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Evaluation of digital reference services in academic libraries in Namibia

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VETENSKAP FÖR PROFESSION

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English title: Evaluation of digital reference services in academic libraries in Namibia

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Abstract: Launching of digital reference services by academic libraries is on the increase. Libraries are exploring new ways of expanding their services by interacting with users and responding to user inquiries via the Internet, especially students enrolled on the distance mode of studying. The purpose of this study was to evaluate digital reference services at the Polytechnic of Namibia library and the University of Namibia library. Two aspects were evaluated, namely, 'Resources' and 'elements of the general digital reference model'. This study was a summative evaluation study in which semi-structured interviews and observations were used to collect data. The research findings showed that these libraries used the general digital reference model in providing responses to the library users. The study established that the two libraries did not follow the IFLA and RUSA standards of staffing and training of librarians working with digital reference services. The study further found that a lack of ability to fully demonstrate to users how to access various library services was one of the major problems that the librarians experienced.

Key-words: Digital reference services, reference services evaluation, service evaluation, Namibia

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Abbreviations

CLS	-	Community library services
ELS	-	Education library services
FAQ	-	Frequently asked questions
IFLA	-	The International Federation of Library Associations
ICT	-	Information Communication Technology
MDR	-	Management Development and Research in the Information Society
MLS	-	Ministerial library services
NAN	-	National Archive Services
NIDA	-	Network for Information and Digital Access
NLAS	-	Namibia Library and Archive Services
NLN	-	National Library of Namibia
UK	-	United Kingdom
UNAM	-	University of Namibia

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Academic libraries are increasing their visibility on the Internet, and many are launching websites and exploring ways to expand their services by interacting with users and responding to user enquiries via the Internet, especially students enrolled on the distance mode of study. These services are called digital reference services.

Digital reference services are defined as “Internet based question-and-answer services that connect users with individuals who possess specialized subject or skills expertise” (Lankes & Kasowitz, 1998, p. 8). These services are also known as *Ask a librarian* services. Digital reference services use human intermediaries or a librarian to clarify information needs and to determine the amount of information needed by the library user, as well as to provide answers to the users (Wasik, 1999).

Digital reference services are fast becoming part of today’s core library services, especially academic libraries. These services were necessitated mainly by two factors: 1) library users using the Internet for their information needs and, as a result, few come to libraries for help; and 2) the growing sense among librarians that they need to reach out to their users and bring them back to the library (Francoeur, 2001; Coffman & Mcglamery as cited in Kasowitz, 2001). These factors resulted in the introduction of ‘remote communication’ between librarians and library users, and a good number of libraries and other organisations around the world developed digital reference services, which mainly used electronic mail (e-mail) as a mode of communication (Kasowitz, 2001).

However, digital reference services need to be evaluated regularly. Evaluation is an important tool of giving feedback to libraries. Such feedback helps to improve service to users, to improve the process of delivering services and to justify the benefits of the service to decision makers (Lankes & Kasowitz, 1998). Kuruppu (2007) explains that the evaluation of digital reference services needs to be an ongoing process and an integral part of the service in order to understand how the service is used. Maharana & Panda (2005) noted that, if a digital reference service is to evolve successfully, librarians need to engage in ongoing evaluation of these services. Evaluation is vital for the planning and development of the services, as the evaluation results give feedback on the status of the services. Also, should there be problems in the delivery of services, the results from the evaluation can be used to intervene or as a means for planning and improving the service. Digital reference services also need to be evaluated in order to learn about their performance, trends, features, etc. (Pinto & Manso, 2012).

Digital reference services can be evaluated from two perspectives, namely, library-focused and user-focused perspectives (Pomerantz, 2008 as cited in Pinto & Manso, 2012). Library focused evaluation means evaluating librarians (digital reference librarians) dealing with the services and getting an insight into their views, reflections and experience of the service. User-focused perception perspective means doing a survey on the library users of the digital reference service and getting users’ views and comments on the digital reference services. Evaluation from the above mentioned two perspectives is crucial for service development and planning. According

to Pomerantz & Luo (2006), library reference services, be they digital or traditional services, are offered in an interactive setting that involves both library users and librarians. Thus, the two perspectives are crucial for library service evaluation.

Whitlatch (2001), proposed that before evaluating reference services, libraries need to determine why reference services need to be evaluated and what the library plans to do with the study outcome. Libraries can base their reference evaluation on the following:

Economics: the cost or productivity of services;

The process: aspects of librarian/reference system and user interaction;

Resources: books, indexes, databases, staffing levels, equipment, design of physical or electronic environment; or

Product/outcomes: information or knowledge that the users obtain (Whitlatch, 2001, p. 20).

1.2 Problem statement

Service evaluation must be integrated into any library's operations and built into the implementation of any service (Novotny, 2001). The International Federation of Library Associations (IFLA) digital reference guidelines (2008) stipulate that libraries introducing digital reference services should conduct user surveys of both patrons and staff to monitor concerns, problems and questions from staff and patrons, and should implement changes to digital reference services based on statistical analysis and librarians' and patrons' feedback. The evaluation of digital reference services should be equivalent to, and be part of a library's regular evaluation of all its reference services. The evaluation results should be used to improve the service, as needed, through the adjustment of staffing, training and any other improvements indicated by the evaluation results (Reference and User Services Association [RUSA], 2004).

IFLA (2008) and RUSA (2004) have developed internationally accepted standards for creating and maintaining digital reference services. The IFLA and RUSA guidelines for implementing and maintaining digital reference services have several sections. One of the sections in each (IFLA and RUSA) guideline deals with the aspect of staffing and training. Among others, it stipulates that 'initial and on-going training should be offered to help staff learn and retain these effective online behaviors'; management should 'determine which staff member(s) will be responsible for making sure that reference standards are maintained'; and 'staff should be provided time and resources for training and continuing education to ensure effective service'. The above-mentioned aspects will be examined to determine whether these libraries have adhered to the IFLA and RUSA guidelines.

Since the digital reference services were introduced at the Polytechnic of Namibia library and the University of Namibia library, no evaluation study has been done on these services, making it difficult for these libraries to know whether they have achieved what they have set out to achieve with these services; how well these services are working; and the challenges encountered by librarians and library users using these services.

1.3 The purpose of the study

This study was a descriptive research. According to Neuman (2011, p. 38), “a descriptive research presents a picture of the specific details of a situation, social setting or relationship.” It is a type of research that creates a set of categories or classifies types, clarifies a sequence of steps or stages, and reports on the background or context of a situation. It focuses on the ‘how’, and the ‘who’ questions (Neuman, 2011).

The purpose of this study was to evaluate digital reference services at the Polytechnic of Namibia and University of Namibia libraries (herein referred to as UNAM library). Two aspects were evaluated, namely, ‘Resources’ and ‘elements of general digital reference model’. The focus of this evaluation was the library-focused perspective, and librarians were used as the unit of analysis.

The study evaluated the aspect of ‘Resources’. A resource in this study refers to librarians’ skills and training. The study aimed at evaluating aspects of resources in terms of librarians’ competencies (skills) to work with digital reference services and the support (training) they got from their libraries to be able to work comfortably with such services. The researcher also wanted to find out whether these two libraries complied with the IFLA and the RUSA digital reference services guidelines for choosing a librarian to be responsible for digital reference services and the training of these librarians.

The study also evaluated three elements of the general digital reference model. These elements are: question acquisition, answer formulation and tracking. The researcher wanted to determine the following: the process of providing feedback or answers to library users; the channels followed; why the librarians used or consulted these sources to provide feedback to users; and the duration it took to give an answer. To a lesser extent, the researcher wanted to find out the challenges or difficulties experienced by librarians in the process of providing answers to library users using digital reference services.

The evaluation was done at the Polytechnic of Namibia and University of Namibia libraries. These two libraries were chosen because they were the only libraries in Namibia with significant electronic resources in the country and the only ones providing digital reference services in the country (Management, Development and Research in the Information Society [MDR], 2010).

This study was a summative evaluation study although it was conducted by an independent researcher, meaning the researcher does not work for any of the libraries mentioned above. The research was conducted after the digital reference services at the two libraries had been launched and operational. The researcher wanted to establish how the service was working and how the librarians were interacting with the service and library users.

Since evaluation studies can be done through comparing it against some standard or benchmark to ensure that the program is carried out the right way, it is monitored throughout the implementation process. Once it is completed, the program runs smoothly (Enhancing Education, 2013). The digital reference services at the above mentioned libraries were not evaluated after

they were implemented, therefore this study evaluates these services against the IFLA and RUSA guidelines of implementing and maintaining digital reference services.

The findings of this study could contribute to a better understanding of digital reference services provided by the Polytechnic of Namibia and the University of Namibia libraries and contribute to the body of knowledge on the subject of digital reference services especially in an African context where few studies have been conducted on this subject. The two libraries could use the findings to improve digital reference services, plan for intervention and develop the services.

1.4 Research questions

The study was guided by the following research questions:

1. To what extent does digital reference service process followed by Namibian academic libraries follow the general digital reference model?
2. To what extent do these libraries follow the international standards of providing resources, especially staffing and training for librarians working with digital reference services?
3. What barriers do academic libraries encounter in providing digital reference services?

1.5 Limitations of the study

This study had several limitations. Firstly, the study concentrated only on academic libraries providing digital reference services in Namibia, leaving out all the other types of libraries in the country. Secondly, the evaluation of digital reference services was only done from the librarian's perspective, and not from the user's perspective. The study was further limited to librarians' competencies and training. This was because if librarians working with digital reference services have received good training and competent in their work, they will have a certain level of comfort working with digital reference services.

Since the study was a case study of two libraries, the findings cannot be generalised to other libraries in Namibia that might have introduced digital reference services at the time of conducting this study or after the study was conducted. Finally, the participants recognised that they were being studied in the interviews and in the observations. This might have created an unnatural atmosphere, which might have influenced the research findings and caused some contradictions between what the librarians said in the interviews and what they did during the observations. However, the researcher spent adequate time with the participants to create as natural an environment as possible.

1.6 Structure of the thesis

This section of the chapter highlights how the thesis is organised. The thesis is structured as indicated in Table 1 below:

Table 1: Structure of the thesis

Chapter	Heading	Details
Chapter 1	Introduction	This chapter gives a background to the study, the statement of the problem, the purpose of the study and the research questions.
Chapter 2	Literature review	This chapter examines literature relevant to the study, focussing on digital reference services and their types; evaluation studies and why they are important; staffing; training and competency; question acquisition; and challenges experienced by libraries in providing digital reference services.
Chapter 3	Theoretical framework	This chapter discusses the general digital reference model as the theoretical framework used in this study. The chapter also highlights the IFLA and RUSA guidelines that are used in the study to evaluate digital reference services.
Chapter 4	Research design and methodology	This chapter gives a description of the nature of study that was conducted, the population of the study, data collection procedure, research instruments, data analysis and presentation, and research ethics.
Chapter 5	Context of the study	This chapter describes the background of Namibia, Namibia's education system, libraries in Namibia, the Polytechnic of Namibia and the University of Namibia. This background shows the context in which the libraries evaluated in this study were operating and the digital reference services offered by academic institutions in Namibia.
Chapter 6	Presentation of research data	This chapter presents the findings of the study, which include: participants in the study; the process of providing feedback to library users using digital reference services; training of librarians working with digital reference services; barriers in providing digital reference services; and the future plans for digital reference services by the Polytechnic of Namibia library and the University of Namibia library.
Chapter 7	Discussion and interpretation of research finding, conclusions and recommendations	This chapter gives a summary of the key findings of the study, which include: the process of providing feedback to library users, training and competencies of librarians working with digital reference services, and barriers in providing digital reference services. This chapter further gives the study's conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter examines the relevant literature on the necessary competencies and training required by librarians to work with digital reference services and for the process of answering library users' questions through digital reference services. The literature reviewed in this chapter was used as a point of reference for evaluation and as an aid in the development of the interview questions and of the observation checklist. The literature reviewed includes monographs, journal articles, empirical studies reports, IFLA and RUSA standards and guidelines, of which most have been accessed from the Internet through Borås University library, IFLA and RUSA websites.

Related literature on Namibia, Africa and indeed the developing countries is limited; hence the use of many references to the United States of America, Europe and, to a lesser extent, Asia. This is not surprising as the area of digital librarianship is relatively new, particularly in Africa, as a number of academic libraries in Southern Africa are still struggling with problems associated with technological connectivity, poor infrastructure, collection development, and other issues (Buchholz, 2011).

One of the shortcomings in the existing literature consulted was that, relevant and up-to-date literature on recent studies on evaluation of digital reference services were not found, thus not so many recent literatures are cited in this chapter. This can be attributed to the limited research on the above stated purpose of this study.

Based on the purpose and subsequent research questions of this study the following concepts are discussed in this literature review:

- Digital reference services and their types;
- Evaluation studies;
- Staffing and training of librarians working with digital reference services;
- Competency of librarians dealing with digital reference services;
- The process of providing feedback to library users using digital reference services; and
- Challenges experienced by libraries in providing digital reference services

2.2 Digital reference services and their types

The term 'digital reference service' is commonly used interchangeably with the term 'virtual reference services'. The two terms are used in libraries to refer to the question and answer services provided by libraries. For purposes of this study, only the term 'digital reference services' is used.

Berube (2003) points out that digital reference services generally comprise the following elements:

1. The user of the service: A library user who has a question to ask, etc.;
2. The interface: E-mail, web form, chat, videoconference, etc.;

3. The information professional: A librarian or information agent who will find and provide answers to the users; and
4. Electronic resources (including CD-based resources, web resources, local digitised material, print resources, etc.). These are sources of information where a librarian would get an answer.

There are two types of digital reference services, namely, asynchronous and synchronous digital reference services.

An **asynchronous digital reference service** is a service characterised by communication in one direction at a time. A library user may use a web-based e-mail, web form, or *Ask a librarian* service to enquire about his or her information needs from a librarian. Librarians use frequently asked questions, e-mail and e-resources, which are comprised of subject guides, lists, journals and other content, to provide answers to library users (Berube, 2003; Dollah & Singh, 2002; Nicholas, 2011).

Dollah & Singh (2002) explain that asynchronous services encompass a time delay between the question and answer, especially with e-mail based, web form or '*Ask a librarian*' services. Asynchronous reference services "allow librarians to answer requests in their own time, after having conducted all necessary research, which might enhance the accuracy and completeness of replies" (Schachaf & Horowitz, 2008, p.127).

A **synchronous service** is described as 'real-time', with an immediate response to the query. It is a two way communication between a library user and a librarian over the Internet. The tools used for this communication are, among others, chat, instant messaging, Voice-Over Internet Protocol (VoIP) and web cam services (Berube, 2003; Dollah & Singh, 2002; Nicholas, 2011). With synchronous services, real time communication takes place between a library user and the librarian sitting in a library and using interactive technologies; e.g., a library user clicking a button on a web page to exchange messages with a librarian and getting feedback on their question instantly.

2.3 Evaluation studies

The terms 'evaluation' and 'assessment' are often used synonymously, and they both involve the collection of information to make decisions. However, evaluation is focused on aspects such as programs, products and projects, while assessment is focused on people, i.e., their aptitudes, attitudes and achievements (Reeves, Apedoe, Woo and Georgia, 2005).

The Research Council of the United Kingdom (UK) describes evaluation thus:

[It is] a process that takes place before, during and after an activity. It includes looking at the quality of the content, the delivery process and the impact of the activity or program on the audience(s) or participants. Taking the opportunity to understand whether you achieved what you set out to, how well you did it, what impact your activity has had and to reflect critically on both the activities and processes will benefit you and your audiences (Research Council UK, n.d, p. 2).

Similarly, Trochim (2006) defines evaluation as the systematic acquisition and assessment of information to provide useful feedback about some object.

Evaluation in any service implementation, for example in libraries, is important as it provides feedback to intended recipients, be they donors, staff members or other relevant stakeholders. This feedback is useful as it helps to support the development of activities or services in a library, to ensure that the library performs better, and to evaluate the final impact of the library's activities (Research Council UK, n.d.).

The focus for this study is the service evaluation from the librarian's perspective. Evaluation of services refers to:

“the process of identifying and collecting data about specific services or activities, establishing criteria by which their success can be assessed and determining both the quality of the service or activity and the degree to which the service or activity accomplishes stated goals and objectives” (McClure as cited in Novotny, 2001, p. 4).

This study was an evaluation research. One of the characteristics of an evaluation research is that it “investigates particular programmes or policies with the specific intention of weighting up their strengths/weaknesses and considering how things might be improved” (Denscombe, 2009, p. 11). Evaluation research is a type of research that tries to establish how well a program or a policy is reaching its intended goals and objectives (Neuman, 2011). According to Neuman, many evaluation studies focus on selected input or output, then on the entire process or program. This study relates to Neuman (2011) definition of evaluation research in the context of establishing how well a program is reaching its intended goals and objectives. This study intends to establish whether the Polytechnic library and the University of Namibia library adhere to international standards of providing digital reference services.

The research findings are intended to inform the decision makers at the Polytechnic of Namibia and UNAM and to help them to plan better and improve their library services. Although Neuman (2011) noted that with a number of evaluation research findings, policy makers selectively use or ignore evaluation reports. Evaluation research findings inform and guide individuals and organisations to perform better. The findings are useful for co-workers and they need to be shared with the wider community so that they can learn from each other's experiences (Research Council UK, n.d., p. 2). The researcher hopes that the two concerned institutions will use the findings to improve their services.

There are two types of evaluation research: formative evaluation and summative evaluation.

Formative evaluation refers to a program that has inbuilt monitoring or continuous feedback that is meant for program management (Neuman, 2011, p. 29). Formative evaluation is carried out during the development of the activity to test ideas, concepts, timings and prototypes of representatives of the audience. Formative evaluation should be included in the implementation plan. One needs to think about how much, if any, formative evaluation is really needed, as it adds time and cost to an activity or a program. Formative evaluation is very useful in answering uncertainty in the implementation of a program or activity. For example, with the

implementation of digital reference services, if a librarian is unsure about how library users will receive or interact with the system, the librarian can test the service before it is launched.

Summative evaluation refers to an evaluation done at the end of the program or an evaluation that evaluates the outcome of a program (Neuman, 2011, p. 29). Summative evaluation looks at the outcomes of an activity or program and measures whether or not the program has met its objectives and whether or not it made an impact on the audience (Research Council UK, n.d.). The goal of summative evaluation is to measure the level of success that has been obtained at the end of a program implementation. This can be done through comparing it against some standard or benchmark (Enhancing Education, 2013).

2.4 Importance of evaluation

According to Research Council UK (n.d.), evaluations keep programs on track. This means that evaluation ensures that the program is carried out the right way, that it is monitored throughout the implementation process, and that once it is completed, the program is running smoothly. Evaluation also provides feedback on the service for internal improvement (Paulsen & Don, 2002). Evaluations of implementation are essential because they help to identify problems with program implementation before the program ends, so that changes in programs or interventions can still have an impact (Research Council UK, n.d.).

Summative evaluation of digital reference services or any other service at a library is important because it helps in answering key questions such as: Is the service accessible by the people (students, lecturers, general public, etc.) it is intended to serve? Is the service being implemented in a manner it was envisioned? What are the challenges encountered in implementing this service? Are the librarians satisfied with the performance of the service (in terms of software used, etc.), and if not, how can the service delivery be improved? How much does it cost to successfully implement this service?

Summative evaluation on digital reference services can help in the planning of improving services. The purpose of evaluating library services is to determine if a library is carrying out its mission and providing service to its users (Reeves et al. 2005; Lankes & Kasowitz, 1998). Maharana & Panda (2005) note that the development and implementation of digital reference services are on the increase. They emphasise that if these services are to evolve successfully as *bona fide* library and information services, librarians need to engage in ongoing evaluation of such services, as evaluation is vital for planning and development.

2.5 Staffing of libraries providing digital reference services

Staffing for digital reference services should be considered right from when a library starts planning for such services (Francoeur, 2001). This is crucial to the library because the introduction of new services such as digital reference services requires additional staff. New staff members could be employed for the digital reference services or existing library staff members could be asked to take on the additional responsibility.

The librarians who work with digital reference services need to be selected based on the following criteria: librarians' interest to work with digital reference services; their availability; their enthusiasm towards digital reference services; good customer service skills; comfort with technology and electronic resources (Luo, 2007).

Nicholas (2011) noted that finding staff for digital reference services is a challenge. Many librarians already working in libraries resist working with digital reference services as it adds to their responsibilities. Moyo (2006) states that synchronous digital reference services are labour-intensive, as helping a library user requires a lot of time. Sometimes a librarian is required to do a search for the user or to compile a number of documents, then send them to the user. As a result, many libraries opt to hire more library staff or to form collaborations with other libraries and share these services.

2.6 Training of librarians working with digital reference services

According to Lankes & Kasowitz (1998), in a digital reference setting, training refers to the planned preparation of individuals involved in the creation, maintenance and operation of a particular digital reference service. This training is important because digital reference services are associated with innovative uses of technology that call for specific skills. Lankes and Kasowitz further stress that a library should develop and integrate a training program for its staff working with digital reference services at the time of implementation and throughout the period of offering the services.

Campbell, Jones & Shuttle (2002) conducted a study on the experience of the East Tennessee State University's Sherrod library when this library initiated a digital reference service. Before this service was launched, reference librarians were given training, hand-outs with screenshots and detailed directions on how to work with digital reference services. This was a good example of how libraries should prepare their staff members should they want to introduce digital reference services.

Ronan (as cited in Luo 2009) identifies the following training needs for librarians working with digital reference service: software training, training on chat reference transactions, mentoring and on-going training. These are explained below.

- **Software training**

This refers to the training of librarians to understand the features and functions of the software employed to support digital reference services before they take on the job. This training is crucial because different chat software has different functionalities and interfaces. Software training is normally given by software developers or vendors. However, libraries can develop capacity in their IT librarians to train other librarians.

- **Training on chat reference transactions**

Because digital reference services are conducted in a digital environment, librarians are required to have skills and knowledge that will enable them to work in such an environment. Therefore, librarians working with digital reference services need training on online communication skills, reference interview skills, web searching skills, knowledge of electronic resources, and

knowledge of digital reference policies and procedures. Training on digital reference transaction is important for librarians as it helps them to understand how to answer users' questions in a chat session.

- **Mentoring**

Mentoring is concerned with guiding and giving personal assistance to librarians who do not have enough experience and exposure to digital reference services by more experienced librarians. Mentoring helps to reduce their fear of learning new technologies.

- **On-going training**

Librarians working with digital reference services need on-going training or refresher sessions on a regular basis so that they can stay abreast with the updates on digital reference services. These refresher sessions will also help librarians to increase their level of comfort working with digital reference services.

Librarians responsible for responding to questions via digital reference services should be given enough training on how to use such services to be competent and work comfortably at the digital reference desk (Nicholas, 2011). This training should include responding to e-mails, conducting reference interviews, and other related tasks.

Only through up-to-date training can librarians expand their knowledge and refine their skills in response to the changes brought by social and technological development (Luo, 2009). Lankes & Kosowitz (1998) re-enforce that although librarians assigned to work with digital reference services are competent in physical (face-to-face) reference services, the librarians should be trained on providing digital reference services to raise their competency, skills and comfort level in working with such services.

Campbell et al. (2002) recommend that training for librarians who work with digital reference services should be timely and on-going. They emphasise that "training and support at the actual implementation time is also important, so that no one feels stranded and panicking the moment they receive their first reference question" (2002, p. 308).

All reference staff providing digital reference services should receive similar training if they are expected to provide similar quality service (Kawakami & Swartz, 2003). This is to ensure consistency in the provision of digital reference services to users and also to allow the staff members to learn at the same pace.

Libraries offering digital reference services need to develop a comprehensive training plan for their librarians. The training plan or documents should spell out the training materials, activities and tools to train the librarians. Such planning is necessary for the preparation of effective staff (Wasik, 1999).

2.7 Competency of librarians dealing with digital reference services

The IFLA guidelines (2008) stipulate that the key skills a digital reference librarian should have include: multi-tasking; clear communication skills, especially writing skills; database and online

searching skills; interviewing skills (to compensate for lack of visual and auditory cues); and knowledge of reference resources.

The IFLA guidelines agree with the findings of a study by Luo (2008b), which identified the following digital reference service (chat reference) competencies:

- **Reference interview skills.** This competency includes: referring users to appropriate resources; using open probes to clarify questions; recognising when follow-ups are necessary, offering a personal greeting at the beginning of a chat session to provide clear interest and willingness to help; and confirming the satisfaction of users' information needs.
- **Familiarity with electronic resources.** This competency includes: librarians' skills in selecting and searching databases and Internet resources; familiarity with subscribed library databases; a wide-ranging knowledge of Internet resources; and rapid evaluation of the quality of information resources and services.
- **Ability to work under pressure.** This competency includes: the ability to think quickly and deal flexibly with unexpected situations in chat reference sessions; the ability to manage multiple tasks; and skills in time management.
- **Online communication skills.** This competency includes mastery of online real-time written communication skills and understanding and appreciation of the online culture and chat etiquette.
- **Instructional role.** This competency includes the ability to take the instructional role to educate users to augment their level of information literacy and the ability to provide peer instructions to colleagues in obtaining chat reference skills.
- **Ability to recognise different groups of users.** This competency includes the librarian's ability to understand different users and answer their questions using different techniques.
- **Ability to handle irregularities of user behaviour.** This competency includes the librarian's ability to deal with any kind of inappropriate use of digital reference services, e.g., abusive excessive demand from users, rudeness of users, etc. (pp. 308-309).

Strong (2006) suggests that librarians working with digital reference services should have competencies such as being proactive, knowledgeable, well trained in active listening, able to respond to all enquiries and be neutral in their opinions about the information provided. While Francoer (2001) suggests that librarians working with digital reference services should have good searching skills, the ability to write concise messages and the ability to deal with stressed and demanding users. This is commendable as many librarians working with digital reference services are used to face-to-face and traditional reference services. They require new skills to be able to thrive in a digital environment.

Rodwell (2001) notes that, with changes in the reference services and digital environment, librarians are required to advance technological skills that are required by current practices. Rodwell further states that sound and up-to-date subject expertise, in the broad sense, allows the librarian to be a '*dynamo*' in the information gathering process.

Librarians working with digital reference services need to be knowledgeable of a wide range of relevant resources beyond the collections of their libraries. Also, having the know-how of accessing these resources is important because of the changing role of subject librarians as they need to offer intellectual advice to clients through digital reference services (Rodwell, 2001). Librarians can only do this if they have good training and knowledge of their libraries' collection.

Rodwell (2001) concludes that subject expertise required for a good service needs to be analysed. Such expertise goes beyond mere broad- or narrow-subject knowledge. It involves an understanding of the dynamics of production and dissemination of information in a particular field and how it is received and accessed by clients.

2.8 Challenges experienced by libraries in providing digital reference services

The reviewed literature revealed that creating and maintaining digital reference services comes with a number of challenges. Many libraries have struggled to maintain consistent quality of service for their user populations or to serve and to respond to piles of questions on time (Wasik, 1999). Another challenge of asynchronous digital reference services, especially e-mail, is that library users do not often get prompt responses from librarians. A challenge from the librarians' side is that they do not have a chance to conduct reference interviews, which are crucial to determining the library users' needs, as library users sometimes ask incomplete questions (Kasowitz, 2001).

Moreover, reference interviews conducted via e-mail and web forms do not occur in real time. Also, they are either limited or non-existent because answers to these questions will take longer than answers to questions posed in person, by telephone, in chat rooms, or over videoconferencing. Answers to a simple question sent over e-mail or the web may take up to twenty-four hours to be seen by the library user. If the request is complicated or unclear, it could take even longer (Nicholas, 2011; Smith, 2001).

Another challenge explained by Smith (2001) is that librarians can easily misinterpret reference requests sent over e-mail or the web because they will not have the benefit of clues such as the requestor's gestures, facial expressions and tone of voice. Although this can be minimised in cases where the library has 'chat' services or other real time services, these services are only available when a reference librarian is on duty. Remote researchers would therefore not be able to send reference requests twenty-four hours a day as they could with e-mail or web form reference services.

2.9 Summary

The literature review conducted gave a definition and understanding of two types of digital reference services, namely; asynchronous services and synchronous services. These definitions are important as they shed light in the type of digital references services the two libraries are providing. From the definitions of the types of digital library services, it is evident that the two libraries provide asynchronous services.

Best practices of digital reference services show that service evaluation is important as it provides feedback on a number of aspects of the service to the library. Furthermore, the feedback is useful as it helps to support the development and improvement of digital reference services in a library.

Challenges facing the many libraries providing digital reference services, especially asynchronous services include the inability to provide prompt responses from librarians to library users and the challenge of conducting an interview in real time.

The issues highlighted above were important to this study as they informed the researcher and acted as a benchmark for formulating the research instruments namely; the interview guide and the observation checklist. Without the above mentioned key sources, it would have been difficult to design informed research instruments.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.1 Introduction

Theoretical frameworks (also known as a theoretical paradigm) “are more than a formal or substantive theory and include many specific formal and substantive theories that may share basic assumptions and general concepts in common” (Neuman, 2011, p. 85). A theoretical framework in a study ‘introduces’ and ‘describes’ a theory that explains why the research problem under study exists (Trochim, 2006).

A theoretical framework is important in a study because it provides assumptions and concepts in the form of their definitions and explanation (Neuman, 2011; Trochim, 2006). A theoretical framework links a study with existing knowledge in a subject discipline. It also allows a researcher to gain an understanding about various aspects of the phenomenon studied and to explain the meaning, nature and challenges of the phenomenon (Trochim, 2006).

3.2 General digital reference model

The study used the general process model of asynchronous digital reference services. A general digital reference model is derived from the virtual reference desk project in 1998. This process is generally applicable to all different asynchronous digital reference services e.g. email, web form, ask a librarian etc. (Pomerantz, Nicholson, Belanger and Lankes, 2004).

According to the general digital reference model, there are five fundamental components that exist in the methods used by digital reference services, namely:

- 1. Question acquisition:** This includes all issues related to the process of obtaining information from a user. This includes not only the user’s question, but also question categorisation and user identification information, via e-mail, web forms and chat services.
- 2. Triage:** The question progresses to a pool of possible responses. Questions are queued according to some criteria such as date received, etc. The questions are attended to by a reference librarian or subject expert. This step may be automated or conducted through human decision support.
- 3. Answer formulation:** This includes all actions taken by the subject expert to generate a response to a question, including sending the response to a reviewer or directly to the user.
- 4. Tracking:** This includes identifying popular subjects based on topics mostly inquired by the library users. Tracking allows librarians to identify the common or frequent questions or issues arising from users (hot topics). Tracking can also be referred to as frequent asked questions (FAQs).
- 5. Resource creation:** This involves the use of tracking data to build or expand collections to better meet users’ information needs (Pomerantz, et al. 2004, p. 348).

In various literatures, the general digital reference model is used as a tool to validate Lankes' model (1998), to expand the existing general process model and, if necessary, to create a software application to manage questions received electronically by a digital reference service (Pomerantz et al. 2004).

The general digital reference model has five components. However, the researcher selected three components on which the evaluation was based. The three components were selected because the researcher deemed them as key components of the model and since there were no study done before on the digital reference services, the researcher wanted to determine how the Polytechnic and UNAM libraries are handling and dealing with library users on the digital space. The three components of general reference model studied are:

Question acquisition. The study evaluated the process followed by the two libraries to acquire queries, the platform they use, types of questions asked, and how questions are prioritised. Digital reference service question acquisition, also known as reference service transaction is a process of communication between a library user using or asking questions through digital reference services and a librarian, who then receives the questions, consults the information sources at his disposal, and then provides an answer (Berube, 2003).

Answer formulation. The researcher wanted to determine the librarians responsible for attending to queries and provide answer to the users, the time frame they take to give a response, sources they consult and how are answers provided.

Librarians working with digital reference services receive questions from library users, be it through e-mail or through an *Ask a librarian* service. Librarians then evaluate incoming questions and decide on an appropriate way to respond. The librarians check in the previously asked questions in the archive for answers. If no suitable answer is found, the question is referred to an expert for an answer. The expert then provides the required answer, which might be an actual answer or a referral to other sources of information or both. These answers are then sent to the user via e-mail or on the website (Wasik, 1999). A library user asks a question and the librarian search for the information requested by the user, depending on the type of question. If the answer is readily available, the librarian will provide the answer right away. However, if a question is not clear, the librarian follows up on the user's question with a telephone call, fax, in person or through regular mail interactions (RUSA, 2004).

For the above process to be successful, "it must be delivered by a knowledgeable and a well-trained staff that provides accurate, comprehensive information to customers" (Strong, 2006, p. 337). There are a number of factors that contribute to an unsuccessful digital reference service transaction. For instance, a librarian might be technologically proficient, but might supply an inaccurate answer to a user; or a librarian might have very good software, but might take a long time to respond with a 'comprehensive' answer. A successful digital reference transaction goes beyond mastering the mechanics and technical aspects of the software (Kawakami & Swartz, 2003).

The success of digital reference service transactions is determined by the following indicators: the quality of the answer provided by the librarians, reference interview and broken chat sessions. The quality of the answer refers to **completeness**, i.e., how completely users' questions are answered in a chat reference session and **correctness**, i.e., the level of accuracy of the answer provided by chat reference librarians (Luo, 2008a).

Tracking. The study evaluated whether the two libraries have a tracing system that records the popular questions or frequently asked questions, if they have a FAQs platform or an archive of previously asked questions, and if the archive is frequently updated. FAQs are the simplest forms of interacting and communicating with users in digital environment (Malik, 2013). In literature libraries FAQs are used to evaluate the quality of library websites (Yazdi & Deshpande, 2013).

According to Pomerantz et al (2004), this model is applicable to all asynchronous digital reference services and might employ variations of process. For example, the process of assigning questions to librarians might be done automatically. Experts in the library can be linked to the e-mail system and receive queries when they are posted on the system, or a person can be assigned to direct queries to individuals concerned with the questions. The process model might even skip one or two steps in the process. For example, when a question comes in, it might skip a triage centre and go directly to the expert (librarian), and the process might even skip the question and answer (Q&A) archive stage. Figure 1 below illustrates the question/answer process of the general digital reference model.

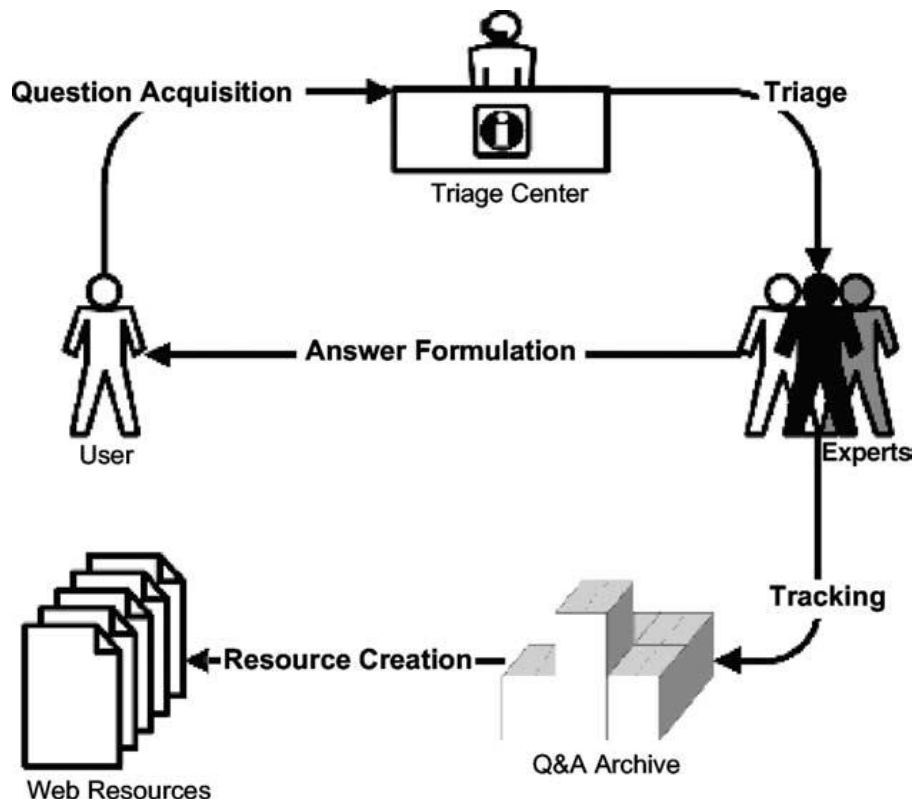


Figure 1: General digital reference model
 (Source: Pomerantz et al. 2004)

A conceptual framework reveals a level of convergence in the unpredictable online environment. By identifying a set of common methods in the question/answer process, an organisation may develop a series of planning documents to assist in the creation and on-going maintenance of digital reference services (Lankes & Kasowitz, 1998).

3.3 IFLA and RUSA guidelines used to evaluate digital reference services

IFLA and RUSA, in their pursuit to promote digital reference services best practices on an international level, set up guidelines to regulate how digital reference services. In this study, the IFLA and RUSA guidelines are used as theoretical framework because these guidelines serve as standards that need to be followed by libraries providing digital reference services in order to ensure the uniformity of digital reference services provided by libraries worldwide. These guidelines are used in this study to determine whether the Polytechnic and UNAM library has followed them in implementing and maintaining digital reference services especially with regard to staffing and training.

The IFLA and RUSA, guidelines in relation to librarians working with digital reference services stipulate that:

- Digital reference service responsibilities should be shared among staff to ensure continuity of service;
- When possible, staff should be trained for all reference services (face-to-face and digital) to provide greater depth of knowledge and flexibility for staffing;
- Library staff conducting digital reference should be selected on the basis of ability, interest, availability and skills to use the supporting technology;
- Staff should be provided time and resources for training and continuing education to ensure effective service (RUSA, 2004).
- The library should determine who trains librarians and set aside the time and schedule for staff training and orientation and professional development.
- Key skills a digital reference librarian should have include: multi-tasking, clear communication skills especially in writing, database and online searching skills, interviewing skills to compensate for lack of visual and auditory cues, and knowledge of references sources;
- Update training as necessary, and encourage and enable staff members to meet regularly to discuss their experiences and new developments in the field of digital reference services (IFLA, 2008).

The IFLA and RUSA guidelines suggest that digital reference service evaluation should be equivalent and part of a library's regular evaluation of all its reference services. Libraries should conduct user surveys of patrons and staff and monitor concerns, problems and questions from staff and patrons. This evaluation should be used to improve the service as needed through adjustment of staffing, levels of staffing, service parameters, training, or other improvements as indicated by the evaluation results. It is against this background that this study was conducted.

3.4 Summary

The elements or component of general digital reference model that was used to evaluate the reference services are: question acquisition, answer formulation and tracking. These components were integrated with the following aspects of IFLA and RUSA guidelines 'personnel' and training for librarians working with digital reference services. This was done in view of determining whether the librarians responsible for attending to users through digital reference services are well prepared by these libraries e.g. provided with enough training. The study evaluated the content of the librarians training to determine if they get necessary skills required for them to work with digital reference services. The skills include, searching skills and interviewing skills etc.

CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter describes the research design and methodology used in the study. The main focus of the study was the evaluation of digital reference services, with an emphasis on librarians working with these services.

4.2 Types of evaluation studies

The method of study for evaluation of services depends on the type of information one needs. A number of service evaluation studies have used cost-benefit analysis, usability studies, web log analysis and statistics (Novotny, 2001).

This study was a case study that used qualitative research methods. A case study is “an in-depth examination of an extensive amount of information about very few units or cases for one period or across multiple periods of time” (Neuman, 2011, p. 42). Case studies examine individuals, groups, organisations, events, etc. According to Creswell (2009), with case studies, a researcher explores in depth a program, activity, process or one or more individuals. Case studies help in gaining a deeper understanding of the individual’s circumstances in a unique setting (Novotny, 2001). Case studies often use document search, artefacts, interviews and observation (Shields, n.d.). In this study, a case study was used to examine librarians working with digital reference services at the Polytechnic of Namibia and University of Namibia (UNAM) libraries. Interviews and observation were used as the means of collecting data.

There are three types of case study, namely, explanatory, descriptive and exploratory. An explanatory case study generally answers ‘how’ and ‘why’ questions. The researcher has little control over the actual event. Explanatory case studies focus on phenomena in some real life context. A descriptive case study traces the sequence of interpersonal events over time, describes a culture or subculture and seeks to discover key phenomena. An exploratory case study generally begins with ‘what’ or ‘who’ questions and often precedes a more in-depth study (Shields, n.d).

This study adopted the descriptive case study, with an intention to describe the general reference model used by the Polytechnic of Namibia and University of Namibia librarians, to assess the librarians’ skills and training and to examine the challenges encountered by the librarians in providing digital reference services at the two institutions.

A case study has many advantages. For example, it clarifies the researcher’s thinking, allows a researcher to link abstract ideas with the concrete, specific case that the researcher is observing in detail. A case study provides for further discovery and problem solving and explores the boundaries between related concepts. Case studies also have the ability to make visible the details of social processes and mechanisms by which one factor affects others (Neuman, 2011).

There are, however, some disadvantages in employing the case study method. For example, the data are often unique to the studied event and case studies do not provide for the generalisation

of the findings beyond the setting in which the study was conducted; conclusions are sometimes subjective; and the findings are generally not predictive (Choemprayong & Wildemuth, 2009; Shields, n.d.).

The Polytechnic of Namibian and University of Namibia libraries were selected for the study from many libraries in Namibia because they are outstanding in terms of providing electronic services in the country. Also, these two libraries are the only ones providing digital reference services in the country currently.

The above-mentioned librarians were selected because they were the ones working digital reference services. In addition, the researcher felt that these librarians would be able to help in the evaluation of digital reference services, as they provided these services on a daily basis and were in a position to share their skills, training, training needs, and the challenges they encountered when helping library users.

A senior librarian was selected from each library to take part in the study because they were in a position to share how the digital reference services were introduced at these libraries and to help in the evaluation of the work, training and overall challenges faced by librarians working with digital reference services. In addition, the senior librarians would contribute to the researcher's conclusions regarding compliance with the IFLA and RUSA standards, in terms of personnel assigned to work with digital reference service and their training. The researcher was convinced that the senior librarians would be keen to get the results from the study that they participated in, as they had shared with the researcher some of their plans for the future of their libraries with regard to digital reference services. The researcher was of the opinion that the senior librarians would be interested to use the research findings to improve their services, and as a tool to plan better for the future digital reference services they wished to introduce in their libraries.

The different categories of librarians working with digital reference services in the two libraries were identified as; reference librarians, subject librarians, IT librarians, circulation librarians and their supervisors, senior librarians (User Service Department at the UNAM library) and senior librarians (Subject and Research Service Department at the Polytechnic of Namibia library).

At the Polytechnic of Namibia library, the researcher identified and requested to interview these librarians in his permission letter to the chief librarians (see Appendices A and B). The chief librarians provided the researcher with the lists and contact details of the librarians that agreed to be interviewed. At the UNAM library, after obtaining permission from the Chief Librarian, the researcher contacted all reference librarians, subject librarians and circulation librarians for interview appointments.

4.3 Data collection procedure

The researcher wrote a letter to the Chief Librarian at the Polytechnic of Namibia (Appendix A) and to the Chief Librarian at the University of Namibia (Appendix B) to seek management's permission to conduct the study. Permission from the Polytechnic library was granted by means of e-mail communication. The e-mail contained a list of the librarians that had agreed to take part in the study, with their e-mail addresses and telephone numbers. The permission from the

University of Namibia library was granted through a letter (Appendix C). After permission was granted, the researcher contacted the librarians and scheduled interview appointments with them.

4.4 Research instruments

4.4.1 Interviews

Interviews were chosen because they are a qualitative method of gathering data using open-ended questions. Open-ended interviews, unlike questionnaires that have pre-determined response categories, allow respondents to express their minds, thereby giving accurate points of view of their experiences and phenomena under investigation (Patton, 2002). The researcher felt that the use of interviews would help to get the views of the librarians and get some insights and adequate information for evaluation of digital reference services.

A semi-structured interview was used to collect data for this study. The semi-structured interviews were arranged with the 16 participants and were conducted face to face. An interview guide was compiled beforehand to standardise the interviews (Appendices E and F).

Robson (2002) advises that semi-structured interviews have predetermined questions, but the order can be modified based on the interviewer's perception of what seems most appropriate. After the first interview, a number of questions were amended and rephrased, as the researcher deemed them too general and therefore needing follow up questions. With the semi-structured interviews, the researcher had a chance to probe for more details and to explain the questions to the participants where they did not understand.

A consent form (Appendix D) was developed before the interviews and copies were distributed to the participants five minutes before the interviews for them to read and understand what the interviews entailed. The participants had to fill in the consent form to confirm that they agreed to take part in the study on their own, without being pressurised by the researcher. With the permission of the respondents, a digital voice recorder was used to record the interviews and all participants agreed to be recorded. The purpose of the recorder was to aid in the transcribing of data in case the researcher missed some points made by the participants. The researcher conducted all interviews personally and captured the data through note taking alongside the tape recorder. These interviews were administered in the participants' offices and the interviews duration ranged between 20 and 30 minutes.

4.4.2 Interview guides

An interview guide lists the questions or issues that are to be explored during the course of an interview to ensure consistency in the enquiry (Patton, 2002). The advantages of using an interview guide are as follows:

- It ensures careful use of interview time;
- It makes the interviewing process systematic and comprehensive by deciding well in advance the issues to be explored; and
- It keeps the interactions focused.

Two separate interview guides were designed - one for librarians working with digital reference services and the other for representatives of the library management. The purpose of having two separate guides was to capture the perspective of library management and that of librarians working with digital reference services. The researcher found separate guides to be important, as they would help to bring out different views, especially regarding implementation of services, training, future planning and development of digital reference services.

The interview guides were designed to assess the implementation and maintenance of digital reference services, particularly staffing and training, in line with the IFLA and RUSA guidelines. The two interview guides had the same sections, with a number of questions asked differently.

The first section of the interview guides followed the general digital reference model and focused on:

- Question acquisition;
- Answer formulation;
- Tracking;
- Experience with digital reference services.

The second section of the interview guides dealt with the implementation of digital reference services at the two libraries, with questions focusing on training of librarians dealing with digital reference services. This section also evaluated whether the libraries complied with the IFLA and RUSA guidelines. In this section, the researcher also wanted to know if the librarians had received training when the service was launched and ongoing training thereafter.

The last section of the interview guides focused on barriers in providing digital reference services and asked for some recommendations and general comments from the librarians regarding digital reference services. The interview guide for management asked the librarians to indicate whether they had plans for digital reference services.

4.4.3 Observation checklist

Observation in qualitative studies refers to “the researcher taking field notes on the behavior and activities of individuals at the research site [and recording] activities at the research site” (Creswell, 2009, p. 181). This involves observing users in real-life situations or settings. Observation may be done obtrusively, where a person being studied knows they are being observed, or unobtrusively, without the knowledge of the participants (Novotny, 2001).

Observation was used in this study because of the following advantages: the researcher has first-hand experience with participants; the researcher can record information as it occurs; and unusual aspects can be noticed during the observation. However, observation has the following limitations: the person being observed may alter their behaviour as a result of being under scrutiny; a researcher may be seen as intrusive; and private information may be observed that the researcher cannot report on (Creswell, 2009; Novotny, 2001).

An observation sheet/checklist (Appendix G) was designed and used to observe, specifically to collect data on the first research question of the study: To what extent does digital reference service process followed by Namibian academic libraries follow the general digital reference model? This question dealt with key issues of the general digital reference model, which was used as the theoretical framework for this study. The model has five main components, however only three were used namely:

- Question acquisition
- Answer formulation
- Tracking

The observation checklist was used to observe the process by which questions from users were received through digital reference services, how they were assigned to experts in the library, how answers were formulated and what sources were used by librarians to provide answers to the library users.

Observation was important for this study because it gave the researcher vital information about the skills and competencies that the librarians possessed for offering digital reference services to library users. The observation was also crucial to determine the challenges faced by the librarians and the training needs of librarians. The findings could be used by these libraries to improve and make informed plans for the future of digital reference services.

The observations were conducted on the same day as the interviews. The participants knew that they were being observed. The researcher asked four of the subject librarians and one reference librarian to show him how the *Ask a librarian* at the Polytechnic and e-mail services at the University of Namibia worked and made notes on the observation checklist. The observation was an opportunity for the researcher to experience how digital reference services worked. The observations were done after the interviews, and they took between 10 and 15 minutes.

The data collected during the observations were integrated with the data collected during the interviews as these methods complemented each other. The interviews enabled the researcher to ask concrete questions related to the observed process. These instruments were also vital in establishing any contradictions between what the librarians said and what they did.

To ensure credibility of the study results, the study ensured reliability and validity through triangulation, and piloting, which led to revision of interview guides to make sure that respondents understood the questions as intended by the researcher to avoid inconsistency. Furthermore, the researcher took note and all the interviews were recorded for all the 16 participants to ensure that everything discussed was captured.

4.5 Data analysis and presentation

Data analysis means to systematically organise, integrate and examine data; to connect data to concepts; and to identify broad trends or themes (Neuman, 2011). The data collected in this study were analysed using content analysis following these thematic areas: the process of

providing feedback to library users; training and competencies of librarians working with digital reference services; and the barriers in providing digital reference services. The above mentioned themes were derived from the research questions. Content analysis is defined as “a technique for examining the content or information and symbols contained in a written document or other communication” (Neuman, 2011, p. 49). The content that was analysed in this study were the transcripts of interviews with the librarians and the data collected during the observations. The researcher used codes to refer to the participating librarians and the two libraries, with no specific reference to any particular individual or institution, in order to ensure anonymity of respondents.

The data are presented mainly in the form of descriptive narrative, with a few direct quotes from the participants. The data analysis section is divided into sections based on the thematic areas of the interview guides and observation checklist.

Data were analysed manually, using the content analysis technique. The researcher read and re-read the case study interview transcripts in order to code for emergent themes (indicated above). This included transcribing the interviews according to themes and interview guidelines, and comparing and synchronising data obtained from the two research instruments used.

4.6 Research ethics

Permission was sought from the heads of the Polytechnic of Namibia and University of Namibia libraries. The researcher used codes to refer to the institutions and the participating librarians, in order to protect their identities. The research participants were not required to give their names and they were assured that the information that they provided would be kept confidential. The informants were given an option (a consent form, see Appendix D) to sign or refuse to sign, to participate or not to participate in the study, and to withdraw from participation in the study at any time if they so wished.

CHAPTER FIVE: CONTEXT OF THE STUDY

5.1 Introduction

This chapter gives a background of the Namibian community and the libraries' landscape in Namibia. It then gives an overview of the Polytechnic of Namibia and the University of Namibia in general, and the libraries of the two institutions in particular. The content of the study gives the background of the community under which the study was carried out and also puts into perspective the library users or the community served by the Polytechnic of Namibia and University of Namibia libraries.

5.2 Background of Namibia

Namibia is a vast country of 824 265 sq km, bordered by South Africa in the south, Angola and Zambia in the north and Botswana in the east. The country's 2011 population census enumerated 2 104 900 (National Planning Commission, 2012). Namibia's population density is about 2.5 persons per square kilometre. The society is mainly rural, with 58% of the population living in the rural areas, compared to 42% in the urban areas. 84% of the population is literate (Government of Namibia, 2013).

5.3 Languages spoken in Namibia

Namibia is a multilingual society with English as the official language. According to Frydaman (2011), the languages in Namibia are grouped in three language families. These language families are: the Bantu languages, the Khoesaaan languages and the Indo-European languages. The indigenous languages spoken in Namibia are: Oshiwamabo, Rukwangali, Otjiherero, Rucgiriku, Thimbukushu, Silozi, Setswana, Khoekhoegowab and Ju/'hoan, while the Indo-European languages are English, German, Afrikaans and Portuguese.

5.4 Education system in Namibia

The education system in Namibia is under the custodianship of the Ministry of Education. It comprises of seven years of compulsory and free primary education beginning at the age of seven, three years of junior secondary and two years of senior secondary education. Formal education is divided into four phases: Lower primary (grades 1 to 4), upper primary (grades 5 to 7), junior secondary (grades 8 to 10) and senior secondary (grades 11 to 12) (Government of Namibia, 2002).

After successful completion of Grade 12, learners are presented with a Namibia Senior Secondary School Certificate (NSSC). This certification can either be the equivalent of the International General Certificate of Secondary Education (IGCSE) or the Higher International General Certificate of Secondary Education (HIGCSE). Learners who obtain good grades can then pursue further studies at tertiary institutions either locally or abroad.

Namibia has two public tertiary institutions of general education: the Polytechnic of Namibia and the University of Namibia. There are a number of specialised tertiary education institutions in

Namibia. These include a private university called the International University of Management and a number of vocational training institutions (Fischer, n.d).

5.5 Libraries in Namibia

The Namibian library sector is made up of the following libraries: the National Library of Namibia (NLN), ministerial and specialised libraries, non-governmental libraries, school libraries, community/public libraries and academic libraries.

The Namibia Libraries and Archive Services (NLAS), under the aegis of the Ministry of Education, is the umbrella body that administers, at varying levels, libraries in the public sector in Namibia. NLAS consists of the following main divisions:

1. The National Library of Namibia (NLN) serves as the legal deposit library and the repository of all materials emanating from or relating to Namibia. It also collects other material to ensure a more inclusive research collection and provides bibliographic and other user services.
2. The National Archives of Namibia (NAN) collects, preserves and provides access to unpublished documents produced by the Government and other agencies in Namibia.
3. The Community Library Service (CLS) consists of a network of community/public libraries in Namibia that provide learning resources and leisure-time reading materials to the general public and learners in Namibia.
4. The Education Library Service (ELS) provides curriculum-based and other reading material to primary and secondary schools in Namibia.
5. The Ministerial Library Service (MLS) supports and coordinates specialised library and information services in ministries and other government agencies (Smith, Frouche, Muirhead & Underwood, 2008, p. 11).

5.6 Academic libraries (libraries at tertiary institutions)

Namibia currently has two major academic libraries, namely, the University of Namibia (UNAM) library and the Polytechnic of Namibia library. These libraries are independent institutions funded mainly by the Government. Both the UNAM library and the Polytechnic library are mandated to continue to strive to provide excellent service to their students and staff, make their library facilities available to adult and non-formal students and to all Namibians, promote information skills among their users, wherever possible, and extend access to resources to remote and rural regions of Namibia (MDR, 2010, p. 36).

These libraries have well-established infrastructure in terms of computer and study facilities, and their collections are well stocked with print and electronic information resources. The two libraries (UNAM and Polytechnic), are both housed in impressive modern and functional buildings. The two libraries have a staff establishment of qualified library staff, who are well paid; relatively higher than other libraries in the country. These two libraries are the only

libraries with significant electronic resources in the country and appear to effectively support the information and learning resource needs of students and teaching staff members at their institutions (MDR, 2010; Smith et al. 2008).

The UNAM library and the Polytechnic of Namibia library are “currently the main license holders for international electronic resources in Namibia and can, in future be expected to play a leading role in the establishment of national consortium-purchasing arrangements, benefiting and improving the resources available to students, researchers, teachers and professionals throughout the country” (MDR, 2010, p. 36).

5.7 Polytechnic of Namibia

The Polytechnic of Namibia is the second largest institution of higher learning in the country. Established in 1994 under an Act of Parliament, it had a total of 194 academic staff members, 539 administration staff members and 16 000 students in 2013 (Polytechnic of Namibia, 2013). The Polytechnic has the following schools: school of management, school of economics and finance, school of engineering, school of health and applied sciences, school of humanities, school of information technology and school of natural resources and tourism. Each school is assigned a subject librarian, who is responsible for liaising with the school and departments, and for giving information literacy training to staff members and students in that school. The Polytechnic of Namibia offers certificates, diplomas, undergraduate degrees and master’s degrees.

5.8 Polytechnic of Namibia library

The Polytechnic library’s vision is “to be the first choice information search, retrieval and dissemination service”. Its mission is “to provide resources that support learning, teaching, research and creative expression by providing timely and effective services to the broad academic community, resulting in the improvement of institutional and national outcomes” (Polytechnic of Namibia, 2011).

The library’s strategic goals include: providing timely access to information resources; providing effective mechanisms to ascertain information needs; determining priorities and adapting services within the Polytechnic community; participating in collaborative activities that expand the resources and services available to its community of users; recruiting and developing a creative, flexible staff with the expertise needed to anticipate and meet the diverse information needs of the Polytechnic’s community; securing and allocating funding to support library programs and initiatives; promoting the use of ICT services to support teaching, learning and research; and expanding physical facilities, equipment and human resources to accommodate new library programs that support research (Polytechnic of Namibia, 2011).

The Polytechnic of Namibia library membership comprises of all its staff members (Polytechnic employees). All registered students are automatic library members and do not pay any membership fee; neither do they register for membership. Employees of the University of Namibia (UNAM) and students at UNAM and other institutions of higher learning can also become members of the Polytechnic library by completing a registration form and paying a fee

(determined by the library and the borrowing privileges). Members of the public and former students beside the ones mentioned above cannot be members of the library; they may use the library but they are not entitled to any other library privileges.

The Polytechnic library is made up of the following departments: circulation services, reference services, subject and research services, acquisitions services and technical services. The subject and research services department is responsible for the *Ask a librarian* services being evaluated in this study. However, the reference and circulation departments also receive a lot of enquiries from the *Ask a librarian* service.

The Polytechnic library provides the following services to students, staff members and other members of the library: borrowing and circulation services, photocopying services, lecturer information services, twenty-four hour (24/7) remote access to e-resources, subject and research services, user services, user education, literature searches, inter-library loans, and outreach services.

The Polytechnic library also provided the *Ask a librarian* service, an e-mail based service designed to assist library users with their specific information needs. The *Ask a librarian* platform (see Figure 2 below) is a web form that a library user fills in. The user is required to indicate the department they are working or studying in for easy allocation of queries to the subject librarians responsible for that department. This e-mail based service is linked to all subject librarians, and if a question comes in, all subject librarians received the question and the subject librarian responsible for the department where the question came from would answer.

General queries or queries that come in through the *Ask a librarian* service are forwarded to the concerned department by subject librarians. However, library users are encouraged to use specific e-mail addresses for questions directed to specific departments.

The *Ask a librarian* service is limited to the students and staff of the Polytechnic of Namibia, and to questions specific to Polytechnic library and its collections and policies. This means that only questions concerning the Polytechnic library collections and policies can be entertained in the *Ask a librarian* platform.

The library also have a *blog*, a platform where library users discuss a number of issues. The reference librarian administers this platform. The library has been providing *Ask a librarian* services since 2009. They introduced a library *blog* in 2012. Before a library user uses an *Ask a librarian* service, they are advised to check the library homepage to see if the answer to their query was is not already available on the library's 'frequently asked questions' (FAQs) platform on the library's website.

The Polytechnic library provide *Ask a librarian* services because "there are times students do not need to come to the library to ask questions. Also, the service gives a chance to librarians to go through questions and consult relevant sources so as to provide informed answers". The screenshot in Figure 2 below illustrates an *Ask a librarian* platform.

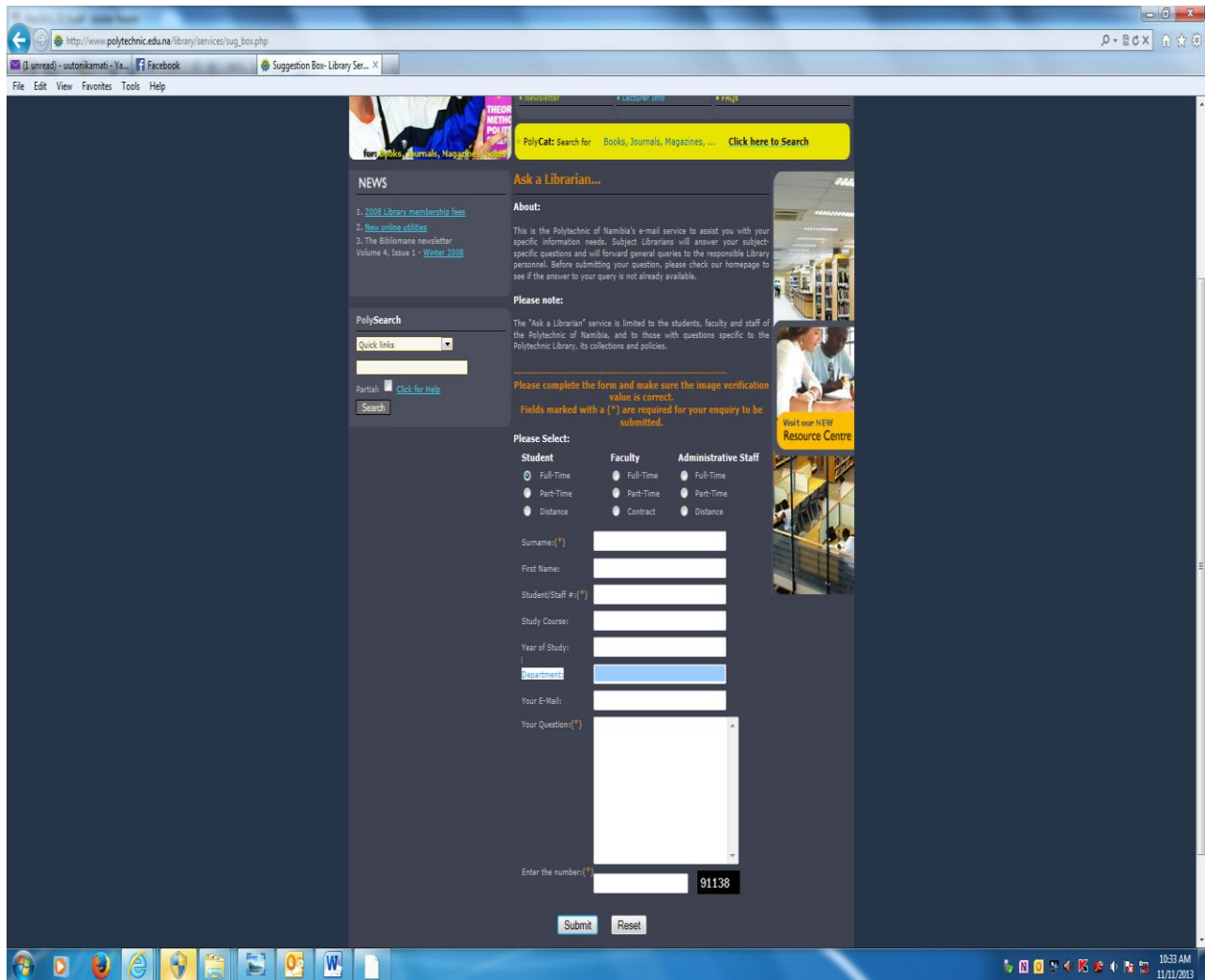


Figure 2: Ask a librarian platform

Source: http://www.polytechnic.edu.na/library/services/sug_box.php

At the time of the study, this *Ask a librarian* service could only be used by students and academic and administration staff of the Polytechnic of Namibia.

5.9 University of Namibia (UNAM)

The University of Namibia, established by an Act of Parliament in 1992, is the biggest public University in Namibia, with a total number of 704 academic staff members, 614 administrative staff members and 17 000 students in 2013 (University of Namibia, 2013). UNAM has the following faculties: Faculty of Agriculture and Natural Resources, Faculty of Economics and Management Sciences, Faculty of Education, Faculty of Engineering and Information Technology, Faculty of Health Sciences, School of Medicine, School of Nursing and Public Health, School of Pharmacy, Faculty of Humanities and Social Sciences, Faculty of Law,

Faculty of Science and School of Postgraduate Studies. Similar to the Polytechnic of Namibia, each faculty or school is assigned a subject librarian, who is responsible for liaising with faculty. UNAM offers, diplomas, undergraduate degrees, master's degrees and doctoral degrees.

5.10 University of Namibia library

The UNAM library provides various library and information services in support of the university's goals of teaching, learning, study and research. The library's vision is "to be a beacon of excellence and innovation in teaching, research and extension services" (University of Namibia, 2013). Its mission is "to facilitate excellence in teaching and learning, create an appropriate study and research environment, anticipate and respond to student learning and research needs, contribute to positive graduate outcomes and provide an information infrastructure necessary for ground-breaking teaching, learning and research" (University of Namibia, 2013, p. 75).

The UNAM library endeavours to achieve the following goals: secure adequate facilities and resources and manage these creatively to serve as an intellectual home to students and staff, and the community at large; provide greater access to digital collections while continuing to build and improve collections in all formats to meet research, teaching and learning needs of the University; recruit, hire, and retain quality staff with expertise in delivering excellent service in response to the rapidly changing needs of the University; provide an easily accessible, user-friendly and safe environment that fosters research, study, teaching and learning for both library users and library employees; apply appropriate technological innovations and promote innovative adoptions of emerging learning technologies to achieve productivity and efficiency; communicate library services to raise awareness and promote partnership with other libraries, educational institutions and local communities; continue to improve the library's effectiveness through systematic on-going outcome assessment; and offer formal and informal instructions to promote information literacy (University of Namibia, 2013).

The UNAM library membership is on an annual basis for old and new members. Individuals and institutions can become library members but need to complete an application form. The categories of membership include: undergraduate students, postgraduate students, prospective master's and doctoral students, retired University staff, academic staff, administrative staff, Polytechnic of Namibia staff and students, University visiting staff, other institutions/organisations and the public. Once a person is registered as a UNAM library member, he/she is entitled to all library user privileges, such as borrowing library items and any other services provided by the library.

The UNAM library is made up of the following departments: user service department, technical service department, and archive and special collections department. The user service department is comprised of reference librarians and subject librarians, who are participants in this study.

The UNAM library provides the following services: inter-lending and document supply, Internet access (including wireless network access in the library), e-resources off campus access, photocopying and printing services, and online past exam papers.

The UNAM library also provided the following digital reference services: Online forms, Library feedback form, Chat box and Book a librarian service. These services are explained below.

Online forms: This is a platform to request for any type of help. The platform is linked to an e-mail, which goes to the ICT librarian, who redirected the query to the relevant staff member, e.g., a subject librarian in a specific discipline or a reference librarian, depending on the query.

Library feedback form (see Figure 3 below): The UNAM library endeavoured to hear from its users using this platform. The library users could give feedback or ask questions about the library and its services by filling in a web form. Users could submit the form anonymously, but they needed to provide their names and e-mail addresses if they wished to receive an answer from the library.



Figure 3: Web library feedback form and chat box

Source: http://library.unam.na/index.php?option=com_form&Itemid=393

The figure above illustrates how the UNAM library feedback form (in the middle of the figure) looked like. This feedback form could be used by any user, whether registered as a library member or not.

Chat box (*Figure 3 above, bottom right in the picture*): At the time of the study, the chat box was dormant and not yet established by the library. The times or staff responsible for managing and answering questions from the users using this service were not yet in place. However, according to the ICT librarian, the reference section was supposed to be responsible for the chat services.

Book a librarian service: The *Book a librarian* service was meant to train and render guidance to users on how to retrieve information and how to search the UNAM library e-resources. This service was designed for the students and staff in the university. Users were required to complete a form to book an appointment with their respective faculty librarian. The library also provided application forms for staff/outside borrower membership, student membership, interlibrary loans, document supply and course reserve request forms for lecturers to prescribe the books they wanted to be placed on the Short-Loan section.

The UNAM Library have been providing digital reference services in line with the establishment of its library website at the beginning of the 2013 academic year. The library offers its digital reference services to any library patron, undergraduate students, post-graduate students, researchers and the general public, i.e., whoever was interested in the library services.

The provision of the above digital reference services had been in the plan of the library for the past three years. The overall objective of having digital reference services at the UNAM library was to improve quality of reference services; to widen library services to the increasing student population and user groups; and to reach clients wherever they might be, especially distance students and part-time students who spend most of their time at work and can access library services from their offices.

CHAPTER SIX: PRESENTATION OF RESEARCH DATA

6.1 Introduction

This chapter presents the research data gathered through interviews and observations at the Polytechnic of Namibia library and at the University of Namibia (UNAM) library.

In this chapter, codes will be used to refer to the participating libraries and librarians in order to maintain confidentiality and anonymity of respondents. No specific reference to any particular individual or institution is made in this chapter. Data are presented mainly in the form of descriptive narrative. Data from the observations and interviews are integrated within the thematic areas.

Since the study was a case study of two different academic libraries, data from each library will be presented separately to give a better picture and understanding of each library. There will be a lot of similarities and differences in the presentation of the two cases, which might look like a repetition of answers from the two cases. This is because of the similar instruments used in the same order when data was collected at the two libraries, and because the respondents in the study were doing similar jobs.

This chapter is divided into the following sections based on the thematic areas of the interview guides and observation checklist:

- The process of providing feedback to library users using digital reference service (General digital reference model);
- Staffing, training of librarians working with digital reference services;
- Barriers to digital reference services;
- Plans for future digital reference services.

6.2 Participants in the study

In the two institutions, (herein referred to as L1 and L2), data were gathered from subject librarians, senior librarians, IT librarians, circulation librarians and reference librarians. The details of the participants are listed in Table 2 below:

Table 2: Number of interviewees by interview category

Library	Total number interviewed	Librarians interviewed				
		<i>Reference librarian</i>	<i>ICT librarian</i>	<i>Subject librarian</i>	<i>Circulation librarian</i>	<i>Senior librarian</i>
L1	5	1	-	2	1	1
L2	11	2	1	6	1	1

The participants in the study at L1 had been in their position and working with digital reference services for periods ranging between one year and two years. Their qualifications ranged from Bachelors Degree in Library Science and Records Management to Master's Degree in Information Science. At L2, participants had been in their position and working with digital reference services for periods ranging from one year to twelve years. Their qualifications ranged from Diploma in Information Studies to Master's Degree in Information Science and Knowledge Management.

6.3 Research data: L1

6.3.1 The process of providing feedback to library users using digital reference service (General digital reference model)

One of the research questions for this study was, 'Does digital reference services process followed by Namibian academic libraries follow the General digital reference model?' Establishing the channels and processes of providing feedback to library users was one way of answering this research question.

The study found that L1 questions came in through the *Ask a librarian* service and went to all subject librarians' e-mails. However, other questions came in through general e-mails, or referred from other departments. Every librarian was responsible for picking up the questions concerning their school/department. The channel was established from the responses of librarians interviewed as well as from observation made during the study.

Respondents were asked to indicate the types or categories of questions that they received from library users. This question was asked to establish the types of questions from users that influenced/determined the process of giving feedback to the library. The librarians were also asked to show the researcher the sample of emails that came from the users. The study found that users in L1 would ask short answer questions, directional questions, or research questions. This questions included: general questions; requests on particular books; questions about library fees and fines, renewal of library materials; complaints; questions on how to get e-resources, how to log into the library, how to get into a database, user passwords, how to retrieve information from the database, how to use e-resources; and requests for specific teaching resources by lecturers.

The researcher wanted to find out who was responsible for answering the questions and attending to queries. The study found that at L1, subject librarians answered queries from their schools/departments as soon as possible, preferably the same day, and if a specific subject librarian was on leave, the senior librarian would answer the query on his/her behalf. All other queries related to other departments of the library were forwarded to the librarian in charge of the respective department.

At L1 these questions were attended to on a first come first served basis, following the sequence in which the questions were received in the librarians' e-mail inboxes. Queries had to be attended to as soon as possible. According to the Reference Librarian, "If it is a broad topic, we have to

refine the search, because sometimes users do not explain clearly over the e-mail. I would, therefore, ask for their phone numbers and call them to clarify their questions”.

At L1, the process of giving answers/feedback to library users was not monitored by the librarians’ supervisors. It was observed that as soon as the librarian received the email, he/she responded to the user’s query. However, subject librarians held informal meetings every Tuesday and did presentations, reviewed services and discussed issues affecting their work, especially the *Ask a librarian* service.

The study found that L1 provided FAQs for general use on the library website. However, some subject librarians explained that although the library provided FAQs, the platform had not been updated in a very long time. From the observation, the FAQs platform provided by L1 was readily available on the library website and searchable by the library users. They were organised according to library departments and services, although there were quite a number that were general.

6.3.2 Training for librarians working with digital reference services

The study sought to establish how the L1 library prepared librarians to work with the digital reference services as a way of determining their skills, competencies and on-the-job training.

The researcher wanted to find out if the librarians dealing with digital reference services received any training to perform the duties involved. The study established that L1 librarians received continuous training on electronic resources and databases, but not on digital reference services. Only one librarian indicated that she received training on how to use the Ask a librarian service from her supervisor and colleagues. The content of the training that librarians received included the following aspects: What the database was about; functions of the database; component of the database; how to search the database; and how to search for articles. There was no fixed calendar/schedule for these trainings as they were offered occasionally by the vendor of the databases and sometimes by e-resources librarians in the two libraries. The trainings usually took place when there was something new added to the databases. The library acquired new e-resources and databases often.

Besides database training, L1 had peer review training for subject librarians within the Subject and Research services department. This was an informal meeting for subject librarians where they did presentations, discussed issues affecting their work, reviewed services, shared statistics and e-mail queries and shared knowledge on the Ask a librarian services. These training sessions took place every Tuesday (subject librarian & senior librarian). Librarians at L1 described this training as: very informative; important; refreshing their skills; a good tool for professional support; updating their knowledge about new items added to the database; giving new information on what was happening; helpful for gaining knowledge at their pace to improve service delivery; important for learning new concepts; and an opportunity to view what other libraries were doing and to get new ideas.

6.3.3 Barriers in providing digital reference services

The researcher wanted to find out the constraints experienced by the libraries in the provision of digital reference services. The question for this aim was, ‘What do you consider as the main challenge in providing digital reference services?’

The study found that the challenges experienced by librarians working with digital reference services at L1 included the following: users provided incorrect e-mail addresses, causing the librarian’s response to bounce back; lack of ability to fully demonstrate certain technical aspects to users, e.g., how to search, through e-mail; sometimes users’ questions were not clear and a librarian had to follow up to clarify the question; and, when the Internet was slow or down, which happened often, it was difficult to give instructions to users in real time. The reference librarian felt that she was not getting enough support. As a result, it was difficult to maintain these services properly alone. Another noteworthy difficulty experienced by L1 was that some users were unsure of what they really wanted. Some users asked irrelevant questions or used confusing library terminology. If a librarian was not available, users had to wait for too long to receive the delayed responses.

6.3.4 How digital reference services can be improved

In view of the challenges these librarians were experiencing, the respondents were asked to give their views and indicate how digital reference could be improved at their libraries.

The reference librarian expressed that [t]he library is growing. “We have to open our eyes and see what is going on around us and adopt it, and increase bandwidth.” The subject librarian stated that that it would be helpful to introduce a Facebook page for the library, and introduce tools such as Skype and chat services.

The librarians also indicated that there were no proper records of general questions or questions from the Ask a librarian service as they were mixed up with other e-mails. Librarians thus needed a separate e-mail service, separate from their normal work e-mails. Some librarians indicated that they needed training, especially on how to work with people in the digital space and on how to manage information sources; and on best practices from other libraries. The librarians also indicated that the FAQ platform should be updated regularly

6.3.5 Future plans for digital reference services

The researcher wanted to know the future plans for digital reference services in these libraries. A question, “What are your future plans for digital reference service” was asked, and below is the responses from Senior Librarian. “Not at this stage, but if we identify a need for such a service, we will definitely look into it.” This means that L1 was not planning to implement or introduce new or synchronous digital reference services at this stage, but if the library identified a need for such a service, they would certainly look into the possibility of doing so.

6.4 Research data: L2

6.4.1 The process of providing feedback to library users using digital reference service (General digital reference model)

The interviews and observations revealed that at L2, questions came in through subject librarians' personal e-mails and through IT librarians' e-mails, who then channelled them either to subject librarians or to reference librarians.

The respondents were asked to indicate the types or categories of questions that they received from library users. An observation was also done on the nature of questions the library users asked. This was done to establish types of questions from users, which influenced/determined the process of giving feedback to the library users.

The study found out that lecturers at L2 would request for an item, e.g., an article or a specific book. Students asked librarians to do searches on their behalf and e-mail to them the documents they were looking for or requested to download articles. They also asked whether the library subscribed to a particular journal; questions about log in details and passwords; step by step guidance to access databases and e-resources, questions on how to search and use specific databases, how to get full text articles, book renewal information; and clarified account problems, e.g., library charges or fines.

The study found that at the beginning of the year, most students sought assistance regarding access to student portals and connection to the wireless network using laptops. A number of students, especially those studying by distance, sought for assistance to retrieve their timetables and examination results from the student portal. Some students sought for help in terms of borrowing privileges, opening hours and technical help with uploading money for photocopier.

The researcher wanted to find out who was responsible for answering the questions and attending to queries. At L2, librarians were responsible for answering queries as soon as possible, although there was no stipulated timeframe as to when they should answer. Priority depended on the nature of the request or if a library user indicated when they needed the information. For example, a subject librarian said that one user asked, "Is it possible to have this article by 16:00 pm today?" If there was no indication from the user, then the priority would be on a first come first served basis. Since the L2 does not have a specific email system for digital reference services, it was observed that the emails from users were mixed up with librarians personal emails. The librarians then attended to emails as they came in their mail inbox and attended to them in that sequence.

In L2, the process of giving answers/feedback to library users was not monitored by the librarians' supervisors. However, the librarians gave quarterly reports on the statistics of e-mail services they provided and the types of questions they received. The study established that librarians also referred users' questions to other departments. For example, if the subject librarian received a question, he or she would scan through the library databases and the library catalogue and if the questions required sources of information not in the library, the librarians would forward them to the Loan and Documentary Office for interlibrary loan. At the time of

the study, no statistics or report was made available to the researcher on the types of questions asked by users. The researcher could also not observe this because the library does not have a FAQs platform.

The study found that the answering process did not provide for verification of answers as these services were provided through e-mail. However, when users asked for specific articles and they were given those articles or, in instances where a user asked a directional question such as “how do I access e-resources or search for articles?”, users were given manuals explaining step by step how to access e-resources. Some librarians would use the ‘*print screen*’ facility to illustrate how users should search.

From the interview and the observation done on the library website, the study established that L2 did not have a FAQs platform available for the user community. However, the library was in the process of developing it at the time of this study. The platform was being developed based on the quarterly reports from subject librarians, which contained questions frequently asked by library users.

6.4.2 Training for librarians working with digital reference services

The researcher wanted to find out if the librarians dealing with digital reference services received any training for such services. The study established that at L2, the librarians continuously received training on electronic resources and databases, but not on digital reference services. The librarians received different electronic resources training, including in-house refresher training on e-resources and the millennium system (library database management system). This training was given by the ICT librarian and the e-resources librarian. Librarians also received training from EBSCO Host and Emerald (e-resources vendors) from time to time. There were no schedules for these trainings, but the librarians would normally have the training from the ICT and e-resources librarians at the beginning of the university’s academic year and during university breaks (recess). These were the preferred times by the library because of low library usage. The training from the vendor was given each time when there were updates on the database and each time when there was a new database.

The content of the training included: what the database was about; functions of the database; components of the database; how to search the database; how to search for articles; aspects on e-resources, e.g. advanced searching; and how to use databases. The librarians viewed this training as: informative; quite useful because some e-resources and databases were complicated and without training they would not know how to use them; a platform for gaining knowledge at their own pace to improve service delivery; helpful to keep them up to date since the co-functions of databases can change; and an opportunity to refresh their skills.

6.4.3 Barriers in providing digital reference services

The study established the following main challenges in providing digital reference services: Challenges of bandwidth which hamper the provision of digital reference services; unavailability of a functional interactive chat box stream and lack of a librarian assigned to the chat box service as the main challenge; librarians inabilities some times to attend to the query immediately because of other workload; and difficulties in guiding library user to download full-text articles

from a database via the email especially the students that are not information-literate and lack searching skills.

The study found that although the Internet was available in remote areas, where most of the distance students were, bandwidth was very low and the server was down often. As a result, librarians spent a lot of time helping a student remotely. Lack of a platform to assist library users in real time was another challenge. The study found that L2 allowed a maximum of 10Mb of attached documents that could be sent via e-mail or be downloaded.

6.4.4 How digital reference services can be improved

In view of the challenges these librarians were experiencing, the respondents were asked to give their views and indicate how digital reference could be improved at their libraries.

The ICT librarian expressed that the library needs to promote the services and prepare the user community so that they are ready to embrace digital reference services. The ICT librarian further suggested that the digital reference services need to, or must, be attached to someone's job description. In addition, the ICT librarian recommends that the responsibilities need to be clearly defined because, at the moment, the job descriptions are saying, 'any other duties'.

One of the subject librarians stated that, "We need to attend to user queries on time although it is difficult, as we have other duties to attend to, e.g., meetings, reports, etc". Another subject librarian stated, "we need someone dedicated to digital reference services, e.g., an online librarian, who could attend to user queries". Another subject librarians stated, "we need wikis; create a live discussion with any users and attend to their queries in real time."

The librarians also indicated that they want online tutorials; chat services; tutorials on content guide; tutorials on how to demonstrate to students regarding searching for specific information, journals and specific databases and what other libraries have; work manuals with step by step instructions on how to search e-resources, CD tutorials, and an Ask a librarian service.

In view of challenges faced by the librarians at L2, librarians need the digital reference services to be marketed; library users to be trained on how to use digital reference services; they need the library to introduce interactive services; and they want the library to develop tutorials or step by step guide for the librarians to demonstrate and guide library users how to search electronic resources in the library with ease (subject librarian).

6.4.5 Future plans for digital reference services

Asked about the future plans for digital reference services at L2, the response from the senior librarian was: "We want to have two sections within the reference service section; one librarian to attend to digital reference services and the other to attend to telephone enquiries and other library users." However, the response from the ICT librarian was, "We want to get a commercial chat service and to reach out to all our users."

The study also found that the library was further planning to introduce an *Ask a librarian* service, which should generate FAQs because the library did not want to lose the questions that were

asked through digital reference services. As part of long-term planning for L2, the reference librarian was sent for further studies to South Africa and she was requested to investigate digital reference services offered by Southern African universities and to implement the services at the L2 upon return.

6.4.6 Summary

This chapter has presented the research data from interviews and observation. These research data was integrated and organised according to the thematic areas of the study.

The data shows that the two libraries L1 and L2 provide asynchronous digital reference services which all come in through different platforms and with more or less same types of questions. The questions are attended to on the first come first served basis in the two libraries.

The study established that L1 and L2, the librarians continuously received training on electronic resources and databases. This finding shows that preparation and training of librarians working with digital reference services is not adequate. The librarians are not trained on interviewing skills, digital reference policies etc. and the two libraries do not have a training programme.

The study shows the lack of ability to fully demonstrate to users and conducting an interview through an asynchronous digital reference services is the main challenge experienced by librarians working with digital reference services in the two cases. Other challenges encountered by librarians include: slow internet connections; limited allowable data etc.

CHAPTER SEVEN: DISCUSSION AND INTERPRETATION OF RESEARCH FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter discusses and interprets the key findings of the study. The discussion will be presented according to the following themes: the process of providing feedback to library users; training and competencies of librarians working with digital reference services; and the barriers in providing digital reference services. Conclusions to the study and answers to research questions will also be given. Recommendations to the Polytechnic of Namibia library and the University of Namibia library will also be made at the end of this chapter.

7.2 The process of providing feedback to library users (General reference model)

The findings in this section will be discussed according to three components of the *General digital reference model* used in digital reference services. The components are: question acquisition, answer formulation and tracking. These are explained below:

Question acquisition refers to the process of obtaining information from a user. It includes question categorisation and user identification information through e-mail or web forms (Pomerantz et al. 2004). The study found that queries from library users were acquired through e-mail based services.

In L1, the e-mails were very specific as to which subject librarians should attend to the question asked by the library user because the users had to indicate the faculty they were studying or working in. In L2, the e-mails were sent directly to the subject librarians and the specific e-mails for librarians were provided on the library website. The e-mails also came through forwarded e-mails from fellow librarians in other departments. The study also established that the two libraries entertained all sorts of reference questions, namely, Directional reference, Ready reference and In-depth/research reference. Directional reference refers to queries about the location of resources, person, or place. Ready reference questions are questions that can be answered in a few minutes by providing a fact or piece of information found in a standard reference source. In-depth/research reference refers to a more detailed reference question, which may include instructions in using a particular tool or source.

Answer formulation refers to all actions taken by the subject expert to generate a response to a question, including sending the response to a reviewer or directly to the user (Pomerantz et al. 2004). The study found that at the two libraries, librarians were the ones that sent questions directly to the users and they did not verify the answers. The process of providing answers was not monitored by the librarians' supervisors. The lack of supervision could be a result of these two libraries not having digital reference policies and guidelines for the provision of such services. One weakness in the two libraries was that the process of providing answers/feedback was not monitored to determine whether users were getting sufficient or satisfactory answers.

The study found that librarians working with digital reference services in the two libraries preferred consulting electronic resources above print resources to respond and provide feedback to library users. The reasons given were that electronic resources were faster, timesaving and more convenient for the librarians and library users who did not have time to come to the library physically. This practice was commendable and it was also facilitated by the good electronic resources collections in these two libraries.

Tracking refers to identifying popular subjects or common questions. Tracking allows a library to compile FAQs (Pomerantz et al., 2004). The research found that L1 had a FAQs platform, although they were not frequently updated, while L2 did not have a FAQs platform yet as it was still under consideration. Even though these libraries were aware of the frequently asked questions, they did not have a tracking system for identifying popular topics and creating statistics automatically. The only systems that were in place were the meetings and the writing of quarterly reports by subject librarians.

The study established that both L1 and L2 did not have software applications to manage questions received electronically, which made it difficult to determine the types of questions asked by library users. This finding agrees with White (2001), who maintains that not all digital reference services keep and maintain archives of FAQs and that only some of those services that keep them are publicly available. The librarians at L1 and L2 did not keep records of questions asked through *Ask a librarian* and their e-mails. They only kept statistics of the number of user who used the service. The study established that in the absence of a tracking system, some librarians created and kept document folders for their clients with queries, articles and the answers they gave them. This was a good initiative as they could refer to these folders for future queries from the same users or users looking for similar materials or information.

The study found that the weakness of the two libraries was that they had neither a policy nor guidelines for standard responses to users' questions. This resulted in librarians responding to users' queries at their own discretion and answering any questions from users. A policy is vital for libraries providing digital reference services, as it guides the librarians on how to answer questions; how much time to spend on a question; how to handle questions that cannot be answered online, etc. (Coffman, 2003). This policy should also contain the sequence of how often it should be revised, describe procedures and designate responsibilities for revising. The policy should also provide for compliance with copyright and other legal restriction to information resources to be provided to users (IFLA, 2008). The findings of this study are similar to the findings of Malik & Mahmood (2013) about libraries in Pakistan. Malik and Mahmood found that the majority of libraries (74%) in Pakistan did not have digital reference policies.

7.3 Training and competencies of librarians working with digital reference services

The study found that the two libraries provided training on e-resources and databases to librarians working with digital reference services, but no training on digital reference services. This could be attributed to the fact that the two libraries were not evaluating digital reference

services to determine what the librarians were experiencing and to check for any shortfalls in the process of providing the services. The researcher concluded that the training on e-resources and databases was important for the librarians at these two institutions because these were their preferred sources of information to provide feedback to library users. This training would help librarians to find information as soon as possible. However, the two libraries lack the training plan for its staff members. According to Coffman (2003), a librarian working with digital reference services needs training on electronic resources, skills on using e-resources and a good understanding of databases and how to find information effectively. The training on electronic resources and database is becoming increasingly important to subject librarians. Subject librarians need to be aware of the expanding range of e-resources available to be able to advise library users on the accessibility and availability of these resources in a library (Rodwell, 2001). With regard to databases and electronic resources, these two libraries were doing very well. However, the librarians would benefit from regular training related to digital reference services, which the two libraries were not providing. It can be argued that the training provided by the L1 and L2 are not adequate to make librarians working with digital reference services competent to work with library users online.

Librarians working with digital reference services need training on reference interview skills, chat techniques, providing logical solutions to library users, maintenance of digital reference services and FAQs. Librarians need regular, similar training and refresher courses if they are expected to provide similar quality services comfortably and with confidence in an online environment. Different training mechanisms need to be used for training these librarians to accommodate different learning styles (Coffman, 2003; Kawakami & Swartz, 2003). The two libraries lack the above mentioned crucial aspect of on-going training for librarians working with digital reference services which enable librarians to acquire necessary competencies for them to work in digital environment.

L2 made a good decision by sending their reference librarian for further studies to specialise in digital reference services. It was the institution's hope that this librarian would come back to spearhead the digital reference services and bring new ideas from her study. The researcher is of the opinion that such training should be rolled out to subject librarians who deal with students and lecturers in different faculties. The library needs to invest in and continue to avail resources for the training and continual education of librarians to ensure effective services as required by IFLA and RUSA.

The above-mentioned training is crucial for librarians working with digital reference services as it provides the following competencies: information processing knowledge, online communication skills, good customer service skills, reference interview skills, and skills on enquiry services and web based services (Lankes, 2005; Luo, 2007; Morgan and Atkinson, 2000).

It can be pointed out that librarians are crucial resources in providing digital reference services and should have, the necessary IT skills, competencies and training in order to work with digital reference services. The digital reference librarian provide answers to library users thus the librarians need to have the necessary IT skills, competencies and training to work with digital reference services.

7.4 Barriers in providing digital reference services

The study found that the two libraries were faced with numerous challenges in providing digital reference services. The following were some of the main challenges: Giving step-by-step instructions on accessing library services to users, e.g., downloading of articles; slow Internet connection; insufficient support for some of the librarians in doing their work. The study also found that although Internet was available, bandwidth was very low in remote areas, where most of the distance students were. Another challenge was that sometimes the server was down and, as a result, librarians spent a lot of time helping students remotely. This finding validates Nicholas' (2011) and Smith's (2001) conclusion that, with e-mail services, it sometimes takes up to 24 hours or longer before a library user can get a response to their question. This could be because the question is not clear, Internet connectivity is low, or a document that the librarian is sending to the library user exceeds the maximum size allowed.

The study also agrees with Francoeur's (2001) findings that, the hardest kind of question to answer is the one that requires a considerable amount of topic development and users instruction, especially for user doing research e.g. guiding a user to search in a particular database can be labour intensive.

7.5 Conclusion

This section of the chapter is arranged according to research questions (see chapter 1, section 1.4)

7.5.1 Digital reference service process in academic libraries in Namibia

The research findings show that the L1 and the L2 followed Lankes' (1998) General digital reference model of the question/answer process to provide feedback to library users using digital reference services. However, the two libraries do not follow all the components of the model for instance, the L2 does not have a FAQs platform yet. Although the L1 has a FAQs, it is not regularly updated. The two libraries also do not have a tracking system for creating statistics on the usage of the digital reference services.

7.5.2 Namibian academic libraries' adherence to international standards of providing resources and training for librarians

Academic libraries in Namibia do not follow the IFLA and RUSA guidelines of providing resources especially staffing and training for librarians working with digital reference services.

The librarians working with digital reference services were not given enough training on how to work in an online environment. Although the librarians received e-resources training, the training was not adequate to make them competent to work with library users online.

7.5.3 Barriers encountered by academic libraries in providing digital reference services

The findings of this study show that a lack of ability to demonstrate how to use various library services fully to users by e-mail was the main challenge the two libraries encountered.

7.6 Guidelines for further development of digital references services and sequence of actions

Based on the findings and conclusions, the researcher made a number of guidelines. These guidelines if followed by the two libraries will help the libraries to restructure and improve the digital reference services in the two libraries. The guidelines will also help to equip librarians to be competent and be comfortable working with users online. Below are the guidelines for the two libraries:

1. Following the main model used in the study, the following improvements to digital reference services are suggested:
 - The L1 should find a way of tracking questions asked through *Ask a librarian* services. These questions should then be used to update or have a separate FAQs section on *Ask a librarian* on their library website.
 - The L2 should develop FAQs platform. The FAQ should be based on the popular or common questions that the library receive via emails and web forms.
 - The two libraries should develop online step-by-step tutorials to guide their library users to access their services, as it is challenging to give thorough explanations by e-mail in some cases.
2. Based on the research findings that the two libraries do not adhere to the IFLA and RUSA guidelines of providing resources especially staffing and training for librarians working with digital reference services, the researcher proposes the following:
 - The two libraries should develop a digital reference service policy document which will be used as a tool to guide librarians working with digital reference services.
 - The two libraries should give continuous training with content relevant to digital reference services to the librarians working with digital reference services. This training will give sufficient competencies to librarians to be able to work comfortably with digital reference services.

7.7 Area for further research

This study focused on librarian's perspective, leaving out the user of digital reference services in the academic libraries. Future research could look at the evaluation of digital reference services from library user's expectation. This study will help the two libraries to determine the challenges encountered by the library user and this will help in the improvement of service delivery to library users.

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Appendices

Appendix A: Permission letter to conduct interviews at the Polytechnic of Namibia

11 July 2013

The Librarian
Polytechnic of Namibia
Private Bag 13388
Windhoek

Dear Sir / Madam

RE: REQUEST TO CARRY OUT DIGITAL REFERENCE SERVICES RESEARCH AT POLYTECHNIC OF NAMIBIA LIBRARY

I, Wilhelm Utoni, am a Staff Development Fellow in the Department of Information and Communication Studies at the University of Namibia and a Master of Digital Library and Information Services student at the University of Boras, Sweden. I am conducting research on Digital Reference Services. The research will involve interviewing the Chief Librarian, Circulation Services Librarian, Reference Librarian, and Subject Librarians. It also involves an analysis of content of digital reference questions.

The main objective of the study is to evaluate digital reference services offered by academic libraries in Namibia and to find out constraints encountered by these libraries in providing digital reference services. The study will serve as partial fulfilment of the requirements of a master's degree at the University of Boras.

I therefore seek authorisation to carry out my research in your institution. The study is scheduled to take place between 15 July 2011 and 27 July 2013. Once permission is granted, I will make appointments with the above mentioned librarians to ensure that there is minimum disruption in their daily schedules.

Participation in the study will be entirely on a voluntary basis and all data collected will be treated confidentially. The findings and conclusions of the study will be made available to the Polytechnic of Namibia library.

Yours faithfully

Wilhelm E. Utoni
Tel: 2063844, Fax 2063806, cell 0812968918, e-mail wuutoni@unam.na

Appendix B: Permission letter to conduct interviews at the University of Namibia

15 July 2013

The Librarian
University of Namibia
Private Bag 13388
Windhoek

Dear Sir / Madam

RE: REQUEST TO CARRY OUT DIGITAL REFERENCE SERVICES RESEARCH AT THE UNIVERSITY OF NAMIBIA LIBRARY

I, Wilhelm Uutoni, am a Staff Development Fellow in the Department of Information and Communication Studies at the University of Namibia and a Master of Digital Library and Information Services student at the University of Borås, Sweden. I am conducting research on Digital Reference Services. The research will involve interviewing the Chief Librarian, Circulation Services Librarian, Reference Librarian, and Subject Librarians. It also involves an analysis of content of digital reference questions.

The main objective of the study is to evaluate digital reference services offered by academic libraries in Namibia and to find out constraints encountered by these libraries in providing digital reference services. The study will serve as partial fulfilment of the requirements of a master's degree at the University of Borås.

I therefore seek authorisation to carry out my research in your institution. The study is scheduled to take place between 15 July 2011 and 27 July 2013. Once permission is granted, I will make appointments with the above mentioned librarians to ensure that there is minimum disruption in their daily schedules.

Participation in the study will be entirely on a voluntary basis and all data collected will be treated confidentially. The findings and conclusions of the study will be made available to the University of Namibia library.

Yours faithfully

Wilhelm E. Uutoni
Tel: 2063844, Fax 2063806, cell 0812968918, e-mail wuutoni@unam.na

Appendix C: Permission to carry out the study from the University of Namibia Library

Tel: (+264 61) 206 3873
Fax: (+264 61) 206 3876
Email: enambila@unam.na
Website: <http://library.unam.na>



340 Mordume Ndemufayo Avenue
Private Bag 13301
Windhoek
NAMIBIA

Inspiring minds & shaping the future

Office of the University Librarian

University Librarian: Ellen Ndeshi Namhila

23 July 2013

Mr. Wilhelm E. Uutoni
Department of Information and Communication Studies
University of Namibia
Private Bag 13301
Windhoek

Dear Mr. Uutoni,

This is to acknowledge your request for permission to conduct a study on Digital Reference Services in the University of Namibia Library (Letter 15 July 2013). The University Library supports and encourages research on library practice and services and thus with great pleasure I authorise the data collection and encourage the staff of the library to support your research project and provide all necessary information. The only condition is that as you already indicated in your letter the results will be made available to the University library both by providing the report to the Office of the University librarian and with a presentation to the library staff.

Yours,

Ellen Namhila

University Librarian

Appendix D: Consent form

INFORMED CONSENT FORM

Title of Study: A Study of Digital Reference Services in Academic Libraries in Namibia.

Researcher: Wilhelm Uutoni
Department of Information and Communication Studies
University of Namibia
Tel.: 061-2063844
Fax: 061-2063806
E-mail: wuutoni@unam.na

Information

This research aims to evaluate digital reference services offered by academic libraries in Namibia and to find out constraints encountered by these libraries in providing digital reference services. The study will serve as partial fulfilment of the requirements of a master's degree at the University of Borås.

All the information gathered as part of this interview is **CONFIDENTIAL**. No name will be published in the write up of the findings and **CONFIDENTIALITY** and **ANONYMITY** will be adhered to at all times. The interview should take approximately 20 minutes.

Participation is voluntary, and you may choose not to participate or withdraw from participation in this study at any time. I however appeal to you to help in the success of this study through your participation.

This study will benefit both the institution and the individual, as it will contribute to proper management and implementation of future digital reference services.

The results of the study will be made available to your organization.

If you are dissatisfied or have any question with any aspect of this study, you may contact, anonymously, my research supervisor, Professor Elena Maceviciute in the Department of Library and Information Science, University of Borås, Sweden, e-mail: Elena.Maceviciute@hb.se.

If you voluntarily agree to participate in this study, please indicate your consent by signing this form.

Name:

Signature:

Date:

Appendix E: Interview guide for library management

INTERVIEW GUIDE FOR REPRESENTATIVES OF THE LIBRARY MANAGEMENT

This is a study on Digital Reference Services (DRS) at the University of Namibia and the Polytechnic of Namibia. The main objective of the study is to determine the practices of digital reference services by academic libraries in Namibia and to find out constraints encountered by these libraries in providing digital reference services. This is an interview guide for the **representatives of library management**.

SECTION A: WORK DETAILS

1. What is your current title/position?
2. How long have you been in this position?
3. What is your highest of qualification?

SECTION B: BACKGROUND OF DRS

4. Briefly tell me why the library is providing DRS?
5. How long has the library been providing DRS?
6. Who are the intended users of these services?
7. Does the library have a policy framework that regulates the provision of these services?
8. **If yes** how often is this policy revised or updated?
9. Who is responsible for updating this policy?
10. **If no**, how are the DRS regulated at the library?

SECTION C: IMPLEMENTATION OF DRS

11. Can you explain to me how the library prepared itself to ensure that DRS was a success?
12. Did the library train library users on how to use digital reference services?
13. **If yes**, what is the content of this training?

SECTION D: MAINTENANCE OF DRS

14. What factors did the library consider in choosing the digital reference service software?
15. In your view, how is the software performing in terms of effectiveness and efficiency?

SECTION E: BARRIERS OF DRS

16. What do you consider as the main challenges in providing DRS?

SECTION F: RECOMMENDATIONS

17. In your view, how can DRS be improved?

SECTION G: CONCLUSION

18. What are the future plans for your digital reference service? (Is the library planning to introduce more DRS?)
19. Are there any comments you would like to make about DRS?
20. This is all I had to ask you. Is there anything you would like to ask me or comment about this interview?
21. Thank you for your time and contribution to this research.

End of Interview

Appendix F: Interview guide for librarians

INTERVIEW GUIDE FOR LIBRARIANS WORKING WITH DRS

This is a study on Digital Reference Services (DRS) at the University of Namibia and the Polytechnic of Namibia. The main objective of the study is to determine the practices of digital reference services by academic libraries in Namibia and to find out constraints encountered by these libraries in providing digital reference services. This is an interview guide for the **librarians working with digital reference services.**

SECTION A: WORK DETAILS

1. What is your current title/position?
2. How long have you been in this position?
3. What is your highest qualification?

SECTION B: EXPERIENCE WITH DRS

4. How long have you been working with DRS?
5. What types of DRS does the library provide?
6. Can you explain which sources of information and the reasons you use most (e-resources or print sources) to provide answers/feedback to users?
7. In your view, how do you feel about the library providing DRS?
8. What kind of reference questions do the service users ask (FAQ)?
9. Does the library have a DRS policy document?
10. If yes, what is the content of this policy document?

SECTION C: IMPLEMENTATION

11. Did you receive any training on how to use the digital reference services?
12. **If yes**, what was the content of your training?
13. How often do you do this training?
14. Can you explain how useful this training is to a librarian?

SECTION D: BARRIERS OF DRS

15. What major difficulty do you encounter in using online/digital reference services?

SECTION E: RECOMMENDATIONS

16. How can digital reference services be improved?

SECTION F: CONCLUSION

17. Are there any comments you would like to make regarding DRS?

18. This is all I had to ask you. Is there anything you would like to ask me or comment about this interview?
19. Thank you for your time and contribution to this research.

End of Interview

Appendix G: Observation checklist

Observation checklist

Name of service:.....

L1 or L2

1. Acquisition of queries:
 - (a) How the questions come in; central place, staff e-mails, other.....
 - (b) Chat
 - (c) Blog
 - (d) E-mail
 - (e) Web form
2. Parameters of service: questions
 - (a) Types of question: short answer questions, directional questions, research questions, other
 - (b) Does the system reject questions?: no, yes
 - (c) Referral options: yes, no
3. Expert response:
 - (a) Who answers the questions; in-house staff,
 - (b) Training for giving answers
 - (c) Guidelines for giving answers: no, yes
4. Question-answering process
 - (a) How is the question assigned or selected by answerers?
 - (b) How are the questions prioritized? First come first served?
 - (c) Monitoring the process? Yes, no.
 - (d) Verifying answers: yes, no.
 - (e) Testing accuracy of answers: yes, No
 - (f) Cite sources in the answer: yes, no
5. Answer parameters: sources
 - (a) FAQs: yes, no
 - (b) FAQs searchable: yes, no
 - (c) Preferred sources: print sources, electronic resources
 - (d) Does the system maintain an archive?: yes, no
6. Response guidelines
 - (a) Standard response
 - (b) Policy
 - (c) Format
 - (d) Duration of responding;