namibia addressed the issue of staff involvement in the system implementation process (Lates, Ouma, Muthiani, Mabirizi, Tjipura & Nwokike, 2009). The report states that pharmacists who were going to use the system daily played major roles in the decision-making process. In other words, it was vital to get input from the staff members who use the library system daily as they were in a better position to identify what they needed from the system.

The next section discusses the theoretical framework that guided this study.

2.6 Theoretical Framework

A theoretical framework is a fundamental part of research. It provides a link between the ideas that the researcher wants to portray and what is already known about the topic. Green (2014) describes a framework as a map that guides the research and how research questions will be
It strives to link the two as the research questions address what has been left out or what is being added to the already existing literature. Green (2014) continues to justify the above notion by stating that the theoretical framework presents a more coherent structure that is understandable, meaningful and more easily accessible. Troudi (2005) defines a theoretical framework as the intellectual structure which guides a study and informs a researcher’s view of the data. It is a group of related ideas or models which provide guidance to a research project.

The model which guided this study is the Information Technology Implementation Process. The model was originally developed by Kwon and Zmud in 1987 and was further developed by Cooper and Zmud in 1990 (Cooper & Zmud, 1990). The purpose of the model is to offer a guiding and organizing framework for any research on the implementation of ICT.

The researcher chose this model as it fitted well with this study which focuses on facets of implementation. A study by Rodriguez (2013) on the implementation process of technology in Education also used the Information Technology Implementation Process model and described the different phases of the model and what role each phase played as the study used all the phases of the model. However, this study focused on the first four stages of this model namely: Initiation, Adoption, Adaptation and Acceptance as they gave the best reflection of the steps followed when implementing an ILMS. The model helps in guiding the research in focusing on all the details that occur during the selection and implementation of an ILMS. This framework links a study with existing knowledge and helps in shedding light on the subject being researched on. Below is the discussion on the model that guided this study.
2.6.1 Implementation process (the four stages)

The initiation phase according to Cooper and Zmud (1990), is the stage where the reasons to automate are discussed and the plans on how to do it are drawn up. This is where it all begins as the decision making process is done at this level. Planning is time-consuming, but it is eventually cost-effective because the time that is spent planning reduces the amount of time required for system implementation and reduces the chances of making mistakes or omitting anything in the process.

Cohn, Kelsey and Fiels (1997) outline the steps followed in the initiation phase of ILMS implementation as creating a basic technology plan which describes how to develop a library profile in preparation for automation, explains how to assess and identify institutional needs and priorities and shows how to go about writing a technology plan with the help of a technology assessment worksheet. This is the stage where the library carefully assesses the type of community it is serving and the information needs of that community. This is where the library management and staff conduct a user needs assessment. Biblarz, Bosch and Sugnet, (2001) define user needs assessment as the process undertaken by libraries to learn about the needs of its current users and potential users to evaluate how well it supports these needs for it to improve library facilities, services and resources. This would help the next phase of selecting the appropriate vendor for the system to be implemented. This is preceded by the process of discussing the automation options and developing system specifications. Cohn et al. (1997) mention that when all specifications are attended to with utmost attention, the library management should evaluate vendor proposals while consulting its current budget and making the final decision of selecting the best vendor, who will provide a system that suits the type of library users and their needs.
In view of the initiation phase, the study sought to establish what roles the NLAS management and the MCA-N stakeholders played during the planning phase. The aim was also to establish who had the final say during decision making. Awareness of the system’s design should be given attention during the inception stages, which in this study is referred to as the initiation phase. In summary, the initiation phase helps to answer the main objective of this study which is, ‘To establish the reasons that led to automation in the first place’. When all the plans are set, the next stage would be the adoption stage.

As mentioned in the background of this study in chapter 1, adoption stage is where the library management has to consider financial back up, resources needed for the successful implementation of ILMS and to look at what type of system they would need from the chosen vendor. When vendors’ proposals are screened and analysed, the management has to look at the initial cost of the system they intend to implement and consult their budget allocation. ILMS adoption comes with its own fair share of challenges and improvements in certain areas of the library and the profession. A study by Zuboff (1988) on “The age of the smart machine; the future of work and power” conducted in the United States of America raises the point that rapid implementation of information technology in all areas of life has led to concerns about how implementing an ILMS transforms the nature and quality of work.

Cohn et al. (1997) assert that planners need to be aware that there are certain cost elements involved in the installation and operation of any automated system. These were summarised in five groups namely: Planning and consulting costs, Purchase of the system costs, Telecommunications costs, Conversion costs and On-going operating costs. These are further elaborated below by Cohn et. Al. (1997):
Planning and consulting costs include direct or out-of-pocket costs, for instance, hiring a consultant to guide the ILMS implementation process and indirect costs associated with getting started, such as, training staff at the onset of acquiring the system. The second group is the costs of purchasing the system, which includes the cost of acquiring the initial system hardware and software, as well as the cost of preparing a site for the computer system. In this case, the site was the library and preparing it so that it has all the required settings conducive for a system, for instance, making sure there is a well built and ventilated, and climate-controlled server room. The third group is for the telecommunications costs, which are those fees paid to telecommunications companies or agencies for connecting remote terminals or workstations to a central computer system. This may require that the library budgets and adheres to monthly payments for internet connection. The fourth group is for the conversion costs. It consists of costs that are associated with the creation of machine-readable bibliographic catalogue, circulation systems and records. Finally, it is the on-going operating costs that include maintenance fees, utility costs, bar code labels, miscellaneous supply costs, telecommunications long-term costs and salaries and benefits that is if extra staff are hired. These on-going costs may also be referred to as the hidden costs that library management may tend to overlook when selecting a library system as they may only pay attention to acquiring the system and not consider the maintenance costs and any future setbacks. (p.111)

The researcher paid attention to the role that this phase plays as it best describes the steps taken to put the plans into action. This is where the implementation of the ILMS begins to evolve right after consulting the actual budget that the library has for this implementation project.
This brings us to the phases of adaptation and acceptance. According to Salter (2003), in the adaptation phase, emphasis is on preparing the library staff where approaches of making the staff aware of the systems are fully explored. To minimise stress and increase the performance of staff using the new system, training is necessary. This could allow the library staff to utilize new tools and make use of the additional capabilities, which could make their job easier and more efficient. McDermott (2014) states that:

Staff members learn best when they know the importance of what they’re learning, if they’re given the freedom to learn in their own way, their learning is experiential or with a lot of practice and if the learning process is both positive and encouraging. Most vendors offer some form of training; however, this is also an additional charge which in most libraries it may pose to be a problem as it will but digging deeper into their budgeted funds. On-site training usually involves travel costs for the trainer while web-based training is offered by most vendors at a substantially lower cost. (para.5)

This means the next task will be to ensure acceptance of the system by giving more follow up training to the staff members on all the facets and modules of the ILMS. McDermott (2014) states that acceptance can be achieved through positive reinforcements brought up during training and after automation is complete. This study shows that one can never have too much training, especially when embarking on a major implementation approach. This is primarily due to the sophistication of the new system and staff members need plenty of time to learn the product, experiment with it and see how it works before actually finishing the automation. The training should not end with implementation. The model of Cooper and Zmud (1990) emphasizes on encouraging management to conduct in-house trainings once a year to enable new and existing employees to use the system much more effectively and refresh their minds and keep up
with any changes to the system since library systems are always being upgraded or modified. They suggest the use of training manuals that each staff should be given and always refer to in future.

2.7 Summary

The literature review process has shown some information gaps regarding the implementation of ILMS in ‘public libraries’, as they always require funding or financial back-up to sustain them. One of the gaps that the literature review brought up is that there are less literary works on implementation of a proprietary system in public libraries be it in Namibia or Africa. The researcher paid attention to some literary works that have shown that staff preparedness and involvement plays a major role in the implementation process as it ensures efficient service delivery in the long run. Furthermore, this study aimed to fill the information gap regarding ILMS implementation in community libraries in Namibia. The literature also reveals that automation may be changing the outlook on public libraries.

In conclusion, this section presented an overview of the model that was developed to explore the process of system implementation in the organisation and understand what influenced the decision to automate and to shed light into the whole process of implementing a proprietary ILMS.

The next chapter discusses the study’s research methodology.
CHAPTER 3

Research Methodology

3.1 Introduction

This chapter describes the research methodology of this study whose focus was shedding light on the implementation of an ILMS, Symphony, at Windhoek Public Library. Research methodology refers to the form of data collection, analysis and interpretation that can be used in a study and it is also seen as the overall approach to research which is linked to the paradigm or theoretical framework (Creswell, 2009; Kumar, 2012). The chapter includes a review of the research method and design appropriateness and discussion of the population and sample.

Philosophical Assumptions of the Study

This study followed an interpretivist research paradigm. This paradigm focuses on the qualitative type of research. This is because it is largely influenced by multiple constructed realities. Denzin and Lincoln (2005) summarize the meaning of paradigms as a set of beliefs that guide action specifically in the research context and to reflect the researcher’s worldview that is composed of four sets of philosophical beliefs, namely axiology, epistemology and ontology. If a paradigm is not chosen as the first step, as there is no basis for the preceding choices regarding methodology, literature or research design. Paradigms are introduced in research as they help the researcher understand how the research may be influenced in entirely different modes. The three research paradigms to choose from are the positivist, interpretive and emancipatory.

Positivist paradigm focuses on quantitative methodology, utilising experimental methods involving the testing of variables and proving relationships between different variables. It also relates to realism as it emphasizes on the scientific method of explaining different events and
avoids any influence from perceptions and thoughts (Mertens, 2005; Babbie, 2011). The second paradigm is the interpretive paradigm. Blanche, Durrheim and Painter (2006) state that the interpretive paradigm focuses on the qualitative type of research. This is because it is largely influenced by multiple constructed realities. This means it is interactional and tends to have observer subjectivity. The third paradigm a researcher can choose is the emancipatory paradigm. Truman, Mertens and Humphries (2005) define the emancipatory paradigm as the processes of research, which both in the data collection and data analysis generate ways to change the social dynamics of given situations. It is also known as the participatory-action research paradigm. This paradigm is commonly used in social research in which the people being studied are given control over the purpose and procedures of the research and the researcher avoids being biased at all cost.

In this study, the interpretive researcher focused on human experiences, opinions, history and culture of the participants and the process of implementing an ILMS in a public library. Denscombe (2010) asserts that researchers are expected to be aware of their philosophical assumptions because they need to know where they stand in relation to the alternatives on offer and how the positions differ. According to Crotty (2003), epistemology is a way of understanding and explaining how we know what we know. Bless, Higson-Smith and Kagee (2006) define epistemology as the study of different ways in which human beings develop and validate knowledge about themselves and the world. The epistemological assumptions for this paradigm suggest that the researcher focused on the participants in this case study and listened to their views and experiences regarding the ILMS implementation process.
The axiological assumption for this paradigm focused on values. The researcher was positioned in the case to be able to report the values that came from the participants and their biases were recorded as well when gathering information. The researcher was expected to ask if this case study was helpful to the target population and try to seek out alternative explanations than those the researcher had constructed.

3.2 Research Design

Mouton (2001) states that research design may be defined as a set of guidelines that show the researcher how to reach the goal of the study. The goal is to address the research problem in the end. Research design and methodology should do with the philosophy of social enquiry. It involves how the researcher comes to acquire knowledge and the techniques of data collection to be used (Worsely, 1987). There are several qualitative research designs, namely ethnography, grounded theory, case studies, phenomenological research and narrative research.). This study’s research design was a case study. The study focused on the details regarding the plans put in place to mobilise the adoption of the ILMS and those were in interpretive form. The researcher used methodological triangulation of data collection instruments. Triangulation, according to Neuman (2006), is the use of a variety of data sources and data sets in a study. Triangulation of semi-structured interviews and document search, as data collection methods, was used to overcome the weaknesses of any single method as well as enhanced reliability thus reducing the impact of potential biases that could exist in a single study.

3.2.1 Case study design

The case study research design was adopted as it is a comprehensive method of conducting in-depth social research that studies a social unit in its entire perspective. A case study can be
defined as a selected problem that is studied by framing an inquiry, planning a course of action, searching for clues, generating tentative solutions and keeping possibilities open (Babbie 2011; Mullen (2006). Case study research is exploratory in nature and is typically used to generate models and hypothesis of the process under investigation in a specific context. An exploratory case study generally begins with ‘what’ or ‘who’ questions and often precedes a more in-depth study (Green, 2007). In a case study, the researcher focuses on a unit of study. In this study, the researcher focused on Windhoek Public Library as the unit of study also referred to as a bounded system. The researcher sought for more detailed information regarding the process of implementing a library system at Windhoek Public Library.

3.3 Population

Denscombe (2010) describes population as the entire set of objects or people that are the focus of the research and that which the researcher seeks to determine certain characteristics. The target population for this study was the community libraries in Namibia using Symphony, NLAS management staff who led the implementation process through planning and decision making, the MCA-N representatives who were involved in the planning and implementation process and the User Services and IT staff from the Windhoek Public Library who took part in the acceptance and adaptation phases of the ILMS implementation. In Namibia, there are 65 community libraries and only four of them currently use Symphony (Namibia Library and Archives Service, 2015).

3.4 Sampling

Bless et al. (2006) define sampling as the study of the relationship between a population and the samples drawn from it). The main advantage of sampling, compared to the collection of data on
the whole population is that gathering data on a sample is less time consuming and is less costly since the costs of research are proportional to the number of hours spent on data collection (Bless et.al, 2006). In other words, sampling is a practical way of including a balanced cross-section of all the relevant cases while making sure it is representative.

There are two types of sampling methods namely probability and non-probability sampling. Non-probability sampling refers to sampling techniques where subjective judgment plays a role in the selection of the sample (Cohen, Manion & Morrison, 2011). Examples of nonprobability sampling include: convenience sampling, purposive sampling, snowballing, and quota, and judgmental, dimensional. In contrast, in probability sampling each member of a population has an equal chance of being selected as a member of the sample (Cohen et.al, 2011). Examples of probability sampling include random sampling and systematic sampling. In this study, purposive and random sampling were used to select participants.

Windhoek Public Library was randomly selected from the four community libraries that have implemented Symphony by applying the lottery sampling technique. Marshall (1996) reports that the process of selecting a random sample is well defined and the characteristics under study should be identical to the entire population and large enough to permit generalisation according to the measurable limits of accuracy to the population from which it was selected. Bless et al. (2006) state that one of the most common random sampling techniques is the lottery technique where a symbol for each unit of the population is placed in a container mixed well and then the “lucky numbers/labels” are drawn as the sample. The sample size must be established beforehand so that the researcher knows how many pieces or labels should be randomly picked.
This technique is normally used for a smaller population. Bless et al. (2006) explain that a researcher’s decision about the best sample size depends on three factors namely the degree of accuracy required, the degree of diversity in the population and the number of different variables examined concurrently in data analysis. The four community libraries namely Omaheke Regional Library, Oshana Regional Library, Windhoek Public Library and Ohangwena Regional Library all share the same attributes. They are all under NLAS management, their system was sponsored by MCA-N and implemented at the same time and all provide the same services thus all of them had an equal probability of being selected for this study.

Purposive sampling was used to select the key participants for this study. Various authors (Bless et al., 2006; Creswell, 2009; Neuman, 2011; Patton, 2011) have written about purposive sampling in a qualitative study. According to Neuman (2011), purposive sampling is an acceptable method of sampling for special situations, as it uses the judgment of an expert in selecting cases. Creswell (2009) and Patton (2002) concur with the above statement, as they assert that the use of purposive sampling procedures allows generalisability, which involves taking a representative sub-section of a defined population to make inferences about the whole population. Bless et.al, (2006) go on to mention that:

“The strategy used in purposive sampling is to select units that are judged to be most common in the population under investigation however, in some cases this may lead to non-representative samples as it relies on subjective considerations of the researcher than on objective criteria” (p. 106).
The eight purposively selected interviewees comprised of: Director of NLAS, Head of Community Libraries in Namibia, Chief Librarian at the National Library, an MCA-N stakeholder from Namibia who was involved in the project, and from the Windhoek Public Library: one Librarian, two Assistant Librarians and one Systems Administrator. The documents for analysis were also purposively selected to only include those relevant to the study.

### 3.5 Data Collection Methods

“The quality of qualitative data depends on the methodological training, skill, sensitivity and integrity of the researcher” (Patton, 2002, p.15). Patton (2002) goes on to state that the fruit of qualitative inquiry emerges from the three kinds of qualitative data namely: Interpersonal interviews, fieldwork observations and documentation. In this study, the researcher chose the interpersonal interviews and document search as the data collection methods. Several authors, including Christians (2009); Creswell (2009, 2014); Kothari (2004) recommend these techniques for studies requiring in-depth and detailed explanations. One reason for using interviews and document search in this study was to ensure and help the researcher to reach a better understanding of the process of implementation by approaching the topic and gathering of information from different angles. Both instruments were tested by the researcher before they were administered.

#### 3.5.1 Interviews

In this study interviews were chosen as one of the data collection methods. According to Kumar (2012) interviews allow the researcher the freedom to decide the format and content of questions to be asked as well as selecting the wording of the interview questions. The process of asking the questions can either be structured or semi-structured. This means if the questions are structured,
they are closed ended questions that are predetermined in nature whereas semi-structured questions have open ended questions that allow the participants to elaborate on the topic in question. For this study, a semi-structured interview format was used to gather information from the participants. This is because it is a flexible method that allows new follow up questions to be brought up during the interview, depending on what the interviewee’s response would be. According to Kothari (2004) the main advantage of semi-structured interviews is that they provide similar subject areas to explore and probe during an interview. However, Kothari (2004) also cautioned on one major limitation with interviews in that participants may give distorted responses due to personal bias, anger, anxiety, stress, opinions and lack of awareness on the subject. The interview questions were varied from one participant to the other. This is because the three groups served different purposes during the different stages of the ILMS implementation, hence, having different areas and stages to focus on. The researcher chose to administer semi-structured interviews, as they allowed for the discovery of new aspects of the problem by exploring, in detail, the explanations supplied by participants. This was more appropriate, as the researcher only had one chance to interview each person. Therefore, the researcher, who was the interviewer, had to come up with a semi-structured interview guide.

The researcher used a digital recorder after getting authorisation from the participant in order not to miss any direct quotes. Blanche, Durrheim and Painter (2006) state that recording during an interview allows the interviewer to keep a full record of the interview without having to be distracted by detailed note-keeping. Blanche et al. (2006) add that this may show the participant that the researcher takes what they say seriously. However, this may also have a negative side to it as the use of a digital recorder could detract from the intimacy of the encounter since it may divide attention between the one-on-one interaction and the ongoing recording.
3.5.1.1 Interview guide

Three sets of semi-structured interview guides for the NLAS staff, the MCA stakeholder and the Windhoek Public Library staff were administered. An interview guide with semi-structured questions helped in following the relevant topic related to the objectives of the study and that guide helped the researcher not to stray from the main objective. The interview guide also gave an opportunity for identifying new ways of seeing and understanding the ILMS implementation. Kennedy (2006) points out the advantages of an interview guide in social research as that it helps the researcher to know what to ask about, in what sequence, how to pose questions, and how to follow up on a previously asked question. It provides guidance to the researcher on what to do or say, after the interviewee has answered the last question.

Kumar (2012) states that open-ended questions allow participants to express themselves freely and virtually eliminating the possibility of investigator bias. The questions for the semi-structured interviews were organised in such a way that they were linked with the research questions of this study. This also formed part of the themes that helped in data analysis. The interview guides were designed in such a way that they addressed the following elements of ILMS implementation: Reasons for automation; Steps followed during implementation; Staff involvement and preparedness and Perceptions and attitudes towards ILMS implementation. The semi-structured interview guides were pre-tested to ensure that the questions were understood by the interviewees the way the researcher intended, thereby enhancing the trustworthiness of the data. The questions were formal and open-ended allowing any probing.
3.5.2 Document Search

Another data collection method that was used was document search, which involved the study of existing documents, either to understand their essential content or to clarify deeper meanings which may have been revealed by the way they were articulated. Bowen (2009) defines document search as a systematic procedure of reviewing or evaluating documents, both printed and electronic material. Corbin and Strauss (2008, as cited in Bowen, 2009) explains that like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge. The documents that were consulted comprised of procedural documents like the minutes transcribed during the planning meetings and the written plans. Documents from NLAS, MCA-N and International Research and Exchanges Board (IREX) were consulted. These were supposed to show the documented plans that NLAS and MCA-N came up with.

The criterion used to select the relevant documents was guided by the research objectives that were used to create the themes. The first set of documents were library automation written plans from NLAS that helped in establishing the reasons that led to automation, the plans that were put in place on library automation, who drew up those plans and to find out the type of research that was conducted by management on ILMS implementation. The second sets of documents to be analysed were the decision-making meeting minutes from NLAS and MCA-N. These were supposed to shed light on the targets and goals that were set from the onset, the details of the decision-making process and to pinpoint who was involved or consulted at the decision-making phase. The third sets of documents were the Windhoek Public Library staff input involvement reports. These provided information on what and how the staff members contributed during the ILMS implementation process and what challenges they faced. The fourth set of documents to be
analysed was the budget plans. These presented the researcher with details on who was responsible for drafting the budget plans and how the budget was allocated in those plans and whether it was a short-term or long-term budget plan.

The fifth set of documents was the progress reports on implementation from NLAS, which were meant to provide information connected to the theoretical framework. The researcher had to establish whether all the phases in the framework were followed and how they were adhered to. One other aspect that was considered from the progress reports was whether the automation goals and targets were met. The sixth set of documents consulted was the documented challenges faced by NLAS management during the implementation and the solutions. The final set of documents were the MCA-N reports on the project that showed the role the MCA-N played in the implementation process and their contribution.

3.5.2.1 Document search checklist

The researcher used a checklist to weed out information that was not relevant to the study while conducting the document search. The checklist was designed in such a way that it established all details regarding the ILMS implementation phases from the initiation phase to the acceptance phase. Document categories were created based on the four phases, namely: Library automation written plans from NLAS; Windhoek Public Library monthly reports; Decision making meeting minutes from NLAS; MCA-N reports on the project; budget Plans; documented challenges faced by NLAS management and Progress Reports on implementation from NLAS. The checklist specified the kind of information to look for from NLAS, MCA-N and IREX such as the monthly reports form NLAS and Windhoek Public Library, minutes from the planning meetings and progress reports from MCA-N and IREX. However, the researcher had difficulties getting documents from NLAS, as some of the participants were reluctant to provide some of the
copies of the documents. As a result, only a few documents from NLAS were provided, such as, manuals and staff training progress reports, tender requirements documents and progress reports

3.6 Procedure

The researcher conducted the interviews in a respectable and accurate way following a set procedure. First, the researcher sought for authorisation from the heads of NLAS, MCA-N, and Windhoek Public Library to conduct the study, then set up appointments with the selected interviewees. The researcher allocated at least 30 minutes to an hour for each interviewee. The interviews were conducted during office hours to avoid invading the participants’ personal space or time and avoid any inconveniences.

Before the interviews, the researcher sought permission from the interviewee to use a digital recorder during the interview. A digital recorder helps when a discussion digresses from the interview guide and the interviewer fails to transcribe every detail. Recording the interview discussions helped the researcher remain focused on what was said while transcribing the notes. In the context of social research, access also carries with it a notion of ‘getting permission’ (Denscombe, 2010). The researcher sought permission before getting access to the documentation required for the document search, as the documentation comprised of the minutes taken during the planning sessions or formal meetings that were held regarding the ILMS implementation.

3.7 Data Analysis

Qualitative data analysis methods help to describe facts, detect patterns: and develop explanations and test hypothesis and provide structure, and elicit meaning from the research data
(Gay, Mills & Airasian, 2009; Gray, 2009). The data that was collected was processed. The processing involved checking statements made by the participants from the interviews.

The researcher used content analysis to analyse qualitative data. Kumar (2012) defines content analysis as the means of analysing the contents of interviews or observational field notes to identify the main themes that emerge from responses given by the participants. The researcher studied the data carefully and organised them into themes in accordance with research objectives.

The data gathered from document search was analysed through a method called document analysis. Bowen (2009) states that document analysis involves skimming, reading and interpretation. It combines content analysis and thematic analysis where thematic analysis is a form of pattern recognition within the data while guided by the research objectives.

3.8 Trustworthiness of the data

Noble and Smith (2015) report that qualitative research is frequently criticized for lacking scientific rigour with poor justification of the methods adopted, lack of transparency in the analytical procedures and the findings being merely a collection of personal opinions subject to researcher bias. This is because terms like validity, reliability and generalisability are more pertinent to quantitative research. Noble and Smith (2015) provide alternative terminology associated with credibility of qualitative research and these are: truth value which is similar to validity; consistency and neutrality that refer to reliability and applicability that is similar to reliability.

Porter (2007) asserts that different methodological approaches to qualitative research encompass different approaches to validity, making it impossible to develop a universally accepted approach
to the validation of qualitative research. This means validity in qualitative research differs from validity in quantitative research.

Triangulation of data ensured credibility whereby the two data collection instruments were used to cover up any shortfalls that arose from either of them. To maintain the trustworthiness of the study, the researcher conducted a pre-testing of the data collection instruments. Kumar (2012) states that pre-testing a research instrument entails critical examination of the understanding of each meaning, as understood by a participant. After constructing the interview guide, the researcher needed to test it out before using it in the field. Constructing the interview guide was another way of adhering to credibility in this study. To ensure trustworthiness and transferability, pre-testing of research instruments was conducted prior to the final interviews and document search. The purpose of this exercise was not to collect data but to identify problems that the potential participants might have had in interpreting a question. The essence of credibility in research is the extent to which a researcher can demonstrate the accuracy of the data collected (Denscombe, 2010). The first step towards the attainment of credibility was on sample selection. The study used purposive sampling to ensure that participants who were able to provide information-rich data comprised the sample.

Gay et al. (2009) express that judging the adequacy of a research plan can involve both informal and formal assessment. Informally, the researcher may seek assistance from an expert or skilled researcher in that area of study to share some insight on whether the instruments are appropriate or not. However, in this case study for ILMS implementation, the researcher chose to follow the formal route of conducting a pilot study using the same instruments and testing them on a community library that shared similar attributes except for minor differences like geographical
location. The pilot study was a small-scale trial study conducted before the full-scale study. The researcher followed every procedure exactly as planned to identify unanticipated issues while also improving the standards and structure of the questions and the themes for the checklist. The pilot study was constructive, as it identify anything left out and the researcher used library professionals to determine the relevancy of the questions being asked. This corresponds with the assertion by Mouton (2001) that a pilot study is intended to help the researcher to refine the data collection plans with respect to both the content of the data and the procedure to be followed.

3.9 Research Ethics

Research ethics are rules that guide the researcher on what is acceptable and appropriate in the field as a researcher (Esterberg, 2002). The purpose of the study was also explained to individual participants prior to data collection. Participants were free from physical and psychological pressure during the data collection process. This study required ethical considerations to cater for the participants’ concerns and certain procedures or protocol was followed. These included informed consent, where the participants were told from the onset the purpose of the study. It had to be the participant’s own decision to participate in the interview.

Research permission and ethical clearance was obtained from the University of Namibia before conducting the study. Permission was also sought from MCA and NLAS management to conduct the study at Windhoek Public Library and NLAS. Appointments to conduct the interviews were made based on the availability of the participants and document search was conducted after permission was granted. The researcher sought permission from the participants to use a digital recorder during the interviews. All the participants agreed to be digitally recorded during the interviews. The researcher emphasized to the participants that their participation would be
voluntary and that they were free to withdraw at any time if they felt uncomfortable. This study ensured issues of confidentiality, anonymity of participants as well as informed consent. Confidentiality is an ethical requirement in research. In this study, confidentiality was observed by ensuring that information was not shared with a third party and it was only used for the purposes of the study. Interviews were carried out during office hours after consultation with the participant in a formal setting. To ensure anonymity, no names of participants were recorded during the interviews as well as in reporting of the study’s findings. Codes were assigned to participants to protect their identities and the participants were free to withdraw from the study at any stage.

Interview transcripts and documents for document analysis have been kept in a lockable cabinet and would be discarded by shredding five years from the date of publication. This is in line with best practices (Stellenbosch University, 2013). Voice recordings from the interviews were stored electronically and protected by a password to ensure security of the information. Voice recordings will also be kept for a period of five years and be discarded by erasing them permanently from where they were saved.

3.10 Evaluation of Methodology

This section seeks to evaluate the research methodology that was used to conduct the study. Welman, Kruger and Mitchell (2005) state that every research methodology has its own strengths and weaknesses. This case study employed qualitative data collection methods of interviews and document search within an interpretivist paradigm. This meant that appointments with the key participants had to be made formally to give the participants time to prepare for the interview. Thus, in this study, the qualitative research approach was designed to guarantee the
trustworthiness, credibility, transferability and validity of qualitative procedures. This research design was appropriate for this study as it aimed to find the answers to the “Reasons why Windhoek Public Library chose to automate and why they selected a proprietary system”.

The researcher experienced difficulties in getting hold of the MCA-N stakeholder, some of the NLAS management staff members and a few of the IREX documentation. However, the researcher used the triangulation of semi-structured interviews and document research as data collection methods were used to overcome the weaknesses of any single method as well as enhance credibility. Nengomasha (2009) mentions that “arranging for interviews takes time and there is no guarantee of getting hold of individuals on the set date and time”. In this study, the data collection process was delayed several times due to the unavailability of some of the participants for interviews, but the researcher managed to analyse data as the data collection progressed, which assisted the researcher to make up on lost time until the participants were available. One of the benefits of a qualitative research approach is the flexibility that it permits the researcher to adopt new strategies as the research progresses. When conducting data collection, the researcher realised that the face-to-face interviews that were initially planned could be conducted telephonically instead.

3.11 Summary

This chapter discussed the methodology of the study by outlining the methods and techniques employed in studying the process of implementing an ILMS in a community library. The study used the qualitative research approach in the form of a case study design. The target population, sampling and data collection methods used that included interviews and document search were also outlined in this chapter. Analysis of data presentation procedures were also highlighted in this chapter. Data gathered was analysed through content analysis with the aid of themes created
based on the objectives of the study. The researcher ensured that the study was trustworthy and credible using triangulation and pre-testing of data collection instruments. Researchers wishing to embark on similar studies, employing similar research methodology need to take note of the challenges highlighted in the evaluation of the methodology section.

The next chapter is on data analysis and presentation.
CHAPTER 4

Data analysis and presentation

4.1 Introduction

The aim of this chapter is to analyse and present the study’s findings gathered during the interviews and the document search from NLAS, MCA-N representative and Windhoek Public Library selected staff. According to Bless et al. (2006), data analysis is conducted so that the researcher can detect consistent patterns within the data and provide answers to the research objectives. This section links the research objectives to the findings using themes that were derived from the research objectives and as informed by the theoretical framework. Gillham (2000) states that the purpose of data analysis is to transform the un-ordered data into something meaningful. The objectives of the study were:

1. To establish reasons that led to automation of the Windhoek Public Library;
2. To determine why a proprietary system was chosen for the Windhoek Public Library;
3. To establish the steps followed during the implementation of Symphony;
4. To establish the enablers in the implementation of Symphony;
5. To establish the barriers in the implementation of Symphony
6. To come up with recommendations on how of the challenges identified could have been avoided and how they can be resolved.

The chapter is divided into the following sections based on the themes from the objectives as well as the themes which arose from the content analysis and they are listed below.

- Reasons for automation
• Proprietary versus open source systems
• Steps to be followed during the implementation of an ILMS
• Barriers in the implementation of an ILMS
• Enablers in the implementation of an ILMS
• Benefits of ILMS implementation
• Perceptions and attitudes towards automation

There were three separate interview guides for NLAS management, MCA-N stakeholder and Windhoek Public Library staff and they were designed in such a way that they addressed the issues highlighted above. The researcher presented the gathered data in the form of descriptive narratives that included information from interviews and document search. Some of the findings are verbatim citations from the interview participants. The findings are presented in such a way that information from the NLAS management addressed all the objectives and information from the Windhoek Public Library staff addressed objectives 3 and 4 namely staff involvement and preparedness which falls under steps followed during automation and establishing the enablers and barriers faced during implementation of Symphony. Based on the theoretical framework, the data from interviews for management addressed the initiation and adoption phases, the MCA-N interview addressed the adoption and adaptation phases and the Windhoek Public Library IT staff and librarians’ interviews addressed the adaptation and acceptance phases.

The documents that were analysed were the written plans from NLAS, budget plans from NLAS, progress reports on the implementation process from MCA-N, NLAS and IREX and documented challenges by NLAS and MCA-N.
4.2 Participants of the Study

In total, the participants of the study were eight, comprising of NLAS management consisting of the Acting Director, Head of Community Libraries and the Chief Librarian of the National Library; MCA-N Project Manager and Windhoek Public Library Senior Librarian, Assistant Librarians and a Systems Administrator- ICT Administrator. Table 4.1 highlights the participants and the codes assigned in the case of the Assistant Librarians from Windhoek Public Library.

Table 4.1 List of participants

<table>
<thead>
<tr>
<th>Job Title</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acting Director of NLAS</td>
<td></td>
</tr>
<tr>
<td>Head of Community Libraries</td>
<td></td>
</tr>
<tr>
<td>Chief Librarian, National Library</td>
<td></td>
</tr>
<tr>
<td>MCA-N Project Manager</td>
<td></td>
</tr>
<tr>
<td>Senior Librarian, Windhoek Public Library</td>
<td></td>
</tr>
<tr>
<td>Windhoek Public Library Assistant Librarian - LS1</td>
<td></td>
</tr>
<tr>
<td>Windhoek Public Library Assistant Librarian - LS2</td>
<td></td>
</tr>
<tr>
<td>Windhoek Public Library Systems Administrator</td>
<td></td>
</tr>
</tbody>
</table>

For confidentiality, no names were mentioned and the two Windhoek Public Library Assistant Librarians were coded as LS1 and LS2.
4.3 Reasons for automation

The study sought to establish the reasons that led to the automation of the library collection at the Windhoek Public Library and why a proprietary system was chosen. The questions under this theme also sought to shed light on the criteria used in selecting the vendor. The question “What were the reasons for automating the library collection?” was mainly directed at the managerial level staff at NLAS. All the management staff stated that it was about time that public libraries in Namibia upgraded from the manual systems that were being used. The Chief Librarian stated that modern libraries also referred to as 21st century libraries were gradually moving from the manual system and embracing technology to enhance and improve service provision to the community.

Both The Acting Director of NLAS and The Head of Community Libraries mentioned that automation of the library and its collection was the way to go due to the benefits it brings such as making work easier for the staff members in terms of circulation activities, generating reports and easier access to information by users. The Acting Director stated that the vision that guided the automation of the library was “Delivery of excellent services”. Academic excellence and the literacy of users had to be ensured and achieved with the help of a proper ILMS in the library. It was also mentioned by the Chief Librarian that the idea to implement an automated system had always been there dating years back but the final decision came with the MCA-N project as they were funding the project through Millennium Challenge Corporation (MCC). All management staff agreed that the rapid growth of the Windhoek Public Library also contributed to the reasons for automating the library collection and monthly reports from the librarian were consulted to ascertain the user’s information needs.
4.4 Steps followed during implementation process

The researcher wanted to establish the steps that were followed in the implementation of an ILMS and to see if they fitted the ones provided by the guiding framework, that is, the Information Technology Implementation Process model. The responses highlighted six steps as presented below.

4.4.1 Identifying the need for an ILMS

The Chief Librarian mentioned that talks on the need to automate library collections began in 2010. When asked what vision guided the decision making process for automation, The Acting Director responded:

Twenty-first century libraries and librarians are what we needed to help libraries grow. For that to happen, 21st century librarians would need, modern libraries that keep up with the technology trends. Delivery of excellent services was the drive and the need for academic excellence being achieved through the utilisation of libraries with proper ILMS.

The Acting Director mentioned that management had to first identify the need for an ILMS that would help run Namibian public libraries effectively. After identifying the need, NLAS management had to draft a motivation letter for the Permanent Secretary for the Ministry of Education, Arts and Culture (MoEAC) to state the reasons and benefits that would come with automation of public libraries. However, The Head of Community Libraries mentioned that no user-needs assessment was conducted regarding the specifications of the ILMS, but monthly reports from the Windhoek Public Library were consulted. The Acting Director revealed that
NLAS, in consultation with the Permanent Secretary for MoEAC, gave the permission and subsequently NLAS identified a project (MCA-N) that would help in this initiative.

4.4.2 Planning and decision making

The decision-making process involved the management staff from NLAS, in collaboration with the MCA-N stakeholders and IREX representatives. The MCA-N participant in this study was the one who coordinated the meetings between NLAS and IREX in the process of developing the specifications. The other staff members, for instance, the librarians working in the public libraries were not included in the planning and decision-making process, as they had a representative in the planning committee. The Acting Director also added that among the management that were part of the planning committee, some were librarians by profession; hence they represented the librarians who were not at management level. However, the Systems Administrator was included in the decision-making stage as there were technical details that needed attention and only the Systems Administrator could help with all the required specifications of the system automation process. With that in mind, minutes from a planning meeting for the management committee revealed that IREX also conducted a research on the library staff to ascertain the level of difficulty the average staff member would face when learning how to use the new ILMS. The Acting Director of NLAS recommended that management consider the lines of command, including the parties that could ensure the success of the implementation of an ILMS and to look into the human resources during the planning sessions to see if there were experienced and skilled staff to ensure smooth the ILMS implementation. The next stage was for the budgeting and funding of the ILMS implementation process.
4.4.3 Budget and funding for the ILMS implementation

The two questions asked regarding finances were “How was the project funded?” and “Was funding a concern?” The Head of Community Libraries responded saying:

The project was funded by the MCA-Namibia project. Yes, the funding was a concern although it was indirect at the time. When MCA-N provided funds, there was no much concern but there is a concern now for NLAS to cascade/expand the ILMS to all government libraries. NLAS had a plan to keep adding two to three libraries into the automated system every financial year. That may not happen as planned due to the financial constrain in the country.

The Chief Librarian responded saying that the ILMS was purchased by the MCA-N project but the operational costs were taken over by the government of Namibia. The Chief Librarian also added that MCA-N gave a condition that the ILMS was required to run always, hence proper budgeting for the long-term costs had to be done. The Acting Director of NLAS stated that when the MoEAC took over the financial responsibility from MCA-N, Symphony maintenance and operational costs were allocated within the development budget under ICT costs. The Acting Director added that Internet connectivity took up a huge chunk of money from the budget. The document search provided the figures/budget for ICT at the Windhoek Public Library. Statistics show that from the ICT budget, Internet connectivity and usage took a large amount out of the budget. When asked about the budget for the system implementation, The Head of Community Libraries suggested that NLAS secure funds to procure a server with a bigger capacity that would enable them to host the Cloudware for Symphony in Namibia instead of hosting it
externally. This would eliminate the cost of paying an external host and put that money to good use in ILMS maintenance. Findings from the document search showed that from January to March 2016, the cost was N$12,600. Before handing over the financial responsibility to MoEAC, the MCA-N Project Manager recommended that public libraries (especially Regional Libraries) be allocated a budget for the consistent licensing of the ILMS systems and ensure that trainings were well attended and libraries had enough staff members.

4.4.4 Tour of other public libraries using an ILMS

The results from the planning report from MCA-N revealed that the next step that was taken by NLAS management was to look at the public libraries that were already using the ILMS in neighbouring countries and a library in South Africa was identified. The Head of Community Libraries mentioned that a selected number of NLAS staff visited the library in Mafikeng, South Africa, to observe how the automated system was running in a public library that shared the same attributes as the ones in Namibia. The results from the document search indicated that another tour was conducted at a regional centre in the Western Cape, South Africa. The findings from document search also showed that the team that went to the Western Cape consisted of heads of divisions under NLAS, namely Community libraries, Ministerial libraries, Education Libraries and the National Library.

4.4.5 Tender Process

After touring other libraries, the findings showed that the next step was to place a tender advert inviting bids for the vendor that would provide the ILMS. The results from document search revealed that IREX developed the specifications for the procurement and provided the technical and implementation guidelines in September of 2013 for MCA-N to help them in the preparation
of tender documents. The tender was drafted by MCA-N. After the tender was drafted, The Chief Librarian mentioned that a selection committee was elected to evaluate the bidders. After the evaluation process, the successful bidder was informed and the procurement of the equipment began. The Universal Knowledge Software (UKS- South Africa) was awarded the contract.

4.4.6 Staff involvement and preparedness

The next step was to prepare the staff members by informing them on what the change in the system was all about and they offered the Symphony essential skills training to the librarians and the Systems Administrator from the Ministry of Education head office and those from the three regional libraries. The MCA-N representative mentioned that the IREX representatives implemented an installation and training plan. The results also show that no pilot study was conducted before the system was fully implemented and before training. The researcher wanted to establish whether the staff members were involved in the implementation process and at what phase or stage. The Chief Librarian mentioned that the staff members were not consulted during the planning phase but were informed of the plans to automate. Some of the staff members were consulted towards the end of the adoption phase when the vendor was selected. This was the stage where a selected number of staff members was trained before the system was implemented for them to train others in their respective libraries. The Acting Director mentioned that the communication channels were mainly top-down and down-top communication where the head of divisions under NLAS would communicate with their staff and bring feedback during management meetings and suggested that in future, management should ensure that all libraries and staff are involved from the initiation to the adoption phase.

The results bring to light that the Windhoek Public Library was one of the last libraries on the list of four community libraries to get the system implemented. The Head of Community Libraries
mentioned that this was because the Windhoek Public Library staff members were supposed to make sure their library collection was accounted for and entered in the system at the head office. In 2014, only three staff members from the Windhoek Public Library were trained as there was a shortage of staff at that time and the system could not be implemented that year, as the library was under construction.

The researcher sought to establish whether there were any measures taken to ensure that staff members were prepared for the new system and the change to their day to day duties. The response from all the participants regarding a pilot study revealed that Symphony was not pre-tested to see what it had to offer and whether it suited the public libraries in Namibia. All the participants from the Windhoek Public Library were informed of the plans to automate at the adaptation phase where the trainings were to commence.

The findings from the MCA-N progress report indicate that the trainings were facilitated by UKS-South Africa. UKS was the software provider and provided the manuals that the staff members were supposed to refer to in case they needed to refresh their memory after the training or when they forgot certain steps to follow. Asked whether there were any preparations done before training, the Senior Librarian said they received a questionnaire that they had to answer to show what they expected from the system. The Chief Librarian stated that earlier preparations would be ideal whereby ‘elderly’ and older staff members were well prepared for the major change to their day-to-day duties, conduct Training of Trainers (TOT) to cater for new staff members and the ones who would take longer to grasp the new system and, lastly, learn from the libraries that have already gone through ILMS implementation and encourage active
involvement from the onset for all the librarians. Regarding the TOT, the Head of Community Libraries also shared the same sentiments by suggesting that for the next libraries to implement the ILMS, NLAS can use the staff members that are already using the system to train others and that can help to cut the training costs down and only invite UKS to conduct training on the crucial areas.

Asked on staff preparedness, the MCA-N representative responded: “The training was not well attended partly due to staff shortages, and some IT issues especially the confusion between the MoEAC and MCA as to who would connect the libraries to the Internet hence delaying training”.

A report on ILMS implementation that was compiled in 2014 by the IREX board revealed that IREX was responsible for ensuring that all library staff were comfortable with their roles in using the ILMS system.

4.5 Selecting a proprietary ILMS

Under the question: Why opt for a proprietary ILMS for a public library? The results showed that choosing a proprietary system was not in the plans but after reviewing and weighing options by assessing the type of services to be offered a proprietary system was chosen. Before selection of the ILMS, all management staff members who were interviewed stated that factors like costs, maintenance, back-up and technical aspects had to be considered before selecting the automated system to implement. All the participants at management level stated that they needed a system that would enable public libraries to acquire information materials and enable the management of data and resources in those libraries. The MCA-N representative added that NLAS had initially planned to take on an open source system, however, none of the open source systems were found suitable for the libraries in that project.
The Chief Librarian mentioned that there was a list of various systems that included open source systems and proprietary systems that they had to review and choose from. The Acting Director mentioned that a proprietary system was chosen after extensive review and research. He added that a proprietary system means it is for the library and tailor-made to suit the library’s needs, hence that was one of the specifications that were taken into consideration. The Acting Director mentioned that a proprietary system was more suitable for the library as they were given the rights to edit or modify the system to suit the library and what they offered to the community they serve.

Findings from the ILMS specifications report from IREX revealed that MCA-N intended to procure a proprietary ILMS system or a “vendor-supported” open-source system on behalf of NLAS. Findings from the MCA progress report show that the three other regional libraries and Community Library Services (CLS) had implemented Symphony in 2014, whereas at the Windhoek Public Library it was implemented in 2015. The report states that before selecting the system, the NLAS management committee had to first consider the type of system they needed and then move on to reviewing and selecting the appropriate vendor to provide them with the library system. Minutes from a planning meeting held by NLAS and MCA-N revealed that before the selection of the ILMS, the level of IT proficiency for the average library patrons was studied by IREX, as certain features in the ILMS may have been “foreign” to them hence the system had to be tailor-made to suit the library community being catered for. The minutes also revealed that communication with the vendors was done by IREX on behalf of NLAS.
4.6 Perceptions and attitudes towards automation

The question on perceptions and attitudes of staff members towards automation was directed at both the NLAS management and the Windhoek Public Library staff. It sought to establish how the staff members felt about the change in their library system from manual to the automated one. To ensure confidentiality, the Windhoek Public Library staff members were coded during the interviews as Library staff: LS1, LS2, the Senior Librarian and the Systems Administrator. LS1 stated that they were overwhelmed and afraid of the future as they had just received computers in 2012 and were still adjusting to the change. The system was implemented at the Windhoek Public Library in 2015, two years after the planning had commenced. However, LS2 and the Senior Librarian revealed that they were excited and happy that they were upgrading from their old system. The Senior Librarian mentioned that when they started working at the library, there was no automated system and they had to do their circulation and cataloguing activities manually and used a storage and retrieval system called CDS/ISIS. The technical viewpoint by the Systems Administrator regarding the attitude towards automation indicates that it was a step in the right direction as the manual system was tedious for librarians to do the cataloguing and circulation duties.

From the management’s perspective, the Head of Community Libraries stated that implementing a new change is always a challenge, hence, there were some staff members who had negative attitudes towards the system, but were gradually starting to embrace it, as they were required to use it for their daily operations. The Acting Director observed that some of the staff members regarded change as a threat and a challenge while some of the staff members saw it as an opportunity for an improvement in their work and service provision. The Chief Librarian stated that the younger staff members were excited, as some of them had previous knowledge and
experience of using an ILMS. On the other hand, the older staff were apprehensive as they feared the change that was about to take place.

Asked how she felt about the implementation of an automation system and whether she had prior knowledge or experience regarding the Symphony, the Systems Administrator said “I did not have any knowledge of Symphony and it was the first time I had heard of it. The implementation of Symphony was a step in the right direction, as the manual system was tedious for librarians to do the cataloguing and circulation duties”. The Systems Administrator suggested that the ILMS should be hosted locally at the NLAS (Head Office) due to lack of fast Internet instead of outsourcing a host. The software should have local IT support for quick troubleshooting. “I personally think public libraries need to implement Open Source ILMS which are free of the subscription fees as this will be affordable for any library and reduce the workload of the few staff members at the library” (Systems Administrator).

4.7 Enablers in successful implementation of Symphony at the Windhoek Public Library

The researcher posed a question on the enablers that led to the successful implementation of ILMS. All the NLAS management staff stated that without the financial assistance from MCA-N, the initiative would not have been possible. The Acting Director identified the social enablers that made the implementation process less bumpy at the initiation and adoption phases as the strong and committed leadership that was present and open communication channels between MCA-N stakeholders, IREX and NLAS. The Senior Librarian added that the communication channels were always open specifically during the adaptation phase were staff members were informed about the system. LS2 and LS1 mentioned that the trainings that they received ensured that the system reached its final stages of implementation. All Windhoek Public Library staff
members also added that the encouragement they got from the NLAS management made the training process easier. All the management staff mentioned that total commitment played a major role in the successful planning and implementation of Symphony. Each staff member had a role to play and was expected to deliver.

Documentation from IREX reveal that one important enabler besides the financial back-up from MCA-N was finding a suitable host for ICT infrastructure for Symphony, as NLAS was not able to host it. One other enabler revealed through document search was the tours to South Africa, as they were part of the research done to see whether implementing a proprietary system for public libraries was ideal. The tour was meant to empower, enlighten and educate the Namibian team on the ILMS implementation journey that they were yet to embark on.

### 4.8 Barriers to the implementation of Symphony at the Windhoek Public Library

Responding to the question posed to the management level staff “What were the challenges that management faced during the implementation process?” The Head of Community Libraries responded:

*The challenge was more on finding the local suppliers of some equipment needed to be connected to the system. For instance, finding the right machine to print membership cards that the system would have created and also the barcodes for membership cards were not available locally.*

One other challenge that was mentioned was that Cloudware, web-based application that allowed one to log on to the system was being hosted by another company’s server, as NLAS did not have the capacity to host it. Findings from the document search, also reveal that no equipment was bought, as NLAS did not have the capacity to host the system. Hence, UKS- South Africa was used as it had all the infrastructure to host the system. The Head of Community Libraries
added that: “Lack of knowledge from the library staff on how to use the system was a challenge, as it required a lot of trainings to get the staff on board”. The Acting Director mentioned that the implementation process was hindered by the shortage of skilled personnel to help with the technical side of the implementation process. The Acting Director added that some meetings were delayed due to unavailability of some of the stakeholders, hence, getting the final go-ahead to automate took longer than expected.

The Windhoek Public Library staff were also asked about challenges faced during and after the implementation of Symphony. All participants stated that they experienced challenges although some were different from the others based on their individual experiences. One common challenge was the issue of Internet connectivity as they all mentioned that it was slow making it difficult to serve the library users in a timely manner. LS1 mentioned that they were having trouble grasping the system, especially with the slow Internet adding to the frustration of dealing with the change in the system. When the participants were asked whether their relations with the users was affected during implementation, the Senior Librarian mentioned that moving from manual system to the electronic system proved to be a tiresome task, as librarians had to ensure that library users’ information needs were attended to always during the implementation of Symphony. The Senior Librarian also added that the old members of the library had to be re-registered, as they had to be entered into the new system.

Asked what challenge the Systems Administrator faced, the response was that Systems Administrators from NLAS or the Windhoek Public library did not have much administrative control over the system and it made it difficult to help the librarians when they brought technical
queries regarding the system. Other IT-related challenges that were mentioned were the limited end-user support from UKS, extremely slow Internet connection, the system always freezing hindering the progress of the librarians and lack of administrative control over the system in rendering prompt support to the librarians. One other challenge that was mentioned by the Systems Administrator was that the duration of the training that she got from UKS was too short.

4.8.1 Benefits that came post-automation

The question that was posed to the participants, specifically the Windhoek Public Library staff, was: “How has the system positively-influenced your work?” LS1 responded saying that the workload became less, as the manual work reduced during the adaptation phase of the implementation process. LS2 responded saying that work had become easier and staff members were able to save time and be efficient and effective during service delivery to library users. The Senior Librarian responded saying: “Symphony has benefited us in many ways, as the librarians now have the ability to catalogue faster and no longer rely on National Library when information materials need to be catalogued”. The Senior Librarian mentioned that with all the challenges that the librarians faced when doing things manually, they were motivated to embrace the new system as it made work easier and faster.

The Acting Director shared that the initiative taken to automate libraries and their collections would spread awareness on libraries and their role as they would be growing with the new trends because libraries were viewed as old-fashioned and boring. An evaluation report compiled by MCA-N showed that Symphony had brought in a change in the way the community members viewed public libraries and the services they offer. The evaluation also revealed that the system
had managed to modernise the library, extend its functionality seamlessly and enabled the library to interoperate with other public libraries using Symphony.

The Head of Community Libraries recommended that all Public Libraries in Namibia should migrate to the Symphony system so that there is uniformity, as Community Library Services Head Office had already migrated to the system. According to the Head of Community Libraries this would ensure easier sharing of library materials through the inter-loan facility and any library can easily check what will be currently available in other Namibian Public Libraries. LS1 shared the same sentiments, and suggested that the ILMS should be implemented in all public libraries, as this would make it easier to work together with other libraries and stay connected through the system. However, LS1 shared concerns that with the current budget cuts it might not be possible anytime soon.

4.9 Summary

This chapter presented the research data from interviews and document search that were conducted to reach the main objective of establishing the reasons that led to the automation and choice of the proprietary system. The researcher used pre-determined themes that were drafted from the research objectives in analysing the data. However, some new themes emerged when data was being analysed. The study established the steps that were taken during the implementation of Symphony such as identifying the need for an ILMS; planning and decision making; budgeting and funding for the ILMS implementation; tour of other public libraries using an ILMS; tender; and staff involvement and preparedness. The findings from the document search give insight into the measures taken in singling out Symphony as the best system for the community libraries. Enablers such as getting funding from MCA-N compact; UKS agreeing to
host the system on behalf of NLAS; open communication channels throughout the implementation of Symphony; and having a committed team of leaders spearheading the implementation process. Barriers in the ILMS implementation process included slow Internet connectivity hindering training progress; lack of administrative control of the system for the Systems Administrator not having enough time for trainings and lack of adequate infrastructure for NLAS to host the system were identified.

The next chapter discusses the research findings.
CHAPTER 5

Discussion of research findings

5.1 Introduction

This chapter discusses and interprets the research data presented in chapter 4. The discussion focuses on interpreting the findings in relation to the topic and those findings must be consistent with the analysis from the previous chapter (Blanche et al., 2006; Gay, 2009). The main objective of the study was to establish the reasons that led to the automation of the Windhoek Public Library as well as establishing reasons for selecting a proprietary ILMS for a ‘public library’. The Information Technology Implementation Process model provided the study’s theoretical framework hence reference is made to this model in the discussion. The discussion focuses on data obtained from the interviews and document search and it is organised according to the study’s research objectives under the following sub-headings:

- Reasons for automation
- Steps followed during implementation
  - Identifying the need to automate the Windhoek Public Library
  - Planning and decision making
  - Budget and funding for ILMS implementation
  - Selecting a proprietary ILMS
  - Staff involvement and preparedness
- Perceptions and attitudes towards automation
- Enablers and barriers in the Implementation of Symphony at the Windhoek Public Library
- Benefits that came post-automation.
5.2 Reasons for automation

One of the aims of the study was to establish the reasons the Windhoek Public Library moved from a manual system to an automated system. The research findings show that the Windhoek Public Library, just like other 21st century libraries, was gradually moving with technology trends and ILMS implementation was the first step that was taken. This meant that the services that were to be offered with the help of the system were going to match the needs of the modern-day library user hence reducing any frustrations from both the librarians and the users. Community libraries cater for a diverse type of audience, meaning the library should be up-to-date when it comes to services offered. The study established that the need for automation was motivated by the growing technological trends and the need to increase productivity without wasting time while performing most library duties manually.

From the participants’ responses, one could deduce that automation of the library helps reduce the workload for librarians in the areas of acquisitions, cataloging and circulation, which in turn allows them to better serve the library users. Das and Chatterjee (2015) state that modern-day library users and staff members no longer have time to search the required and relevant information from the dense heap of information collections and need a modernised system to meet the diverse information needs.

5.3 Steps followed during implementation

This section discusses the key findings on the various steps followed by the NLAS, Windhoek Public Library and MCA-N. These key findings on the steps followed during automation are discussed under each section as follows:
5.3.1 Identifying the need to automate the Windhoek Public Library

Pandya (2012) states that conducting a user-needs assessment may bring up reasons why a library needs to automate, as library patrons would suggest the services they expect to get from an automated library. However, in this study, it was found that a user-needs assessment was not conducted to establish the specifications of the automated library from the library patrons’ point of view. This means that there was no input from the average library patron at the Windhoek Public Library. However, the voice of the library users was gathered through consulting the monthly reports submitted by the Windhoek Public Library as they showed the information needs of the users and how they varied each month.

As the study’s findings show, the study also established that measures were put in place in dealing with the rapid growth and change of the community library patrons’ information needs and information materials in Namibia, specifically the Windhoek Public Library. Those measures were moving from the manual system by implementing Symphony. Thus, this study confirms the assertions by Mutula (2012) that automation was the best solution to keeping up with the rapid changes in the community libraries and the growth in numbers of the patrons and their changing information needs.

5.3.2 Planning and decision making

The involvement of library staff in planning and decision-making is an extremely important issue. Planning in this study entailed determining the order in which the implementation of the ILMS was conducted in each phase. The study sought to find out if there was a vision that guided the planning and decision-making process during ILMS implementation and it was revealed that the NLAS management’s vision aimed to provide excellent services, better than the
ones they were currently providing to the community. This concurs with the assertion by Vaughan (2001) that a vision is one of the important components in the planning process and all the members of the planning committee should agree upon the same vision. The library should determine the requirements to fill in the gap between the library’s vision and the actual status of the library.

The study established that planning and decision making during the ILMS implementation process only involved NLAS management staff, MCA-N representatives and IREX representatives. This meant that the Windhoek Public Library staff members were not involved in the initiation and adoption phases. However, the Systems Administrator interviewed was consulted during the decision-making process regarding the technical aspects of the system to be chosen but was not part of the group that made the final decision on which system to be implemented. Spacey et al. (2003), in a study conducted in the UK on ICT and change in public libraries, report that staff involvement during planning are assumed to be fundamental in the acceptance, implementation and success of new technologies. In this study however, the staff members were positive about the new system although they were not part of the planning and decision-making process.

5.3.3 Budget and funding for ILMS implementation

Several researchers (Adebayo, 2007; Adegbore, 2010; Nwalo, 2000; Uzomba et al. 2015) have shown that funding is a cause for concern for libraries that intend to implement an ILMS. Nwalo (2000) states that the problems inhibiting IT applications by African public libraries include lack of concern and inadequate government funding. The study revealed that lack of funding was not
the case for the Windhoek Public Library, as MCA-N provided the funds for the procurement of the system and maintenance for the first year of running the system.

Even though naturally, libraries without much financial resources need cost-effective measures to automate their services. To a certain extent, free and open-source solutions could provide an alternative solution to costly commercial application software (Daniels, n.d.). However, in this study, the NLAS together with the MCA-N agreed on measures to ensure that financial plans of the maintenance costs of the system were put in place. NLAS had to ensure that there was always money allocated for Internet connectivity for the community libraries that had implemented Symphony. The study revealed that in the history of community libraries in Namibia, there had always been budget issues, as the money allocated to community libraries was not adequate to meet all the library needs related to the ILMS maintenance. However, NLAS management confirmed that they had lived up to the assurance that the ILMS will still be maintained even after the MCA-N project was finalised.

### 5.3.4 Selecting a proprietary ILMS

Before the final selection of the system there were four systems that were evaluated namely Cipal, Koha, Symphony and Liberty Library Management System. For the NLAS management team to understand the ILMS implementation process before it began, a tour to other libraries using Symphony in South Africa was conducted. The tour brought to light the stages that were followed by those libraries during the implementation process; got ideas on how the system was to be tailor-made for the Namibian community libraries; and how they were managing the financial implications that came with a proprietary ILMS at a community library. Breeding and Yelton (2011) state that towards the end of the ILMS selection process, the library management
must compare its goals and requirements to the actual systems that they have narrowed down to. Selecting a system from a list of various vendors depends on factors like: the type of library, the size and type of collection held at that library, size of staff, volume of work and most importantly the budget (Salter, 2009). NLAS analysed and identified their needs to develop criterion for evaluating potential systems and they also considered the size of the library, volume of work, type of collection and the budget. They also checked the size of staff as that was one of the issues that had to be addressed before they could move to the third phase of ILMS implementation.

The study confirms the notion that when a vendor is selected, it is highly recommended to keep the communication channels open always for support to be rendered whenever there is a glitch in the day-to-day operations. This is affirmed by a study on selection of an ILMS conducted by Richardson and Hopkins (2004), which concluded that a vendor’s active participation and support for the development of standards has both short and long-term benefits for its customers or, in this case, the library. The study revealed that communication with the vendors was done by IREX on behalf of NLAS, as they were the ones who drafted the specifications for the ILMS to be selected.

Bales (1999) state that towards the end of the ILMS selection process, the library management must compare its goals and initial requirements to the actual systems that they would have narrowed down to. In this study, however, IREX is the one that conducted the evaluation of the selected ILMS with the help of the MCA-N project manager. The MCA-N project manager had all the suggestions that were provided by the NLAS management regarding the type of system they preferred for their community/public libraries. IREX had the technical capacity as they were the ones who drafted the specifications checklist. Nonetheless, IREX had to get approval from NLAS before going ahead with any activity. The study’s findings show that the monthly
reports the librarian presented indicated the type of library users being catered for to ensure that the ILMS being implemented suited the needs of the specific yet diverse community being catered for, hence proving that the reasons for selecting a proprietary system were not solely driven by the library users’ perspectives. Symphony was chosen as it met all the requirements provided and mentioned above.

5.3.5 Staff involvement and preparedness

Introducing a new system in a library means that staff members must learn new skill sets hence appropriate training is required (Salter, 2009). One of the underlying factors in the success or failure of any library is the power of its staff, and how well that power is focused towards meeting the library’s objectives. One of the purposes of this study was to establish the reasons for selecting a proprietary ILMS that the library staff will use in the long run and establish what role they played during the ILMS implementation. Staff involvement is a process of empowering employees to participate in managerial decision-making and improvement activities appropriate to their levels in the organisation (Apostolou, 2010). Chile (2012) conducted a study on staff involvement in system implementation for a library consortium and found that library management said that they involved their staff by keeping them informed by holding staff meetings regularly and everyone was encouraged to raise their opinions. They also involved staff in the planning stage through communication with various steering groups as well as sharing information via email lists. However, the staff members were only included in the ILMS implementation process during the third stage. The third stage in the Information Technology Implementation Process model is the adaptation stage where emphasis is on preparing the library staff and where approaches of making the staff aware of the systems are fully explored. The study also explored the involvement of staff members at the later stages of the implementation
process and it revealed that there were issues that were overlooked in the first two phases of the ILMS implementation process. The issues that were overlooked were to establish if librarians had any suggestions on the systems that were suitable for the type of community they served as well as the issue on prior knowledge of an ILMS that the staff may have had to set the pace on how trainings would be conducted. Several authors have argued that lack of staff involvement during the planning and selection phases may contribute to future or unforeseen challenges in the long run as the staff members might be able to bring up important pointers on which ILMS best suits the library and the community they serve on a regular basis (Apostolou, 2010; Bissels, 2008; Breeding & Yelton, 2011).

The study established that a training manual was created to guide the trainings that were to be conducted on Symphony and each staff member was given a set of manuals catering for different levels of the training. The training manuals were given to the Windhoek Public Library staff members during the trainings. The study also found that some of the staff members were given a questionnaire right before training to give the trainer an idea of the level of knowledge the library staff may have. This confirms the Information Technology Implementation Process model by Cooper and Zmud (1990) that emphasizes on the use of training manuals at the adaptation and acceptance stages to ensure that staff members are well informed and prepared for the use of a new system after its implementation.

5.3.6 Perceptions and attitudes towards automation

It is evident from the findings that most of the participants from NLAS and the Windhoek Public Library were optimistic about the change from the manual system to an automated library system. Bales (1999) asserts that people should change the way they behave and think for them
to work effectively in an automated environment. Considering the above-mentioned points, a few staff members had reservations like fear of change from manual to automated system as well as scepticism from librarians regarding the implementation of Symphony and it took some time for them to embrace the new ILMS. This was also mentioned in a study by Shikongo (2013) where management were encouraged to include staff members at an earlier stage of implementation to boost their confidence in using a new system. This was due to their late involvement in the ILMS implementation process. Nonetheless, the Windhoek Public Library staff members had to embrace the new ILMS as their daily activities and duties were not halted during the implementation process. A survey on the attitudes of librarians towards the use of Information and Communication Technologies in Zambia revealed that older librarians were uncomfortable to learn new skills compared to younger librarians and feared that years of routine work could be replaced instantly with the introduction of ICTs (Isaacs, 2007). However, in this study, most of the librarians had been working in the library long enough to experience both the virtual absence of high-tech library automation and the surging expansion of technology throughout their library. The older staff members were optimistic about the automation of their library.

Findings reveal that before Symphony was implemented, the library had been using CDS/ISIS hence some staff members had an idea what ILMS implementation would entail. This agrees with the findings by De Gennaro (2012) on automated systems that revealed that prior knowledge of library systems may help staff members to gradually embrace a new library system with fewer convictions hindering the process along the way. There was a very positive attitude overall towards learning and using the new ILMS.
5.4 Enablers and barriers in the Implementation of Symphony at the Windhoek Public Library

This section discusses the findings on the enablers and barriers experienced during ILMS implementation.

5.4.1 Barriers in the Implementation of Symphony at the Windhoek Public Library

Packiyaraj, Chandran and Lewish (2016) state that library automation and computerisation help a library to modernise its in-house operations while allowing access to other libraries through inter-loans facilities. However, one of the findings from the study revealed that the process of moving from a manual to an automated system also proved to be an obstacle in terms of service delivery. This was also the case with ILMS implementation at the Windhoek Public Library. This was solely because library users still needed their information needs like circulation activities along with reference services to be met while the librarians were also overwhelmed by the implementation of Symphony that required a lot of time and attention from them. This confirms the findings by Adogbeji and Adomi (2005), that conversion of the library collection from a manual to an automated library collection could be a constraint as most of the attention went to the new project a hand. This indicates the necessity of proper planning before ILMS implementation, as management should come up with a strategic plan that would ensure that library users’ needs are not over-looked during the ILMS implementation process.

One other barrier that came up in this study was the lack of technical expertise from the library staff members together with the management. The study showed that the librarians were not well equipped to take on the new responsibilities that came with a new system and this proved to be a problem whenever they encountered technical problems while using the ILMS. The technical problems encountered were constant freezing of the system and problems with the server. The
findings of this study attested to the assertion by Hopkinson (2009) that some libraries choose proprietary ILMS because it comes with full technical and administrative support from the vendor.

Despite NLAS management stating that communication channels were always open during implementation, the findings of this study indicated that librarians, who were not part of the management meetings, felt that the communication channels were not entirely open as most of the time they were not informed on the latest developments from the onset but were expected to be on board. According to Uzomba et al. (2015), public libraries in developing countries lacked proper communication channels, technical knowledge on the installation, operation and basic maintenance of an ILMS. Internet connectivity was also identified as a barrier as the Windhoek Public Library experienced bandwidth problems at the beginning of the implementation process, hence delayed the progress. This required tweaking of the budget to increase the bandwidth for the library.

5.4.2 **Enablers in the Implementation of Symphony at the Windhoek Public Library**

Sarker and Lee (2000) indicated that there are three enablers in system implementation namely a committed management team, proper communication channels and a balanced empowered staff. This study agrees with Sarker and Lee (2000) on the basis that the findings show that NLAS management made it a must to ensure that communication channels were open at all times during the ILMS implementation process and all stakeholders had to be committed to their respective tasks and produce positive results. Positive results in this case refer to productivity and reaching the main goal which was successful implementation of Symphony.
Furthermore, other enablers were brought up and those were namely financial back-up being provided by MCA-N and assurance from MoEAC that there would always be financial provisions made for community libraries regarding Internet connectivity and ILMS maintenance costs. This assurance was honored as the budget for the library included internet connectivity and ICT maintenance. NLAS management and the library staff were empowered through the touring of other libraries using Symphony and undergoing a series of trainings.

5.5 Benefits that came post-automation

The researcher was keen to know how participants felt about the system after automation was completed. During the interviews conducted, all the participants were relatively positive regarding the changes that came with the implementation of Symphony. The transition from a manual system to an automated system encouraged library staff to undergo a major transformation in the way they rendered services to the public. Tanwar (2014) mentions increased access to information in a study on automation in public libraries and this is confirmed in this study as the Windhoek Public Library gained increased access to unlimited resources at the same time and in varying formats after it automated. Some of the participants listed several benefits that came after automating their library and its collection and these are: high rate and better quality in performance of staff, easier and accurate handling of information is assured and the new ILMS helps in avoiding duplication of work, as it is common when using manual systems.

Promptness in service delivery was also mentioned by the Windhoek Public Library librarians and this corresponds with the advantages provided by Boateng et al. (2014) that revealed that fast and convenient services were assured after a library implemented an automated system. Library automation also ensures that the library’s collection is sustainable with the ever-increasing shift
of information dissemination in a technology-based society. A study by Mutula (2012) indicates that automation of the University of Botswana Library enabled the sharing of resources such as bibliographic records and electronic resources with other cooperative networks. Similarly, implementing symphony at the Windhoek Public Library enabled librarians to do inter-loaning of information materials with other community libraries in Namibia. Furthermore, automation frees up time for librarians to provide quality services to the library patrons and the librarians become more available to provide reference services (Grant, 2012; Vaughan, 2001).

5.6 Summary

This chapter interpreted and discussed the major findings of the study on the implementation process of an ILMS at the Windhoek Public Library as well as a discussion on the choice of a proprietary ILMS for a community library. It emerged that unlike most public/community libraries, the Windhoek Public Library opted for a proprietary ILMS, as measures were put in place to ensure that the costs of implementing, running and maintaining the system were catered for. The discussion also showed the enablers and barriers to the implementation of an ILMS. The enablers include a dedicated and committed management team, open communication channels between management and staff, committed and motivated library staff, support from the MoEAC and financial backup for ILMS implementation and maintenance. The barriers revealed in this study included prompt service provision being hindered due to the process of converting from manual to automated library system, lack of adequate technical expertise from the library staff, Internet connectivity being a cause for concern and lack of complete control of the system in Namibia, as it is currently hosted in South Africa due to lack of adequate infrastructural support.
Regarding staff involvement, this chapter shows that the library staff form the Windhoek Public Library were only included in the implementation process during the adaptation phase. The adaptation phase is the third stage according to the theoretical framework for this study and this is where the library staff members were given training on Symphony while some of the staff had to go for TOT for future benefit. Moreover, this chapter also discussed the perceptions and attitude towards the idea of automation and the findings showed that overall the attitude was positive. Finally, the discussion also linked the study’s findings to the theoretical framework of the study as it gave a detailed outline of all the phases of the implementation of Symphony and those matched the phases provided by the Information Technology Implementation Process model.

The next chapter presents the summary, conclusions and recommendations of the study.
CHAPTER 6

Summary, Conclusions and Recommendations

6.1 Introduction

This chapter summarises and concludes the research and makes recommendations for improving the ILMS implementation process in community libraries in Namibia. The discussion of a research report should present the theoretical and practical implications of the findings and make recommendations for future research or future action. Summarising the research report is essential as significant findings are reviewed and drawing conclusions will show how and in which manner the research goals have been achieved (Babbie, 2011; Gay et al. 2009; Sarantakos, 2005).

The objectives of the study were to establish reasons that led to the automation of the Windhoek Public Library; to determine why a proprietary system was chosen for the Windhoek Public Library; to establish the steps followed during the implementation of Symphony; to establish the enablers and barriers in the implementation of Symphony; and to come up with some recommendations on how some of the challenges identified could have been avoided and how they could be resolved. This chapter is divided into three parts namely the summary, conclusions and recommendations. The summary gives an overview of the main findings of the study and it is guided by the themes used to analyse the study’s findings. This chapter also outlines the main conclusions of the study which are arranged according to the study’s objectives. Lastly, it provides the recommendations based on the conclusions drawn from this study.
6.2 Summary of the findings

The rationale for undertaking this study was to establish the reasons that led to the automation of the Windhoek Public Library and selection of a proprietary ILMS for a community library. This was done by investigating the implementation process starting from the initiation phase followed by the adoption phase then the adaptation phase and lastly the acceptance phase of the ILMS implementation process; establishing the perceptions and attitudes towards automation, and the enablers and barriers in the implementation of Symphony.

6.2.1 Reasons for automation

One of the reasons that led to the automation of the Windhoek Public Library was to embrace technology to keep up with the trends of modern-day libraries that are fast becoming ‘technologically-forward’. Automating the library meant that the services being offered to the community would also improve and to meet the diverse information needs from the community library patrons.

6.2.2 Steps followed during ILMS implementation

6.2.2.1 Identifying the need to automate the Windhoek Public Library

The steps followed in implementing Symphony were identifying the need for automation as primarily to be able to meet the ever-changing information needs of the library patrons and provide excellent services to the library community.
6.2.2.2 Planning and decision making

This stage encompassed the planning and decision-making process that was carried out by the NLAS management, MCA-N project manager and representatives together with the IREX representatives. The study found that none of the librarians from the Windhoek Public Library were part of the planning and decision-making process. It was also revealed that the NLAS management team which consisted of IT professionals, Director of NLAS, Head of Community libraries and Chief Librarian at the National Library played the role of the representatives of the Windhoek Public Library staff.

6.2.2.3 Budget and funding for ILMS implementation

This stage entailed planning the budgeting and funding for the ILMS implementation and it was established that the MCA-N project had offered to pay for the first year of the operational costs of Symphony and then would NLAS take over. However, MCA-N had to be assured that budgetary and funding measures have been put in to keep the system running. Even though there were budget cuts in the public sector in Namibia during the time this study was conducted, the Windhoek Public Library did not experience financial challenges in maintaining the system, as it was up and running.

6.2.2.4 Selecting a proprietary ILMS

It was established that a tour to other community libraries using Symphony in South Africa was done before the selection of the shortlisted vendors for the system commenced while some of the vendors came to Namibia and made presentations on their systems. Selection of the ILMS was done by NLAS management with the help of MCA-N project manager and the IREX
representatives provided the specifications and guidelines for the suitable system for a community library.

6.2.2.5 Staff involvement and preparedness

Windhoek Public Library staff members were only included in the implementation process during the third and fourth phases namely the adaptation and acceptance phases, to prepare them for the launch of Symphony. Suggestions from librarians on the suitability of the type of system to be selected were not gathered before the selection, as that was part of the first two phases of the implementation process.

6.2.3 Perceptions and attitudes towards automation

Most of the Windhoek Public Library staff members were optimistic about the implementation of Symphony. However, a few staff members had reservations regarding the training, as they feared that they might not grasp the system on time. Overall, the attitude was positive, as the staff members had prior experience of using a library system although on a smaller scale, hence they had an idea of what ILMS implementation entailed.

6.2.4 Enablers and barriers in the ILMS implementation

The study uncovered barriers that came up during the implementation of Symphony at Windhoek Public Library. Service delivery to the patrons was stopped due to the conversion of data from manual to the automated system. A lack of adequate time to cater to the needs of the library patrons while also attending the trainings on Symphony hindered the progress of the implementation process. The other problems that were brought to light were lack of technical expertise from the staff, hence more time was required for intensive training. The study also revealed Internet connectivity problems due to the size of the bandwidth at Windhoek Public Library that hindered the progress of the trainings.
The study revealed the enablers that ensured successful ILMS implementation namely; open communication channels between NLAS management and the library staff members, committed and motivated librarians making the ILMS implementation process run effortlessly; commitment to the implementation process by NLAS management and financial back-up from MCA-N.

6.3 Conclusions

Labaree (2018) states that conclusions provide a place for the writer to persuasively and succinctly restate the research problem and reflect on the research findings presented. Conclusions are not merely a summary of the main topics covered but a synthesis of key points and where applicable, recommendations on new areas for future research are made. Based on the findings of the study on the implementation of Symphony at the Windhoek Public Library, this section presents the conclusions of the study. The conclusions are arranged according to the study’s research objectives.

6.3.1 Reasons for automation

One of the study’s objectives was to establish the reasons that led the Windhoek Public Library to automate. This study concludes that the most predominant reason for a library to automate is change and advancement in technology prompting information needs and behaviour of the library patrons to change to suit the dynamic environment around them. Therefore, libraries need to keep up with technology advancement to meet and keep up with the standards of the 21st century community libraries. The Windhoek Public Library had to automate as it was going through major renovations to suit the diverse information needs and growth in numbers of the community it serves. The new ILMS was going to be a big step forward towards achieving the
goal of providing modernised information services and keeping up with the technological trends that are ever changing.

6.3.2 Selection of a proprietary system for the Windhoek Public Library

The study also aimed to establish why a proprietary system was chosen for a community library. Selection of a proprietary system requires a lot of planning, as community libraries are not profit-making, hence measures like financial backup are put in place the same way NLAS did for the Windhoek Public Library.

6.3.3 Steps followed during Symphony implementation

The study also shed light into the steps followed when the ILMS was implemented. The study revealed that when it came to staff involvement in the planning and decision-making phase, the NLAS management overlooked the role the library staff members would have played in ensuring the selection of the appropriate system, as they were the ones who work with the library patrons daily and were well informed on the type of information needs to be met.

6.3.4 Enablers and barriers to Symphony implementation

The study also sought to establish the enablers and barriers that might have been encountered during the ILMS implementation. Not many barriers were encountered in the implementation of Symphony with Internet connectivity problems only experienced in the last two phases of the implementation process, that is the adaptation phase and the acceptance phase where staff were informed of the system and underwent training. Despite the barriers experienced at these two phases, the solution came in the form of one of the enablers of the implementation process. The size of the bandwidth at the Windhoek Public Library was increased to accommodate the new
system and for staff members to be trained without any Internet connectivity issues. This was made possible by financial back-up from MCA-N during the first year of ‘running’ the system.

6.4 Recommendations

One of the objectives of the study was to draw up some recommendations on how some of the challenges identified could have been avoided and how they can be resolved. The following are the study’s recommendations:

6.4.1 Staff training is a continuous process and library management should ensure that staff members are given ‘refresher’ training to keep up with any upgrades that might be done on the system.

6.4.2 NLAS management should encourage training of trainers for more members of staff instead of selecting just a few, as in the long run the staff members may provide in-house training.

6.4.3 For ILMS implementation to be successful, the library management have to make sure all four phases in the implementation model used in this study are followed and given proper consideration during the implementation process.

6.4.4 The involvement of library staff in planning and decision making is an extremely important issue. In this light, the researcher recommends putting in place a participative structure to enable all levels of staff to engage in the implementation process.
6.4.5 The Systems Administrator or IT staff should be involved from the initiation phase so that they can advise on the bandwidth allocation and internet speed for the type of system being implemented. In addition, The Systems Administrators should be given training that is more advanced so that they are the first to help regarding any technical queries on the system instead of always relying on the vendor. This would reduce the amount of money spent on consultation fees whenever something needs to be fixed.

6.4.6 There is a need for management to evaluate the training of the staff members prior to conducting the actual training on how to use an ILMS as this may help in identifying the level of training the facilitator should give and help determine the training pace.

6.4.7 Community libraries in Namibia should continue to be supported financially and in a consistent manner to enable them to acquire and maintain library systems.

6.4.8 NLAS should work towards ensuring that the system is hosted in Namibia in all community libraries that will implement an ILMS as there are many costs incurred and hindrances to productivity when the system is being hosted outside the country.

6.4.9 Before the implementation of an ILMS takes place, the bandwidth size should be sorted out before hand to avoid barriers related to Internet connectivity.
6.4.10 Considering the budget cuts being experienced in government community libraries in Namibia, this study recommend that smaller community libraries implement Open Source ILMS that requires less maintenance costs in the long run.

6.5 Areas for further research

One of the key lessons learnt from this study is that Namibia as a country is new to the idea of community libraries implementing proprietary systems, hence case studies need to be conducted at other community libraries to establish how the new library system has changed the way the library operates and help determine if more community libraries in the country should also implement proprietary systems instead of open-source systems. There is a need for further research on post-implementation of Symphony in a community library in Namibia to draw more generalised conclusions in this area of study.

6.6 Implications for practice

The main aim of this study was to establish the reasons for automation and for implementing a proprietary ILMS at Windhoek Public Library. The findings and conclusions in this study may have a bearing on future ILMS implementation in other community libraries in Namibia that are yet to automate their libraries. A key lesson learnt from this study is that staff involvement should be encouraged during the initiation and adoption phases, as most staff members would be in a better position to suggest the best ILMS for their library and one that fulfils the information needs of the patrons within the community they serve.

6.7 Final Conclusion

This study achieved its main aim of establishing the reasons that led a community library in Namibia to implement a proprietary system and to establish the steps taken to ensure a successful
implementation process. Although there were barriers that emerged from the findings, overcoming them entails various of interventions that include extensive and intensive planning and brainstorming sessions that involve all management and librarians. Although this study is not generalisable, it provided unique insight into the experiences of the Windhoek Public Library staff and management in the implementation of a proprietary ILMS. All in all, the study highlighted the main steps followed during ILMS implementation. Modern technology is gradually being upgraded, hence radically changing the nature of the community and their information needs. Library systems are also compelled to go through major transformation to adapt to new library and information trends. Libraries are encouraged to take up automation and modernise their operations and the services they offer. Furthermore, ILMS implementation is a process that requires proper planning, timely execution and regular evaluation of the process. As mentioned in the study, excellent service delivery is one of the goals that NLAS had in mind before implementing Symphony. Therefore, an automated library system can lead the Windhoek Public Library to achieving that goal.
References


http://blue.lins.fju.edu.tw/mao/works/Implementation%20of%20an%20open%20source%20library%20management%20system.pdf


Daniels, B. (n.d.). The challenges of implementing online library database management system in developing countries. *Academia*. Retrieved from


Sarker, S., & Lee, A.S. (2000, December). *Using a case study to test the role of three key social enablers in ERP implementation*. Paper presented at the International Conference on


Stellenbosch University. (2013). *Policy for responsible research conduct at Stellenbosch University*. Stellenbosch, South Africa: Stellenbosch University.


University of Illinois at Urbana-Champaign. (2004). Opportunities and challenges for the academic libraries of Carnegie grantees in East and West Africa. Urbana, IL: University of Illinois Library.


Appendices

Appendix A - Ethical Clearance Certificate

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: R1855/381/2018 Date: 27 April, 2018

This Ethical Clearance Certificate is issued by the University of Namibia Research Ethics Committee (UREC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical Approval is Given in Respect of Undertakings Contained in the Research Project outlined below. This Certificate is Issued on the Recommendations of the Ethical Evaluation Done by the Faculty/Centre/Campus Research & Publications Committee sitting with the Postgraduate Studies Committee.

Title of Project: IMPLEMENTATION OF AN INTEGRATED LIBRARY MANAGEMENT SYSTEM FOR COMMUNITY LIBRARIES: A CASE STUDY OF WINDHOEK PUBLIC LIBRARY

Researcher: PATIENCE PEDZIWAYO VIRIRI

Student Number: 200812807

Supervisor(s): Prof. C. Njomagwasa (Main) Mr. W. Uabor (Co)

Faculty: Faculty of Humanities and Social Sciences

Take note of the following:

(i) Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the UREC. An application to make amendments may be necessary.

(ii) Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the UREC.

(iii) The Principal Researcher must report issues of ethical compliance to the UREC (through the Chairperson of the Faculty/Centre/Campus Research & Publications Committee) at the end of the Project or as may be requested by UREC.

(iv) The UREC retains the right to:

(a) Withdraw or cancel this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected.

(b) Request for an ethical compliance report at any point during the course of the research.

UREC wishes you the best in your research.

Dr. Prof. P. Odongo: UREC Chairperson

Ms. P. Cañar: UREC Secretary

[Signature]

104
Appendix B – Research Permission Letter

RESEARCH PERMISSION LETTER

Student Name: Patience Pedzisayi Vitiri

Student number: 200812807

Programme: MA Library and Information Science


TO WHOM IT MAY CONCERN

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

[Signature]

Dr M. Hedimbi
Director: Centre for Postgraduate Studies
Tel: +264 61 2063275
E-mail: directorpgs@unam.na

23/06/17

[Stamp: Centre for Postgraduate Studies]

[Stamp: Office of the Director]

2017-06-23

University of Namibia

UNAM
Appendix C - NLAS Request Letter

Letter Seeking Permission to carry out Research

P.O. Box 48,
Gobabis,
Namibia
05 June 2017

The Director
Namibia Library & Archives Service (NLAS)
Private Bag 13186
Windhoek,
Namibia

Dear Sir/Madam

REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH ON SYMPHONY IMPLEMENTATION AT WINDHOEK PUBLIC LIBRARY.

I am a Master of Arts (Library & Information Science) student studying at the University of Namibia. I am conducting a research on the implementation of an Integrated Library Management System (ILMS) at Windhoek Public Library. I am currently employed at Omaheke Regional Library as an Assistant Librarian.

The research will involve interviewing NLAS management staff specifically the Director of NLAS, Head of Community Libraries and the Chief Librarian, Windhoek Public Library Senior Librarian, one Librarian, one Assistant Librarian and one IT staff. It will also include conducting a document search of reports, meeting minutes and documented strategic plans from NLAS.

The major aim of this research is to establish the reasons that led to automation of the library and its collection and for choosing a proprietary system for Windhoek Public Library. All research data gathered will be used solely for academic purposes.

I therefore seek authorization to conduct interviews and to consult relevant documents at your organization. Once permission is granted, I will make appointments with the specific staff members mentioned above. I have the month of July to mid-August to conduct the interviews.

If you have any questions concerning the research study, please do not hesitate to call or send me an email. I look forward to your consideration of my request.

Yours Faithfully,
Ms. Patience Fedzisayi Viring
pedzi.viriti@gmail.com
0813774285
Appendix D – Consent Form

Consent Form

TITLE OF RESEARCH: IMPLEMENTATION OF AN INTEGRATED LIBRARY MANAGEMENT SYSTEM FOR COMMUNITY LIBRARIES: A CASE STUDY OF WINDHOEK PUBLIC LIBRARY

RESEARCHER: Ms. Patience Pedzisayi Viriri
Department of Information & Communication Studies
University of Namibia
+264 81 3774285
pedzi.viriri@gmail.com

Research Information
This research aims to establish the reasons that led to automation of the library and its collection and for choosing a proprietary system for Windhoek Public Library. You have been selected as a prospective interviewee as your input would be of great significance to this study. All responses are confidential and your privacy will be protected as no name will be mentioned. The interview should take approximately 45 minutes to 1 hour.

Please note that participation is voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part from the outset.

No risks have been identified for this study. The information requested will be based on your experiences as an active participant in the ILMS implementation process at Windhoek Public Library and shall be kept private and confidential. This study will benefit both organizations and other community libraries in Namibia as it will provide guidelines for future reference during the implementation of an Integrated Library Management System in public libraries.

For any questions or further clarifications with any aspect regarding this research, please feel free to contact me or my research supervisors, in the Department of Information & Communication Studies, University of Namibia. Professor Catherine T. Nengomazha e-mail: cnengomazha@unam.na OR Mr. Wilhelms E. Utsoni e-mail: wutsoni@unam.na

If you voluntarily agree to participate in this research, kindly indicate your consent by signing below:

Do you agree to be digitally recorded? YES ☐ NO ☐

Name .............................................. Signature .................................. Date .................................
Appendix E – Interview Guide for NLAS Management

My name is Patience Pedzisayi Viriri. I am a Master of Arts student in Library & Information Science with the University of Namibia. I am conducting a study on the Implementation of a proprietary Integrated Library Management System (ILMS), Symphony at Windhoek Public Library. Thank you for agreeing to take part in this study. Please complete the informed consent form meant to serve as confirmation of your voluntary participation. All the information will be treated with strict confidentiality.

For the purpose of this study ILMS refers to Integrated Library Management System.

SECTION A: Biographic Information

1. What is your current position at NLAS?

2. How long have you been in this position?

SECTION B: Reasons for automation

3. What was your role in the implementation of Symphony?

4. What led to the decision to automate the library collection at Windhoek Public Library?

5. What vision guided the decision making process?

6. What were the reasons of opting for a proprietary ILMS and what criteria were used to select the vendor?

7. When was Symphony implemented?
SECTION C: Steps followed during implementation

8. When did the plans to automate commence?

9. What steps were followed during the implementation process of symphony?

10. How were the library users’ needs assessed before automation?

11. How was the project funded?

12. Was funding a concern? If “YES” please elaborate on those concerns.

(These questions address the issue of strategic planning and the vision and goals they had in mind for the community libraries)

SECTION D: Perceptions and attitudes

13. From your own observation, what were the attitudes towards the new system from the staff members?

14. At this point how have the staff members accepted and embraced the new system?

SECTION E: Staff involvement and preparedness

15. Were staff members consulted before the implementation of Symphony? If “YES” How was staff involvement ensured during the implementation phase?

16. What challenges did you face as management during implementation process?

17. What steps can be taken to avoid the challenges that were faced during implementation?
18. What measures have you put in place for new staff members regarding their training on Symphony?

SECTION E: Recommendations

19. What advice do you have on ILMS implementation for other Namibian public libraries in the future?

Thank you for your time and contribution....
Appendix F – Interview Guide for MCA Stakeholder

My name is Patience Pedzisayi Viriri. I am a Master of Arts student in Library & Information Science with the University of Namibia. I am conducting a study on the Implementation of a proprietary Integrated Library Management System (ILMS), Symphony at Windhoek Public Library. Thank you for agreeing to take part in this study. Please complete the informed consent form meant to serve as confirmation of your voluntary participation. All the information will be treated with strict confidentiality.

For the purpose of this study ILMS refers to Integrated Library Management System.

SECTION A: Biographic Information

1. What is your current position?

SECTION B: Implementation process

2. What was your role in the implementation of an ILMS at Windhoek Public Library?

3. How were you involved in the planning and decision making process with the NLAS management?

4. How do you think Symphony will help Windhoek Public Library and its users?

5. What are the challenges that you encountered during the planning phase of the implementation of Symphony?

6. How were you involved in the implementation process after the planning phase? (With reference to the vendors and hosts for the system).
7. What recommendations do you have with regards to library automation for public libraries in Namibia?

_Thank you for your time and contribution...._
Appendix G – Interview Guide for Systems Administrator at Windhoek Public Library

My name is Patience Pedzisayi Viriri. I am a Master of Arts student in Library & Information Science with the University of Namibia. I am conducting a study on the Implementation of a proprietary Integrated Library Management System (ILMS), Symphony at Windhoek Public Library. Thank you for agreeing to take part in this study. Please complete the informed consent form meant to serve as confirmation of your voluntary participation. **All the information will be treated with strict confidentiality.**

*For the purpose of this study ILMS refers to Integrated Library Management System.*

**SECTION A: Biographic Information**

1. What is your current position in this library? / What was your position at Windhoek Public Library & NLAS at the time of the system implementation?

2. How long have you been in this position?

**SECTION B: Perceptions and Attitudes**

3. Did you take part in the implementation of Symphony from the onset? If you did, what was your involvement?

4. How did you feel when the idea of automation was presented to you as the Systems Administrator?

5. What knowledge of Symphony did you have before it was implemented?
6. How did the system influence your work? (On the technical side)

7. What are the post-automation challenges that you have faced?

8. At this point as an IT professional, how do you feel about Symphony in a public library set up?

SECTION C: Staff Involvement and preparedness

9. At what stage were you informed of the plans to automate your library’s collection?
   (Planning stage, Decision making stage, Budgeting stage OR the Implementation stage)

10. Did you undergo any training on Symphony? If “Yes”, what challenges did you face during training?

11. Who facilitated the training for the staff members?

12. How were the communication channels between management and subordinates during Symphony implementation?

13. Was there a pilot test conducted on the system before it was fully implemented? If “Yes”, were you part of it?

SECTION D: Recommendations

14. What do you think needs to be done to improve the implementation process of ILMS in Namibia?
15. What advice do you have on ILMS implementation for other Librarians and Systems Administrators at other public libraries?

*Thank you for your time and contribution....*
Appendix H – Interview Guide for Librarians at Windhoek Public Library

My name is Patience Pedzisayi Viriri. I am a Master of Arts student in Library & Information Science with the University of Namibia. I am conducting a study on the Implementation of a proprietary Integrated Library Management System (ILMS), Symphony at Windhoek Public Library. Thank you for agreeing to take part in this study. Please complete the informed consent form meant to serve as confirmation of your voluntary participation. All the information will be treated with strict confidentiality.

For the purpose of this study ILMS refers to Integrated Library Management System.

SECTION A: Biographic Information

1. What is your current position in this library?

2. How long have you been in this position?

SECTION B: Perceptions and Attitudes

3. Did you take part in the implementation of Symphony from the onset? If you did, what was your involvement?

4. How did you feel when the idea of automation was presented to you?

5. What knowledge of Symphony did you have before it was implemented?

6. How has the system influenced your work?

7. What are the post-automation challenges that you have faced?
8. At this point, how do you feel about Symphony?

SECTION C: Staff Involvement and preparedness

9. At what stage were you informed of the plans to automate your library’s collection?

10. How was staff involvement encouraged and was it successful?

11. Did you undergo any training on Symphony? If “Yes”, what challenges did you face during training?

12. Who facilitated the training for the staff members?

13. How were the communication channels between management and subordinates during Symphony implementation?

14. Was there a pilot test conducted on the system before it was fully implemented? If “Yes”, were you part of it?

15. Was there a Community Information Needs Assessment conducted regarding the system before it was fully implemented?

SECTION D: Recommendations

16. What do you think needs to be done to improve the implementation process of ILMS in Namibia?
17. What advice do you have on ILMS implementation for other Librarians and Systems Administrators at other public libraries?

Thank you for your time and contribution....
Appendix I – Document Search Checklist

<table>
<thead>
<tr>
<th>Library automation written plans from NLAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ What were the reasons that led to automation?</td>
</tr>
<tr>
<td>✓ What where the plans that were put in place on library automation?</td>
</tr>
<tr>
<td>✓ Who drew up the plans?</td>
</tr>
<tr>
<td>✓ What type of research was conducted on ILMS implementation?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decision making meeting minutes from NLAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ What were the targets and goals that were set?</td>
</tr>
<tr>
<td>✓ What information do the minutes provide on the decision making process?</td>
</tr>
<tr>
<td>✓ Who was involved or consulted?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Windhoek Public Library Staff Input/ Involvement reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Are there any reports on staff involvement? If &quot;YES&quot; what did the staff contribute?</td>
</tr>
<tr>
<td>✓ What challenges did they face?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Budget Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Who drafted the budget plans?</td>
</tr>
<tr>
<td>✓ Was it a short-term or long-term budget plan?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Progress Reports on implementation from NLAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Based on the theoretical framework, where all the phases followed?</td>
</tr>
<tr>
<td>✓ How where these phases adhered to</td>
</tr>
<tr>
<td>✓ Where the Automation goals and targets met?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges faced by NLAS management</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ What challenges were documented?</td>
</tr>
<tr>
<td>✓ What were the documented solutions to these challenges?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MCA reports on the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Do the documents show the role the MCA played in the implementation process?</td>
</tr>
<tr>
<td>✓ What was their input?</td>
</tr>
<tr>
<td>✓ Documentation from IREX.</td>
</tr>
</tbody>
</table>