

**Information Technology Skills and Competencies of Staff Members in the Information  
Resource Distribution Directorate of the University of South Africa Library**

by

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**DECLARATION**

I declare that *Information technology skills and competencies of staff members in the Information Resource Distribution Directorate of the University of South Africa Library* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Signature

Ms Tinyiko Vivian Dube

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Date

## **DEDICATION**

I would like to dedicate this dissertation to:

- My mother, Tsakani Elizabeth Dube, to whom I will always be grateful for her hard work and effort, in order to ensure that I become a better person.
- My late brother, Mike Zivanai Kgabo, whom I miss so much and wish he could be here with me to share my success. You will always be remembered.
- My children, Khamimamba, Vutivi and Yolanda, this dissertation is also dedicated to you.

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- To the University of South Africa Library, thank you for allowing me to conduct the research study.
- My exceptional gratitude goes to the Information Resource Request Processors and their supervisors, and Information Resources Delivery Officers and their supervisor, for their willingness to participate in the study.
- I would like to acknowledge the support from my mother, Tsakani Elizabeth Dube, and my children, Khanimamba, Vutivi and Yolanda.
- To my uncle, Sibokane Petrus Dube. Thank you for your encouragement. I am who I am today because of you. You taught me that I can become anything I want, irrespective of my poor background.
- I would also like to thank my friends and colleagues for their support and input.

### **Psalms 52:9**

*I will always thank you, God, for what you have done; in the presence of your people I will proclaim that you are good.*

## **ABSTRACT**

This study was conducted at the UNISA Library. The study sought to investigate the information technology skills and competencies of the library staff members in the Information Resource Distribution directorate of the University of South Africa Library, with regard to the utilisation and application of information technology tools to handle or process online requests from remote clients timeously and efficiently. Observation, questionnaires and interviews were used to collect data, whereby all the information resource distribution staff members and their supervisors were asked to participate.

The study found that information resource distribution staff members were skilled and competent with regard to processing online requests from remote clients. This means that they were able to use IT to process and deliver requested information resources. However, observation indicated that staff members lack the dedication and commitment to ensure speedy processing and delivery of requests. In addition, they were faced with problems and challenges that impacted on them not providing quality services to remote clients. The researcher outlined some recommendations that could be helpful in solving these identified challenges.

**Key terms:** Information technology; information technology skills; information technology competencies; University of South Africa; academic library

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## LIST OF ABBREVIATIONS AND ACRONYMS

CD	Compact Disc
CD ROM	Compact Disc Read-Only Memory
DAISY	Digital Access Information System
FTP	File Transfer Protocol
GIF	Graphics Interchange Format
GILLDDNET	Ghana Interlibrary Lending and Document Delivery Network
ICT	Information and Communication Technology
IFM	Interlibrary Loan Fee Management
ILL	Interlibrary Loan
IR	Institutional Repository
IRD	Information Resource Distribution
IRDO	Information Resource Delivery Officer
IRPA	Intensified Research Priority Areas
IRRP	Information Resource Request Processor
IRSO	Information Resource Shelving Officer
ISBN	International Standard Book Number
ISL	Information Search Librarian
IT	Information Technology
JPEG	Joint Photographic Expert Group
MARC	Machine Readable Catalogue
OCLC	Online Computer Library Centre
ODL	Open Distance Learning
OPAC	Online Public Access Catalogue
PDF	Portable Document Format
RFID	Radio Frequency Identification
SABINET	South African Bibliographic Network
SAPO	South African Post Office
SMS	Short Message Service
TNA	Training Need Analysis
UNISA	University of South Africa

# CHAPTER 1: INTRODUCING THE DISSERTATION

## 1.1 INTRODUCTION

Since the development of information technology (IT), academic library and information service professionals have become involved in networked technologies (Melchionda, 2007:124). In due course, library staff members<sup>1</sup> became more dependent on and comfortable with the usage and application of IT. However, a lack of IT skills and competencies could create problems, as they are considered to be important qualities for academic library staff members to have. Therefore, it is vital for library staff members to use current, up-to-date and applicable IT tools to deliver quality services and accessible information resources to remote clients (Abels, Jones, Letham, Magnoni & Marshall, 2003:11). It is also important to note that staff members in academic libraries are expected to process and deliver information resources to library clients<sup>2</sup>, in order to facilitate learning and research (Mohsenzadeh & Isfandyari-Moghaddan, 2009:987).

Academic libraries (and academic librarians as such) are perceived to be an integral component of the education system. The development of IT in academic libraries did not only bring about changes in library and information services, but also resulted in changes in the roles and expectations of library staff members. IT changed the education system, the manner in which research is conducted and the way in which academic libraries operate (Lo, 2008:46). Because of these changes, IT in academic libraries has resulted in the need for library staff members to be resourceful in terms of the acquisition of new skills and competencies (Mathew, [n.d.]). Accordingly, library staff members working in an academic library should ensure that their IT skills and competencies enable them to meet the information needs of the library clients whom they serve. Library staff members need to assist library clients to access and use relevant information resources by means of technology. This requires a total transformation of IT skills and competencies, as well as in the way that library staff members think and act.

In the twenty-first century, with its changing information and communication technology (ICT) environment, academic library staff members are required to continuously upgrade their personal and academic skills, in order to enable them to keep abreast with new developments in the library

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<sup>1</sup> In this dissertation, the term “library staff members” is used to cover both professional and para-professional librarians.

<sup>2</sup> Since the UNISA Library refers to library users as “clients”, the latter term is used.

and information field (Lo, 2008:47). Library staff members should be enrolled to either attend workshops and seminars, undergo coaching or formal training, or attend short courses or any other form of training that could be useful for enhancing their IT skills and competencies (Chiwere, 2007:3). Training programmes that are relevant for academic library staff members include the following: searching various databases, information resource sharing through interlibrary loans (ILL) (specifically with regard to article exchange that requires extensive knowledge and understanding of searching databases and e-mails), searching the library catalogue and online resources such as e-theses/e-dissertations, e-journals, e-books, e-reserves, the institutional repository (IR), and other online information resources (Mohsenzadeh & Isfandyari-Moghaddam, 2009:988). This training will enable library staff members to be informed and able to educate library clients on how to identify, select, evaluate and retrieve information resources that are relevant to their information needs.

Informed library clients should be aware of the fact that the library has online information resources that are peer reviewed, and more relevant and scholarly than the sources they access through the internet (Okafor, 2011:5). This does not, however, imply that internet sources are not useful for study and research purposes. Nevertheless, it is important for library clients to use online information resources to which the library subscribes. Library information resources are usually evaluated and of a higher quality than some of the internet sources.

Currently, academic libraries provide a range of electronic resources such as online catalogues, databases, multimedia, e-journals, e-books, e-archives, digital repositories and online or electronic services (Barton, 2005). Access to full-text electronic databases, OPAC and other resources has assisted all library clients to do their studies and research effectively and timeously. Wireless technology has also enabled library clients to find information on the web within and outside the library using mobile phones. Academic libraries are now making it possible for information to be easily accessed and retrieved by library clients. IT has assisted in discovering the value and capabilities of academic libraries. It is because of IT that academic libraries have become more global, due to the internet usage and provision of access to research materials to library clients (Sharma, 2006:232).

## **1.2 BACKGROUND TO THE STUDY**

The focus of this study is on the Information Resources Distribution (IRD) staff members of the University of South Africa (UNISA) Library, with the aim of identifying the challenges faced when processing or handling online requests from remote clients.

The researcher's interest in researching the IT skills and competencies of library staff members came about as a result of working as an Information Resource Request Processor (IRRP) in an academic library that operates within an open distance learning (ODL) environment. When she started working in this academic library, she had a passion for assisting remote clients by providing them with relevant information resources for their studies and research. However, it became evident that most of the remote clients were not satisfied with the services they received from the library staff members or the library (Raubenheimer, 2014:126). This dissatisfaction was found through an observation of the queries and complaints that were received. Library clients complained about the time which requested information resources took to reach them, and these resources sometimes did not reach them at all. It appeared that the library staff members lacked certain IT skills and competencies. The researcher became curious about whether or not the library staff members possessed the relevant IT skills and competencies, with which they should have been equipped through training before assuming their positions or while working.

### **1.2.1 UNISA as an Open Distance Learning (ODL) Institution**

The University of South Africa's vision is to become "the African university in the service of humanity" (UNISA 2015 Strategic Plan, 2005:3). UNISA aims to accommodate all the countries on this continent and cater for all languages and cultures. According to the vision approved by the Library Executive Committee of the UNISA Library (2013:3), the library supports the vision of the university "towards becoming the leading ODL library in Africa".

UNISA is not only one of the world's top ten mega-universities, but is also the fifth largest ODL institution (Raubenheimer, 2014:125). ODL is defined as an environment that is aimed at bringing together students and the institution by closing the gaps of time, distance, economic, social, communication and educational aspects (UNISA Open Distance Learning Policy, 2008:2). In 2015, UNISA had approximately 355,000 registered students, which makes it the

largest ODL institution in Africa, as indicated in the UNISA Student Admissions and Records of 2015.

The ODL library focuses on promoting access to learning and supporting academic activities such as teaching, learning and research. The UNISA Library plays a significant role by providing information resources, and answers reference queries that are made online and remotely by clients. It bridges the gaps of distance and time by providing services to remote clients, irrespective of their geographical location.

The UNISA Library has several branch libraries and access points in South Africa and other African countries, in order to support learning and teaching, and to enable students in rural areas who do not have access to the internet to gain access to library materials. The UNISA Library also has a number of mobile libraries that provide information resources to UNISA students in prison and rural areas where there is no UNISA library branch. UNISA students who cannot access branch libraries and mobile libraries receive centralised request services from the main UNISA Library, which has a large collection of printed information resources. Students send their requests online or via fax. The available and circulating information resources are either e-mailed (e.g. journal articles) and/or posted via the South African Post Office (SAPO) or Skynet (e.g. books and audio-visual materials).

Research has been conducted to compare library services offered by ODL universities in Africa. Aina (2008:4) surveyed four major ODL universities, namely the University of Nairobi, Open University of Tanzania, University of Botswana, and University of South Africa. The purpose of the study was to determine whether these universities met the library and information service needs of remote clients. The findings indicated that, amongst the four surveyed ODL universities, UNISA was the only university in Africa that provided library and information services to its remote clients. This study also indicated that UNISA met the library and information service needs of remote clients because the university used the latest IT (Aina, 2008:4). However, it appears that there were challenges with regard to providing the information resources efficiently and timeously, as will be discussed later in this chapter.

### **1.2.2 Request Services at the UNISA Library**

Butters (2006:1) mentions that the implementation of IT in academic libraries has freed library staff members from repetitive manual tasks. Activities that have been successfully automated are those related to the issuing, retrieval and return of books, which include returning them to the shelves. This process was previously considered to cause delays with regard to delivering the requested information resources. The UNISA Library has automated its library services and introduced access to online resources, in order to make library services more efficient.

The UNISA Library does not only focus on the application of IT with regard to the organisation, storage and retrieval of information to improve access to it, but has applied IT to the library's delivery process (Raubenheimer, 2014:126). The purpose of implementing IT for delivery processes was to notify library clients of the dispatch and delivery status of items, and these notifications are generated electronically and sent via e-mail, the short message service (SMS) and post. Accordingly, the UNISA Library request process focuses on the alignment of the request activities with ICT, and this goal has been achieved.

The UNISA Library has largely done away with the manual request system, where library clients submitted handwritten request cards. These cards could be hand-delivered, posted or faxed to the library. On receipt by the library, they had to be recorded, scanned and/or captured into the workflow system called Uniflow. The introduction of online requests contributed positively to the speedy receipt and processing of information resource requests. It also eliminated human errors on the part of library staff members, who might misread the requests and deliver incorrect information resources. However, human errors on the part of the library staff members still occur, because some of the remote clients who are affected by the digital divide are still using handwritten request cards to request information resources.

UNISA Library's request services are provided by a team of more than 100 library staff members working in the IRD Directorate of the UNISA Library (Raubenheimer, 2014:126). The library's request services, which are a component of the IRD Directorate, consist of information search librarians (ISL), IRRP, Information Resources Shelving Officers (IRSO) and Information Resources Delivery Officers (IRDO). The library receives approximately 2000 requests for information resources per day during peak periods (Raubenheimer, 2014:126). This number includes information resource requests from UNISA's authorised ILL partners. In 2015, the total

number of books processed was 54 364, compared to 61 012 in 2014, with an additional 10631 items requested through ILL (UNISA Library Request Services Statistics, 2015; UNISA Library Annual Report, 2015). In addition to book and ILL requests, the total number of journal article requests processed in 2015 was 4 691, compared to a total of 6 009 in 2014 (UNISA Library Annual Report, 2015). The comparison of requested and processed books and journal articles, as well as information resources that were requested through ILL in 2015 and 2014, indicates a decline.

It is important to reiterate that the UNISA Library is striving to meet the university's goals. This, however, depends on how skilled and competent the library staff members are to carry out their daily duties by using IT (Hermosa & Anday, 2008:94). In order to support the library's vision, there is a critical need for the speedy delivery of information resources. The requested information resources should be processed and delivered within the specified turnaround time. In the twenty-first century, library clients regard the concept of 'immediacy' as important, even when the requested information resources are not immediately available. IT plays a significant role in providing library and information services to remote clients. However, library staff are still considered to be the most valuable resources of the library and can play a role in ensuring that the goals of the university are met (Abels, Jones, Latham, Magnoni & Marshall, 2003:2). It is important for all library staff members who are rendering library and information services to remote clients to be equipped with relevant IT skills and competencies, in order to provide a quality service.

### **1.3 PROBLEM STATEMENT**

Based on the above background information, it is evident that much has been done to improve service delivery at the UNISA Library to remote clients, in order to speed up the delivery of the requested information resources by aligning library activities with IT. However, the IRD Directorate is experiencing a problem with regard to receiving requests for information resources and delivering these resources (Raubenheimer, 2014:126). It is a fact that the information resources requested by remote clients take a long time to be processed. This goes against the vision of the university from the perspective of bridging distance and time between the library and its clients. It is important to deliver the requested information resources on time, as these materials are intended to be used for assignments, study and research. However, the speedy delivery of information resources depends on the availability of the requested materials at the

time of the request. In addition, the knowledge and skills of the staff members are extremely important. In practice, it appears as if there is a problem in this respect and that some staff members have not received the necessary training to equip them with the requisite skills. Therefore, this study aimed to investigate certain issues with regard to the proficiencies and abilities of library staff members to handle online requests. The study managed to identify the capabilities and challenges that IRD staff members at the UNISA Library encountered with regard to handling online requests from remote clients.

#### **1.4 PURPOSE AND OBJECTIVES OF THE STUDY**

The purpose of this study was to investigate the IT skills and competencies of library staff members in the IRD Directorate of the UNISA Library with regard to the utilisation and application of IT tools to process online requests from remote clients timeously and efficiently. The objectives of this study were to:

- Assess the IT skills and competencies of the IRD staff members of the UNISA Library.
- Establish the challenges faced by the IRD staff members in the effective utilisation and application of IT tools to process online requests from remote clients
- Determine the problems experienced by staff with the methods or strategies used to handle or process online requests.
- Suggest recommendations to improve the effective and efficient handling or processing of online requests, in order to enhance service delivery

#### **1.5 RESEARCH QUESTIONS**

The main research question that needed to be answered in this study was the following:

- **Do the IT skills and competencies of staff members in the IRD Directorate of the UNISA Library play a pivotal role in the provision of quality services in an ODL environment?**

In order to answer the main research question, the following sub-questions were addressed:

- Are the current IT skills and competencies of staff members in the IRD Directorate sufficient for an ODL library in the information era?

- What are the challenges faced by the IRD staff members in the effective utilisation and application of IT tools to process online requests from remote clients?
- What are the problems experienced by staff with the methods or strategies used to handle or process online requests?
- What can be done to improve the effective and efficient handling or processing of online requests?

## **1.6 SCOPE AND DELIMITATION OF THE STUDY**

This study was conducted at the UNISA Library to investigate the IT skills and competencies of IRD staff members with regard to the utilisation of IT tools such as Uniflow, Millennium/Sierra, South Africa Bibliographic Network (SABINET), Online Computer Library Centre (OCLC), Fax-to-email, Digital Access Information System (DAISY) and other IT tools, in order to process online requests from remote clients. The UNISA Library has several IT tools, which are used for different functions and purposes. However, this study was limited to the IT tools that are used by the IRRP and the IRDO in the IRD Directorate of the UNISA Library.

The participants in this study were IRD staff members and supervisors (IRRP and IRDO), who rely heavily on IT to perform the day-to-day activities of the library and meet the information needs of remote clients. The reason for the IRRP, IRDO and supervisors participating in this study was because they are responsible for receiving, processing and delivering the information resources requested online by remote clients.

## **1.7 RESEARCH METHODOLOGY**

The research methodology used in this study to investigate the IT skills and competencies of the IRD staff members of the UNISA Library entailed a combination of both quantitative and qualitative approaches, with the triangulation of data. The researcher concurs with Cohen, Manion and Morrison (2000:112), who stated that both quantitative and qualitative approaches can be used in the same study to ensure the validity and reliability of the findings. Accordingly, triangulation was used to strengthen and validate the research findings. Mouton (2002:110) emphasised that numerous approaches and methods of data collection should be used to obtain the best results. The combination of quantitative and qualitative data improves the quality of the

study by reducing the bias, limitations and weaknesses of a single data collection tool (Johnson & Christensen, 2010:115). When one research approach fails to address the problem, the other approach may strengthen it.

This study gathered theoretical information through a literature review. Sources consulted for the literature review included books, journal articles, websites, policies and reports. Empirical data was collected by using observation, questionnaires and interviews. Data was collected from all the IRD staff members by means of observation and questionnaires, and from all the IRD supervisors by means of observations and interviews. This implies that the whole population (43 participants) were intended to be studied to increase the accuracy of the findings, rather than using a restricted sample (Bless, Higson-Smith & Sithole, 2013:174). Observation was used as the main data collection tool and a questionnaire and interviews were used, both as confirmatory and complementary data collection tools, in order to help fill the gaps and provide information that could not be discovered when using observation only (Niglas, 2004:22). The researcher was a participant observer. In addition, the questionnaire, which comprised of both open and closed ended questions, aimed at gathering both quantitative and qualitative data, were analysed and interpreted. Unstructured interviews were conducted with all the IRD supervisors to collect confirmatory and complementary data. The data from the questionnaire and interviews were combined with the observation data during the data analysis and interpretation process. Observation data were presented qualitatively, questionnaire data were presented quantitatively, and interview data were presented qualitatively and quantitatively. The graphs, charts and tables were interpreted to provide a clear understanding of the data they represent.

The research methodology used in this study is discussed in detail in Chapter 4.

## **1.8 DEFINITION OF KEY CONCEPTS**

The key concepts used in the study are explained below.

### **1.8.1 Information Technology**

IT is defined as a range of new technologies that include all aspects pertaining to the use of computers, satellites, the internet and communication technologies, intranet, and e-resources such as e-books, e-journals and e-dissertations (Mohsenzadeh & Isfandyari-Moghaddam,

2009:988; Sullivan, 2009:257). Furthermore, the application of IT in academic libraries is being advanced for the recording, processing, storing, transferring and retrieval of information to enable the smooth running of the library. IT plays an important role in managing the use and provision of information in academic libraries (Siddike, Munshi & Sayeed, 2011:154).

### **1.8.2 Information Technology Skills**

Information technology skills refer to the ability of library staff members to use IT tools to process or handle online requests. These skills are obtained through practices, to the point where library staff members are regarded as experts in using IT tools to perform their daily duties (Tanloet & Tuamsuk, 2011:238). Information technology skills also refer to the skills required by library staff members to handle IT and other related fields such as computer operations, the creation of online databases, and searching for information on the internet (Mazumdar, 2007:423). In addition, IT skills focus on library staff members' tangible performance in a work environment in relation to IT usage and application.

### **1.8.3 Information Technology Competencies**

According to Schroeter (2008:2), competencies refer to a prospective ability to perform tasks in a specified situation. The competencies of library staff members relate to the special knowledge they possess in IT areas, such as knowing and recognising the types of information resources and how to access and provide information resources to library clients (Wood, 2007:1). Competent library staff members must have a minimum level of performance that enables them to perform their expected daily duties effectively and efficiently. Furthermore, IT competencies pertain to the fundamental knowledge and ability that enables library staff members to use IT tools to accomplish specific tasks (Thompson, 2009:6). Library staff members who are considered to be IT competent should have an in-depth understanding of IT, in order to utilise library technology and provide quality service to library clients.

## **1.9 STRUCTURE OF THE DISSERTATION**

The structure of this dissertation is delineated below:

- **Chapter 1** – Introduces the dissertation

- **Chapter 2** – Reviews the literature relating to the information technology skills and competencies of academic library staff members.
- **Chapter 3** – Discusses the responsibilities of IRD staff at the UNISA Library with regard to information technology tools used to process and handle online requests.
- **Chapter 4** – Describes the research methodology utilised in this study.
- **Chapter 5** – Discusses the presentation, analysis and interpretation of the findings of the study.
- **Chapter 6** – Presents a summary, conclusions and recommendations of the study.

### **1.10 CHAPTER SUMMARY**

This introductory chapter provided the background to the study. The chapter explained the problem pertaining to the perceived lack of IT skills and competencies of library staff members in the IRD Directorate of the UNISA Library with regard to the usage and application of IT tools when processing online requests from remote clients. The objectives and questions of this study are derived from this scenario.

The next chapter reviews the literature on the IT skills and competencies required by academic library staff members.

## **CHAPTER 2: IT SKILLS AND COMPETENCIES FOR ACADEMIC LIBRARY STAFF**

### **2.1 INTRODUCTION**

The literature review for this study is discussed in Chapter 2 and Chapter 3. This chapter reviews the literature related to IT skills and competencies for academic library staff members.

This chapter discusses the IT skills and competencies required for academic library staff members, specifically with regard to providing information resources that are requested online by remote clients. Since teaching, learning and research are provided through online facilities, it is important for academic library staff members to be equipped with the IT skills and competencies that will enable them to provide up-to-date and relevant information resources within the stipulated timeframe (Dhiman, 2010:3). This will help to prevent information resources being delivered after the required date, as they will then no longer serve their purpose.

### **2.2 ACADEMIC LIBRARIES: AN OVERVIEW**

Academic libraries are libraries that are established in tertiary institutions (Bitagi & Garba, 2014:121; Murugan, 2013:1). Their main function is to provide information resources and library and information services to support the university's objectives of teaching, learning and research. Services in academic libraries are described as the means by which library staff members provide, organise, store, retrieve and disseminate information to library clients and researchers (Bitagi & Garba, 2014:121).

An academic library consists of three basic functional components, namely a collection, means of access and assistance (Bailin & Grafstein, 2005:317). The first component, which is a collection, refers to library items or materials that the library has for access by library clients. Traditionally, a collection refers primarily to printed materials such as books, journals, Compact Disc Read-Only Memory (CD-ROMs), microfiches and audio-visual material, and is housed in the physical building of the library (Bailin & Grafstein, 2005:317; Ratha, [n.d.]). Online information resources are not housed in the physical building of the library, yet they are

considered to be part of a library's collection, because the library has subscribed to them for its clients.

Library clients are entitled to have access to the library's collection. The library staff should provide the means of such access, either in the form of hard copies or online information resources. Means of access, which is the second component of academic libraries, refers to systems through which library clients can get hold of library items or materials from the library's collection. The library clients can check out or issue library items from the library collection. Alternatively, they can opt for online information resources. In this information era, library clients prefer online information resources, as they are more convenient and faster to access than visiting the physical library and finding that the needed information resources are not immediately available. In a networked environment, online information resources are always available, unlike the traditional method of accessing library items, which involves browsing the shelves. In this case, if the item is out, the client has to wait for the item to be returned (Bailin & Grafstein, 2005:317; Levine-Clark, 2014:427).

In order for library clients to have access to the library's collection, library staff should provide assistance, which is the third component of an academic library, and refers to the manner in which libraries and staff members assist library clients to gain access to the library's collection. The clients need to be taught to be self-sufficient, in order to be able to access information resources without depending on library staff. An academic library can arrange training or a workshop, which should include the following: how to search, browse and access the library catalogue; how to download online information resources; how to determine whether the needed library item is available for loan, issued to another library client, at the bindery, missing or withdrawn; and to determine which branch library has the required library items (Bailin & Grafstein, 2005:317; Idoko, Ugwu & Aba, 2015:4).

### **2.3 THE EVOLUTION OF IT IN ACADEMIC LIBRARIES**

The evolution of IT in academic libraries encompasses two cultures of change: innovation, where the application and usage of IT improve the existing practices; and transformation, where IT completely changes what has been done, and is applied to new things. These changes have influenced the manner in which academic libraries and library staff should provide library and information services to library clients. Innovation and transformation establish new achievable

goals, as they provide academic libraries and library staff members with something that was impossible to do before, and make it possible for improvements to be realised with regard to library and information services, processes and products (Ramzan, 2010:53). Therefore, the evolution of IT in academic libraries is discussed based on the changes in academic library services, impact on library staff, impact on library clients, and the current situation.

Recently, academic libraries changed the way in which they operate and in which information is accessed (Pearson, 2006:1). Academic libraries are now undergoing a significant transition, which is influenced by technological developments. They have changed to a networked environment, and remote clients are able to access online services and download online information resources such as e-journals, e-books, e-reserves, and e-theses/e-dissertations at any time and wherever they are (Lo, 2008:45; Singh & Pinki, 2009:331). However, most of the academic libraries are still operating as hybrid (print and electronic) libraries (Kumar, 2015:101).

### **2.3.1 Changes in Academic Library Services**

The goal of the early libraries was to store and preserve recorded information in various formats, and this information was accessed through books, journals, microfiche and CD-ROM (Bhangu, 2013:1168; Manglik, 2013:474). The information contained in these documents was strictly for a few privileged users, rather than being designed to accommodate all clients who needed the information. Furthermore, physical libraries were open at specific times. This meant that library clients did not have access to information whenever they needed it.

In the late 1960s and early 1970s, copy cataloguing and shared cataloguing systems were the greatest achievements in academic libraries around the world, which continued until the early 1980s (Lynch, 2000:62). These systems highlighted the crucial values in the use of computers and computer networking for cooperation with other libraries. This encouraged other academic libraries to engage in IT activities, which changed library operations.

Shared cataloguing was introduced with an understanding that most books owned by a specific academic library are also owned by other academic libraries. For this reason, there was no need for a library to catalogue a book and prepare card catalogues for the books that are owned by the other libraries. Instead, the group of libraries used centralised databases, which were controlled by external vendor organisations. When the library received a new book, the cataloguer verified

whether the book had already been catalogued in the library database, and the library then added its name to the list of libraries holding the book. The cataloguer then printed the card for filing in the library's card catalogue. In the case where the item to be catalogued was an electronic copy, the bibliographic record was written on an archived tape. If the book was not catalogued, the library created a catalogue record, which would be used by other libraries (Lynch, 2000:62).

Library consortia developed a union catalogue and computer-assisted ILL, which merged library materials from multiple libraries to promote resource sharing. The library that needed a book from the other libraries could find out which other libraries had it and could then generate an online request to borrow that book from one of those libraries through ILL (Lynch, 2006:62). Formerly, the ILL system relied on postal services to deliver print-based information resources to library clients and ILL partners. Fax technology was also used for the delivery of journal articles, which were photocopied from the journals and book excerpts. In this IT era, ILL systems deliver copies of journal articles and other documents in digital format, mainly Portable Document Format (PDF) (Chisenga, 2006:5). For example, using Ariel document delivery software, libraries can scan journal articles, photographs, maps and other documents, and transmit the electronic images to the recipient's workstation anywhere in the world, using File Transfer Protocol (FTP) or e-mail, and these images converted into PDF. This enables requesting libraries to receive the requested information resources within a short space of time. Electronic ILL also reduces the loss of information resources sent via post. The sharing of journal articles is regulated by copyright law or by a licence agreement (Lynch, 2000:62).

Academic libraries also saw a need to integrate IT tools with the online public access catalogue (OPAC), in order to make it possible for academic library clients to search and browse the library collection remotely. The basic purpose of an OPAC is to create a database of all the library collections to assist library users in identifying and finding information resources (Wallis & Kroski, 2009:5). Previously, the OPAC contained entries for books and journals which did not describe or specify individual articles in a journal. The search for journals in the catalogue was not useful to many library clients, as they could not see the articles inside the journal. For this reason, academic libraries subscribed to various databases, which are generally costly, in order to ensure that library clients have access to the full-text journal articles contained in these databases. Unlike the books and journals that the library buys, databases are not bought but subscribed to, and the library pays a flat fee for unlimited use (Lynch, 2000:62).

Based on the above information, academic libraries have to adapt their collection development policies, so that various online information resources can be made available to library clients, rather than regularly purchasing hard copies that might not be regularly used by library clients. When the library has made most of the information resources available online, the information search strategies and delivery modes for information resources should be improved, in order to enable library staff to offer relevant and appropriate library and information services and training to library clients.

Academic libraries in South Africa introduced the use of computers in the 1980s, thereby becoming part of the global information age. These academic libraries depended on funding from various donors to buy computers and to subscribe to selected databases. Because of the increased need for online information resources, academic libraries had to form partnerships to share information resources, which resulted in fee-based consortiums such as the Ghana Interlibrary Lending and Document Delivery Network (GILLDDNET) and South African Bibliographic Network (SABINET) (Sharma, 2009:231).

Currently, academic libraries are making special collections such as manuscripts, photographs, maps and other unique works available online. These materials are not only useful for students, but also for teaching and research. Scholarly communication, teaching and research have changed as a result of advanced IT, which made it possible for academic libraries to provide access to their catalogues on local intranets, extranets and the internet. This 24-hour access to information has enabled academic libraries to bridge the gap associated with geographical factors (Chisenga, 2006:5). Furthermore, library clients enjoy the flexibility, geographical independence, speed of response, time independence, interactivity, multitasking and saving of time, which are made possible by online services (Singh & Pinki, 2009:331).

In addition, academic libraries are still viewed as centralised places, with a combination of traditional ways of providing and accessing information resources, and providing information resources using IT tools and applications (Freeman, [n.d.]). This denotes that academic libraries provide physical collections as well as electronic resources, and are therefore referred to as hybrid libraries. This is supported by Orenstein [n.d.], who stated that even if library staff members' roles changed due to IT, some of their responsibilities have remained unchanged. It has, for a long time, been the role of library staff members to provide printed information resources to clients, teach library clients to do research, and answer queries. These roles are still

relevant to this era. However, there is a difference in terms of the manner in which queries are handled. In this regard, library clients can use a telephone, social media, fax or e-mail to ask questions.

### **2.3.2 Impact on Library Staff**

The use of IT in academic libraries has given library staff members the opportunity to provide quality services to remote clients (Detlor & Lewis, 2006:251). IT requires academic libraries and library staff members to enhance their knowledge and acquire new skills and competencies, in accordance with this new technology. If library staff members do not enhance their IT skills and competencies, they might become obsolete, which can result in them struggling to provide quality service to clients (Singh & Pinki, 2009:331). Therefore, it is important for library staff members to stay up-to-date with technological developments and acquire new skills, which should be continuously updated.

It is becoming apparent that library staff members working within the technological environment need to possess comprehensive IT skills such as uploading electronic reserves and being able to fix system errors that remote clients encounter when accessing online information resources. This will assist to accommodate the growth of online information resources and the increasingly widespread use of the internet (Ganapathi,[n.d.]). It is important that library staff members should be a step ahead of library clients with regard to online information access and provision, as they are the ones who train clients to be self-sufficient. The library staff should also encourage library clients to depend on IT for information resources that are available online, rather than depending on library staff, who might take time to provide information resources.

The time has passed for academic library staff to perform housekeeping jobs, such as sitting at the counter waiting to search online information resources for library clients (Emezie & Nwaohiri, 2013:34). Academic libraries are gradually moving from the traditional method of information provision to online information provision. Library staff members' focus should be on ensuring that online information resources are available and accessible, educating clients to access and download information resources, and subscribing to as many full text databases as possible. Academic library staff members are expected to act as knowledge navigators and change facilitators, in order to meet the specialised needs of their clients. For this purpose, it has become vital for them to be equipped with IT skills and competencies, as library staff members

are expected to act in a pro-active manner to support the technological changes that are currently affecting academic libraries. In addition, library staff members should constantly update their existing IT skills and competencies, so as to be able to render quality library services to their clients (Mathew, [n.d.]).

In light of the above, IT has made library staff members' responsibilities more challenging and complex, to such an extent that there is an urgent need for them to upgrade their IT skills and competencies (Emezie & Nwaohiri, 2013:35; Orenstein, [n.d.]). Web 2.0 technologies such as Facebook, Twitter, blogs and online groups have played a significant role in connecting library staff and library clients. Library clients use these Web 2.0 technologies to connect or communicate with the library staff and with one another through the internet. Libraries engage with their clients on issues of interest, and they are able to give inputs with regard to library services, while enhancing the library's image. Furthermore, library staff members provide effective library services through smart phones that support the use of SMSes, which alert clients to new arrivals of information resources, events in the library, and the status of their online requests for information resources.

### **2.3.3 Impact on Library Clients**

Academic libraries offer learning opportunities through mediums that allow students and university staff members to access a local and global network of information. This not only allows access to online information, but also the ability to create and share information (Lukanic, 2014). For this reason, academic library clients often use online information resources, since they are more convenient than requesting printed information resources from the physical library, which may not be available and could take time to be delivered (Emezie & Nwaohiri, 2013:34).

As the internet began to grow, library catalogues were connected to the web, in order to enable online catalogues to be searched, which could be done remotely, rather than having to physically go to the library. As mentioned earlier, these online catalogues only allowed library clients to view what the library had, but not to view the material on the screen. Currently, library clients are able to view the items, download and print full-text journal articles. The online catalogue enables library clients to search and use the library's holdings at any time and place. The idea of "anytime, anywhere and remote access to library materials" became a reality (Lynch, 2000:62). This can be considered a threat to library staff members, as remote clients will no longer depend

on them for information resources, particularly those which can be accessed online. However, some library clients, who are affected by the digital divide, might still need the assistance of library staff. To overcome this threat, it is still important for library staff members to be equipped with the necessary IT skills and competencies, in order to be able to assist disadvantaged clients.

In addition, the amount of online information that is made available to library clients and the manner in which it is accessed are intended to make it easier for clients to get the information they need. At the same time, library clients are overwhelmed by the amount of information they can access online. They find it difficult to locate the exact information they seek, as well as to determine whether the information is accurate and relevant to their needs (Hashim & Mokhtar, 2012:152). Therefore, they need assistance from library staff members, in order to be able to locate and download online information resources.

The convenience of online information resources enables library clients, particularly those who are in a hurry to use them, to opt for online information resources (Lynch, 2000:64). Currently, library clients are requesting online searches and the use of databases as their first portal for information, because these services offer full-text journal articles and e-reserves, which are always available online, rather than making use of the hard copies.

## **2.4 IT SKILLS AND COMPETENCIES**

IT in a library context can be defined as an aspect of computing that is concerned with issues related to supporting library clients and meeting their needs within an institution (Lunt, Ekstrom, Gorka, Hislop, Kamali, Lawson, LeBlanc, Miller & Reichgelt, 2008:9). For library staff members, IT skills and competencies entail knowing and understanding the computer applications, and information and communicate technology usage that will enable them to render quality library and information services. It is therefore a prerequisite for library staff members to acquire the necessary IT skills and competencies (Mazumdar, 2007:423).

The IT skills that library staff should have are described by Hyett (2000:16) as those skills that are required for computer operations, as well as the creation, utilisation and searching of online databases, and searching for information on the internet. These skills can be acquired by those with the requisite personal qualities and who can accept changes in the way that academic libraries now operate. Personal qualities refer to library staff members' desire to learn and become proficient with regard to new IT developments. This means that library staff members

need to develop an awareness of the variety of available technologies, IT support and training, and knowledge and experience of online information resources such as e-reserves, e-books, e-journals and other online information resources (Hyett, 2000:16). Skilled library staff members have the ability to perform any given task satisfactorily and to overcome any IT challenges that may occur.

IT competencies are described as the knowledge and understanding of IT and the impact it has on the library and information science profession (Tanloet & Tuamsuk, 2011:239). They encompass a combination of knowledge, including the technical knowledge needed to complete a certain technological task, and the proven ability to use IT skills in a workplace, in order to be able to render satisfactory service to library clients. This denotes that library staff members should be able to use personal computers (PC), printers, photocopiers, barcode technology, audio-visual materials, e-mail, internet, intranet, library automation, OPAC, web applications, electronic resources and databases. This brings achievable and desirable abilities to the key skills that are believed to be crucial for library staff members to work effectively in a technological environment (Thompson, 2009).

According to Emanuel (2013:21), IT skills and competencies for library staff members have been studied by Del Bosque and Lampert (2009). They surveyed library staff members who had fewer than nine years' experience working in a library. The findings indicated that 55%, which constituted the majority, understood that being equipped with IT skills and competencies was extremely crucial for their careers in library and information science. The participants felt that there was a difference between IT skills taught in library and information science schools and the IT skills required in the work environment. This implies that library and information science schools did not prepare them well enough to cope with IT developments and changes in a workplace. The findings also indicated that library staff members who had IT skills and competencies acquired them in their previous jobs. The newly employed library staff members struggled to cope with IT usage and application in terms of providing services to library clients. LIS schools should have prepared them to become IT-skilled and competent, rather than teaching them only theory. Learning IT requires one to be hands-on and takes a great deal of practice. In effect, therefore, library staff members who are illiterate tend to provide poor service.

Library staff members should have the knowledge, skills and abilities to recognise the need for information, acquire and evaluate information, organise and maintain information, and interpret

and disseminate information. It is recommended that library staff members should regularly update their IT skills and competencies (Hu, 2013:2). As stated earlier, academic libraries are changing due to IT, which is affecting the entire operation of libraries, as well as the duties of library staff (Farkas, 2006). For this reason, academic library staff members must be able to embrace change, as IT is constantly changing, which has an impact on how library staff members should perform their duties. For example, if library staff members notice that the manner in which they provide services to remote clients is not efficient, a new strategy should be introduced to satisfy the information needs of remote clients. Library staff members need to cope and keep up to date with rapid technological changes, in order to avoid the stress caused by remote clients who demand service.

Mohsenzadeh and Isfandyari-Moghaddam (2009:995) and Ganapathi ([n.d.]) also stated that academic library staff members should be able to design web pages and use various search engines, as well as search different databases to obtain online resources such as e-books, e-journals, e-reserves, and an IR. It is also the responsibility of the library staff members to assist and train remote clients with regard to basic IT skills such as searching and browsing the library catalogue, requesting information resources online, downloading online resources and renewing overdue library items.

Furthermore, academic library staff members must be able to troubleshoot all the technology as part of good customer service (Farkas, 2006). This will prevent library staff members from putting an “out of order” sign up when the printers, fax machines or photocopiers have problems. It is recommended that library staff members learn to work with the technology used in the library, as well as how to fix problems that commonly occur, such as paper jams and replacing the toner in printers and photocopiers.

## **2.5 IT CHALLENGES FACED BY ACADEMIC LIBRARIES AND LIBRARY STAFF**

The introduction of IT in academic libraries has brought benefits to the library, library staff and library clients, but has unfortunately also presented challenges. These challenges were brought about by changes in the operational aspects of academic libraries and of the work done by library staff members. This resulted in library staff members developing a negative attitude towards IT, which also led to a negative attitude towards learning, lack of motivation, lack of time, lack of knowledge about learning activities, lack of employer support, as well as the lack of new and

creative ideas. These are the leading factors affecting the IT skills and competencies of library staff (Chan & Auster, 2003:268).

Lack of appropriate IT skills and competencies among library staff members is another challenge faced by academic libraries (Adomi & Anie, 2006:11; Bakar, 2005:269; Rehman & Ahmad, 2007:1). Most library staff members, especially those who have been working in the library for a long period, find it challenging to learn new skills and competencies. They tend to be either too busy or too conservative to adapt to new IT developments. Library staff should make certain that they adapt to these changes in relation to the library collection (print and online information resources), tools and the techniques used to perform daily duties, and the innovative services that support these technological changes (Kenchakkanavar, 2014:2).

Igwe (2012:5) found that the challenges facing academic libraries in developing countries pertain to the lack of trained staff in terms of IT skills. When library staff members lack expertise regarding the utilisation of IT tools to fulfil requests from remote clients, they suffer because of the poor service they receive from library staff members. Therefore, the training of library staff members in terms of the utilisation of IT tools is essential for the satisfaction of remote clients, who expect quality service from the IRD staff members, and this service needs to be delivered through the use of IT (Igwe, 2012:5). Mlitwa (2005:6) recommend that library staff members should master contemporary technology and incorporate it into their communal activities, such as education and service delivery.

Another challenge is that academic libraries are not only comprised of professional librarians, but also paraprofessionals. According to Kamba (2011:70) and Tin and Al-Hawamdeh (2002:334), paraprofessionals are non-professional staff members who work under the guidance and supervision of a professional. For example, a library assistant works under a professional librarian. The library assistants, referred to as paraprofessionals, are responsible for the day-to-day operations of the library, such as checking the library's information resources in and out, and doing the shelving and retrieval of information resources, amongst others. This means that library assistants function as paraprofessionals in library and information services, who assist the professional librarians in performing a certain task in the library (Masrek, Johare, Sharif, Rahim & Masli, 2012:1). Paraprofessionals are not supposed to handle online requests from remote clients, as this requires advanced IT skills and competencies that they do not have. Accordingly, qualified library staff members are supposed to handle online requests from remote clients. They

have formal training on how to search the catalogue and various databases; and request information resources that are not in the catalogue, missing, in the bindery, or on order, through ILL. In terms of their qualifications, paraprofessionals hold college diplomas, which do not allow them to be professional librarians. They are typically referred to as library assistants, senior library assistants, assistant library officers, senior assistant library officers, library attendants and general assistants (Masrek *et al.*, 2012:1).

Academic libraries are making every effort to meet the information needs of their clients and to make certain that these clients can obtain information resources online, but they still face numerous challenges. One of the challenges is that library clients are trained to be self-sufficient in accessing and retrieving online information resources, but are still unable to recognise if the information that they have accessed or used is part of the library's collection. In this regard, library staff members need to devise some means to ensure that library clients use the library's databases and online services, as well as to recognise those information resources and services that are offered by their library.

The popularity of free Google products such as the Google search engine, Google Books and Google Scholar has contributed to the above-mentioned challenges. Library clients do not search for information resources using the subscribed databases. Instead, they opt to search for information on Google, which is more user-friendly than most of the scholarly databases (Ya, 2015:14). Therefore, library clients treat these Google products as their first portal for information. They only use academic library databases when they do not find what they are looking for on Google. This not only challenges academic libraries' search methods, but also results in the decline of the usage of databases, for which academic libraries have paid a lot of money in order to benefit their clients.

The use of Google products is influenced by mobile devices such as smart phones, tablets, iPads and other mobile devices, which are being widely used by library clients to conduct research (Ya, 2015:12). These mobile devices are impacting on the manner in which information is accessed and retrieved, which is possibly due to the fact that many people own mobile devices that are internet-enabled. Accessing and retrieving information on mobile devices could be viewed as an advantage to library clients, as it is convenient for them to search for information. At the same time, however, they are promoting Google products more than their own library's resources.

The preservation of online information resources is another challenge for academic library staff. Ya (2015:22) is of the view that it is not easy to preserve online information for a long time. This is because online information in various formats is published at such a fast pace, to the extent that academic libraries have no idea how this information will be managed and preserved. Online information such as voice and films are usually preserved in audio and video carriers because of their ability to be stored in the form of CDs, audio cassettes and video cassettes. Information preserved in audio and video format might, however, be inaccessible in a few years, because of the updating of the storage media. Microsoft Office software, such as Microsoft Word, Microsoft Excel and Microsoft PowerPoint, can be used to store information in PDF, Graphics Interchange Format (GIF) and Joint Photographic Expert Group (JPEG). Online information resources such as e-journals, e-reserves, e-theses and e-books should be saved in PDF format, which is the most preferred format, as it is considered to be reliable and stable. It is recommended that information should be stored in two or more different mediums as a backup.

Library clients continue to have increased expectations about the information resources that are available in and through the library (Agyen-Gyasi, Lamptey & Frempong, 2010: 5). They want speedy delivery of information resources that are requested from the library and through ILL. They do not understand that a book can be seen as 'available' on the library catalogue, but cannot be found physically on the shelves. The book could be on the tables used by library clients or missing but not updated on the system. This is one of the reasons why many library clients today are opting to use online services.

As discussed before, in this era of information and knowledge, a lack of IT skills and competencies leads to poor service delivery, because the information needs of remote clients are met through the usage of IT applications and tools. Importantly, library managers need to support library staff members by providing them with opportunities to attend workshops, seminars or any other training that will be useful. This will enable library staff members to show initiative, be creative, and come up with new ideas that can be introduced to improve service delivery through the utilisation of IT tools.

Based on the above-mentioned challenges, it is evident that library staff members experience challenges with regard to the introduction of computers and current technologies, which are affecting the daily operations of academic libraries (Emezie & Nwaohiri, 2013:35; Jestin & Parameswari, 2002). In this technological environment, library staff members are required to

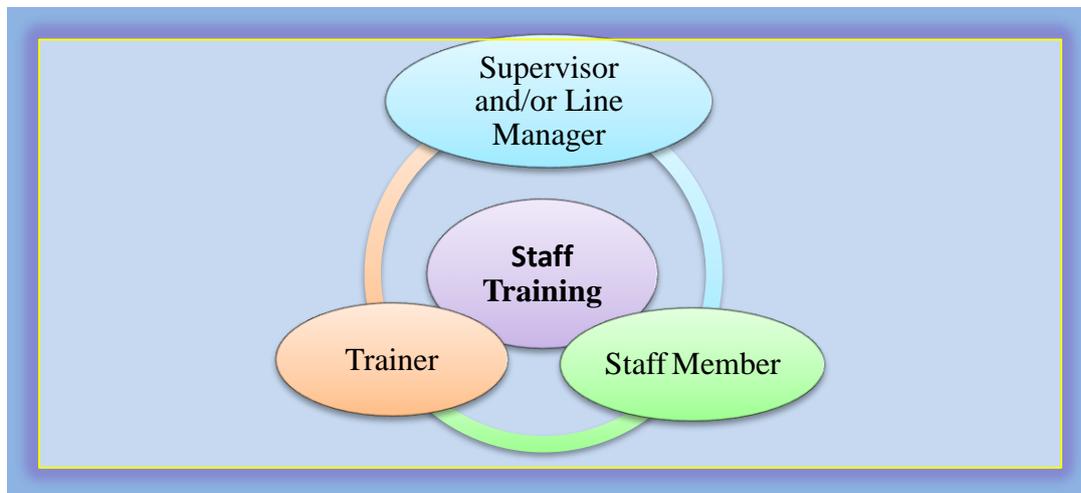
cooperate with a wider range of people, including faculties, ICT personnel, graphic designers and archivists (Thachill, 2008:4).

## **2.6 IT TRAINING FOR ACADEMIC LIBRARY STAFF**

The need for training and development is motivated by the rapid technological changes in academic libraries. Pan and Hovde (2010:1) mention that the library and information science degree course is designed to provide proficient training for library staff members, so that quality service can be provided to clients, in order to assist them with their studies and research. The supervisors and/or line managers should conduct a training needs analysis (TNA) to identify any need for training. A TNA is defined by Cekada (2010:29) as the process of gathering information about the institutional needs that can be met through training. It can assist library staff members with acquiring the requisite IT skills and competencies. Eells and Jaguszewski (2008:23) delineate two steps that are involved in assessing the IT skill and competency levels of library staff members. The first step involves creating an assessment tool that can provide enough information to identify gaps between the existing and desired IT skills and competencies of library staff members. One effective method that can be used to acquire information from library staff members about their IT skills and competencies is a survey. The survey can be in the form of a questionnaire, which can be sent to all library staff members. The information gathered will be used to identify gaps and provide guidance on the kind of training needed by library staff members. The second step is to assess the gaps which have been identified. These gaps need to be evaluated by the library management, in order to determine which type and mode of training is suitable for library staff members. Training will assist library staff members to improve their IT skills and competencies. IT training is perceived as a means of training library staff members for a specific job, and to ensure that they understand their responsibilities with regard to achieving the objectives of the institution (Ubogu, 2012:49).

Lockhart and Majal (2012:6) also mention that the responsibility of establishing training falls on the supervisor and/or line manager, staff members and the trainer, as indicated in Figure 2.1 below. Accordingly, it is the responsibility of the supervisors and/or line managers to ascertain the type of training needed by library staff members. Supervisors and/or line managers work closely with library staff members, and they can therefore identify the kind of training that is needed. If a staff member realises that he/she needs training in a certain area, the need should be

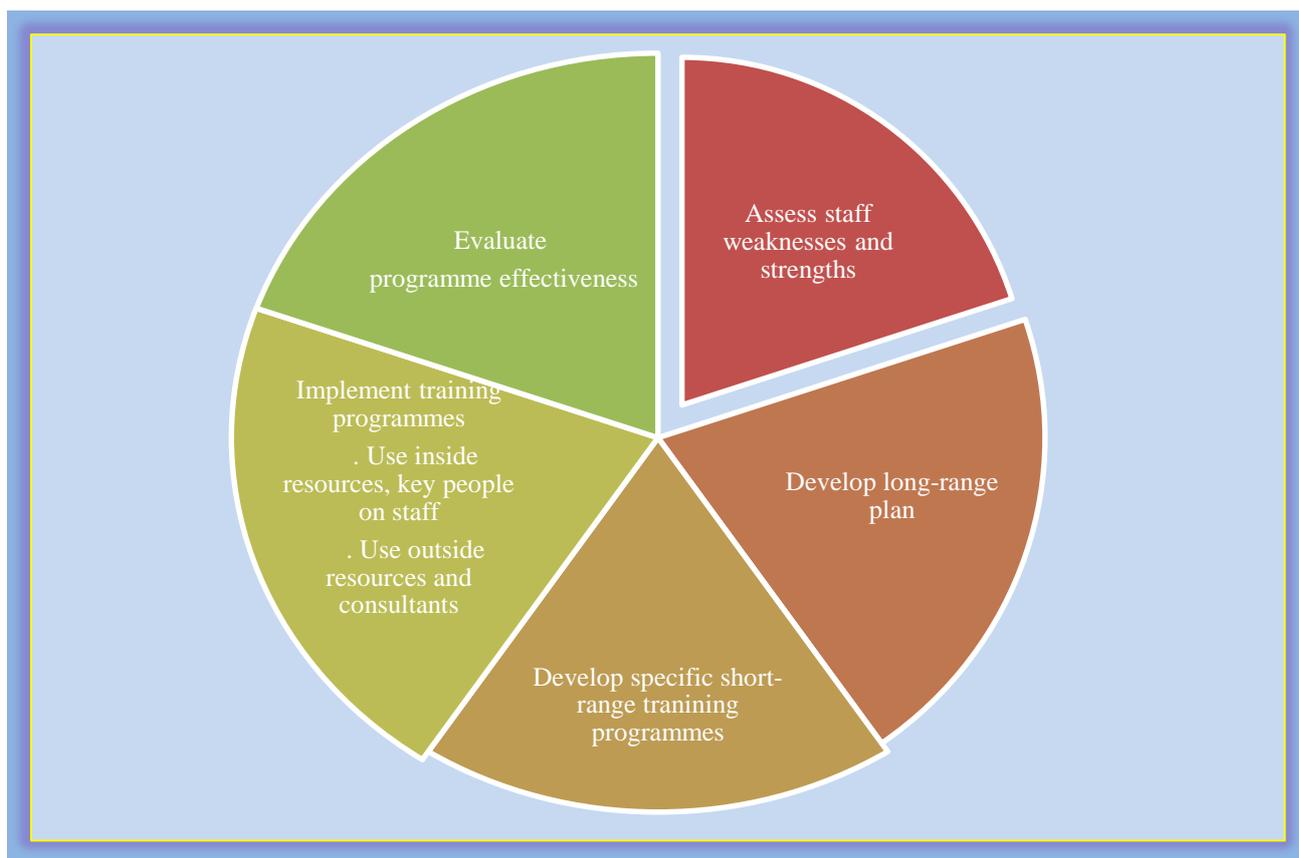
discussed with the supervisor and/or line manager, who will delegate a trainer to organise training dates and venues for library staff members.



**Figure 2.1: People responsible for the establishment of training**

**Source: Lockhart and Majal (2012:6)**

Implementing formal training programmes is a process where the aims and objectives of the programme are defined, in order to provide guidelines for the entire programme (Ajidahun, 2007:6). This is illustrated in Figure 2.2 below. The weaknesses and strengths of library staff members must be identified and explained, so as to develop long-term plans that involve identifying specific guidelines for the major annual training goals, the number of library staff members who will benefit from such training programmes, and the costs involved. The following stage involves carrying out comprehensive training programmes. This stage includes the purchasing of training manuals, preparation of teaching aids, selection and appointment of instructors, and determination of their remuneration. This is followed by implementing training programmes that will involve the use of consultants and key members of staff. In addition, the venue for the training programme must be identified and booked. The library staff members or trainees are then released from their respective jobs to attend training. Lastly, the programme's effectiveness must be evaluated by asking the trainees to complete an evaluation form. This will assist in determining the need for improvement and the effectiveness of the training programme.



**Figure 2.2: Cycle of formal training implementation**

**Source: Ajidahum (2007:6)**

The role that training plays in libraries is extremely important. It can enhance productivity, thereby improving service delivery (Ajidahun, 2007:3). Generally, training is considered as a means of upgrading the IT skills of library staff members. Ajidahun (2007:3) further notes that another important factor with regard to IT training is that it improves performance in the workplace. Without training, library staff members will not be efficient in the use of the IT tools used to render a service to their clients, as technology is constantly changing. This means that training should aim at improving efficiency and job performance. Library staff members who are trained will be more efficient and productive in the utilisation of IT tools than those who never received any training.

Training is an important part of career development, and many institutions and libraries depend on training development as a means of grooming staff members. Bamidele, Omeluzor, Iman and Amadi (2013:3) further emphasise that training development eliminates errors. This means that errors made while rendering a service can be eliminated through training, thereby minimising queries and making it more likely that library clients will be satisfied with the service they

receive. In addition, library staff members who undergo training have a good chance of being promoted at work. It can even lead to employment at other institutions, because of the IT skills acquired through training. Not only does training address the problem of underperformance (Bamidele *et al.*, 2013:3), but it also enhances library staff members' skills and competencies, and improves productivity and creativity.

### **2.6.1 Expected Levels of Training**

Mazumdar (2007:425) recommends that training and development should be directed at two levels, namely the basic level and the advanced level.

- **Basic level:** In this level, the focus is on providing or equipping library staff members with the necessary IT skills and competencies to be able to provide library and information services to library clients.
- **Advanced level:** Areas such as designing computer network systems, developing web pages and databases, and the troubleshooting of IT-related tools are included in this level. To ensure that library staff members are always on the right track with regard to IT skills and competencies, the following steps should be adopted:
  - Library and information science schools should introduce an IT skill-based curriculum as a compulsory module of specialisation.
  - Library and information science schools should update the syllabus and facilities of the well-equipped laboratory continuously, in order to cope with the ever-changing technological environment.
  - Short-term courses for IT skills and competencies should be arranged by different library and information science professionals and the university or institution.
  - The academic library should organise various seminars, workshops, conferences and courses as a means of developing library staff members with regard to IT.

## **2.7 CHAPTER SUMMARY**

This chapter provided a theoretical framework for this study with regard to the IT skills and competencies of academic library staff members. It became evident that library staff members

cannot function productively in this information era without being equipped with IT skills and competencies needed to work in an academic library, as they depend heavily on IT to provide LIS to library clients.

The theoretical framework for this dissertation is further discussed in chapter 3.

## **CHAPTER 3: INFORMATION RESOURCE DISTRIBUTION AT THE UNIVERSITY OF SOUTH AFRICA LIBRARY**

### **3.1 INTRODUCTION**

This chapter discusses the role of the IRD staff members, namely the IRRP and IRDO, in the UNISA Library. These two teams are responsible for the processing of information resources. As discussed in Chapter 2, academic libraries in developed and developing countries have embraced the use of IT to provide services to their library clients (Nwaohiri & Emezie, 2012:40; Vijayakumar & Vijayan, 2011:147). Most of these libraries have introduced online requests facilities, and library staff and clients interact through e-mail, telephone, fax, SMS and social media, such as Facebook and Twitter. This means that there is less physical interaction between library staff and clients. Geographically remote clients in ODL institutions can provisionally receive the same service as local clients, but this depends on the available IT and staff trained in using the relevant IT tools. Since IT has a significant influence on the library and information services, the ability to utilise IT and its components has become an essential requirement for the personal and professional growth of library staff members (Ramalibana, 2005:46).

Raubenheimer (2010:3) explains that the role of IRD staff members is to respond to requests sent by remote clients. These requests are for books, journal articles and audio-visual materials. Furthermore, Raubenheimer (2010:3) mentions that the most important responsibility of the IRD staff members is to provide information resources to remote clients. IRD staff members use IT extensively to assist clients and handle online requests from remote clients.

As discussed in Chapter 2, library staff need basic and advanced IT skills to enable them to utilise appropriate technologies to capture, download, process, retrieve and disseminate information resources requested by remote clients (Feret & Marcinel, 1999:95). The use of IT is supposed to free library staff members from ordinary tasks that involve a great deal of repetition, so that they can be used productively for user-oriented library services (Arora, 2009:209). The IRD staff members must have the necessary IT skills and competencies to ensure that all online requests are received and handled electronically. Without IT skills and competencies, library staff members who handle online requests will not be able to process information resource requests from remote clients in the expected manner.

## **3.2 INFORMATION TECHNOLOGY TOOLS USED IN THE INFORMATION RESOURCE DISTRIBUTION DIRECTORATE**

The UNISA Library has identified various IT tools that are appropriate and necessary for the library's daily activities. IRD staff are expected to be conversant in the use of these tools. The following IT tools are used by the IRD staff members of the UNISA Library to process online requests:

### **3.2.1 Uniflow**

According to the UNISA Library Annual Report (2009:11), Uniflow is an IT tool that is only available at UNISA, and it is a university-wide IT tool that is utilised to “track and trace” received online and manual requests. All the library requests for information resources are downloaded, scanned and/or captured, in order to become process items in Uniflow. When the requests are available on Uniflow, they are automatically stored in different inboxes according to their forms. Accordingly, books, excerpts and journal articles have separate inboxes.

According to the Uniflow guidelines (Process 360 End-user Account, 2009:13), Uniflow has the following advantages at the user level:

- The arrangement of Uniflow enables library staff to answer or handle request-related queries by checking the status of a request from its receipt to its dispatch. Library staff members need to capture a student number or UNISA personnel number to be able to determine the progress of the requests.
- Uniflow brings all library requests together into one workflow process. All the book, book excerpts and journal article requests are separated. It then becomes easier for library staff members to search a request on Uniflow.
- Uniflow can send an SMS, e-mail and/or letter advising library clients on the status of the requested information resources. Therefore, Uniflow improves communication between library staff members and remote clients. This enables the requesters to make a decision regarding whether or not to wait for the items that are issued to other library clients.
- Uniflow is integrated with the Sierra system used by the library through the downloading of online requests, and this reduces the re-entering of data.

- Uniflow is user-friendly. It is easy to understand the process and status of requests.
- Uniflow has different inboxes that assist library staff members in handling queries for specific types of information resources. The inboxes are named as follows: articles, article-reserved, book-audio, book-excerpt, collect, developer, get-book, index-record, inter-lib-loan, letters, e-mail, lib-archive, lib-pend, lib-supervisor, library-dispatch, librarycat, printing, query, SMS-collect, and wait-book.
- The searching, viewing and sorting of requests enable there to be quick and easy access to the processing of requests.

Uniflow can also be useful at the management level (Process 360 End-user Account, 2009:15), for the following reasons:

- The supervisors and line managers are able to retrieve individual statistics for the work processed during a specific period. This enables them to report on the progress of library staff and to see which library staff members need training in specific areas.
- The supervisors and line managers are also able to see the overall status of the library requests. All the notices that are sent to library clients have to go through the lib-supervisor inbox, which is controlled by the supervisors and line managers. The notices do not go straight to the library clients without being thoroughly checked and verified.

### **3.2.2 Millennium and/or Sierra**

Millennium is the Web and Java-based computerised library management system that incorporates technologies. This implies that Millennium is linked with OASIS which only operates on the Web and both have the same functions. Most libraries in South Africa use Millennium because of its relational ability to link the library collection with online resources such as e-books, e-journals, e-reserves, radio frequency identification (RFID) and online databases. The OPAC provides full search capacity and integrated ILL support. Sani (2006:40) mentions that the system also supports library standards such as MARC21, Unicode and Z39.50, and can interact with other libraries and partners.

Millennium is mostly used in academic libraries for circulation, acquisition, cataloguing and statistics. The IRD staff members use Millennium for the following:

- Downloading requests from remote clients, which will be available on Uniflow to be processed. The downloaded requests are sent from OASIS by remote clients. The library staff members then download these requests on Millennium, as it is integrated with OASIS.
- Verifying clients' status in terms of fines, library item replacement, and whether the clients still qualify to use the library services.
- Searching the library catalogue to verify the availability of the requested item before processing.
- Placing holds for library items that are checked out. There are two types of holds, namely the "copy returned soonest hold" and "item level holds" (Circulation Training Manual, 2009:21). The purpose of placing holds is to prevent the checked out library item from being issued to library clients who are not on the waiting list, and to recall library items from UNISA staff members. When placing holds using the "copy returned soonest" option, the system will detect the clients on the waiting list when the checked out items are returned. The "item level hold" is used when there is only one copy that can be loaned to library clients, and for recalling items that are checked out by UNISA staff members.
- To check out and check in library items requested for ILL purposes (SABINET and OCLC) by IRD staff members.
- Creating new records for items requested on SABINET and OCLC, in order to enable the item to be checked out on Millennium.
- Renewing checked out items.

The UNISA Library has migrated from Millennium to Sierra, which started operating in June 2015. Sierra has the same features, functions and applications as Millennium.

### **3.2.3 Online Public Access Catalogue**

The online public access catalogue is commonly known as an OPAC. Most academic libraries have an online catalogue that is made available through the internet and which gives access to bibliographic data and the current status of library materials (Weible & Janke, 2011: 17). In turn, remote clients are permitted to search the online library catalogue and request the information resources after determining whether the UNISA Library has the required information resources available for loan. The search options allow remote clients to browse the catalogue using bibliographic information such as the title, author, subject and ISBN. For example, browsing the

catalogue enables clients in remote areas to determine the status of the library items they need for their studies and research projects before they request them (Gopakumar & Baradol, 2009:03). In addition, OASIS enables clients to request and renew library items on the internet and web-enabled cell phones through AirPAC, which is a product that auto-detects the type of device that the client is using, and formats the OASIS screens accordingly for optimal viewing. This system supports full search capabilities with Boolean operators and phrase searching.

### **3.2.4 South African Bibliographic Network**

The South African Bibliographic Network, commonly known as SABINET, is used for information resource sharing through ILL services. Information resource sharing was introduced to assist libraries that do not have a particular library item that is needed by their library clients. Information resources are requested on SABINET only when the requested item is not available on the UNISA catalogue or is missing or damaged, has too many holds on Millennium, is at the bindery, or has been withdrawn from the library collection. This service is only available for UNISA staff members, masters and doctoral students.

### **3.2.5 Online Computer Library Centre**

The Online Computer Library Centre is commonly known as OCLC, and it enables the sharing of information resources worldwide among library services and research organisations. OCLC has a database for cataloguing and searching information resources through WorldCat, which is a global catalogue. The UNISA Library requests information resources from OCLC only when the requested items are not available via SABINET.

OCLC has introduced Article Exchange, which allows journal articles and book excerpts to be supplied and delivered within a short period of time after the request is received. Article Exchange allows access to borrowed journal articles and scanned copies within the WorldShare ILL interface, and sends a secure and time-sensitive access link to the user who requested it (Clark-Bridges, 2015:2). The recipient is allocated a password that is generated automatically, enabling him or her to access the document. Therefore, library staff members are able to deliver the requested information resources using an IT system that is available via the OCLC, which speeds up the delivery of information resources.

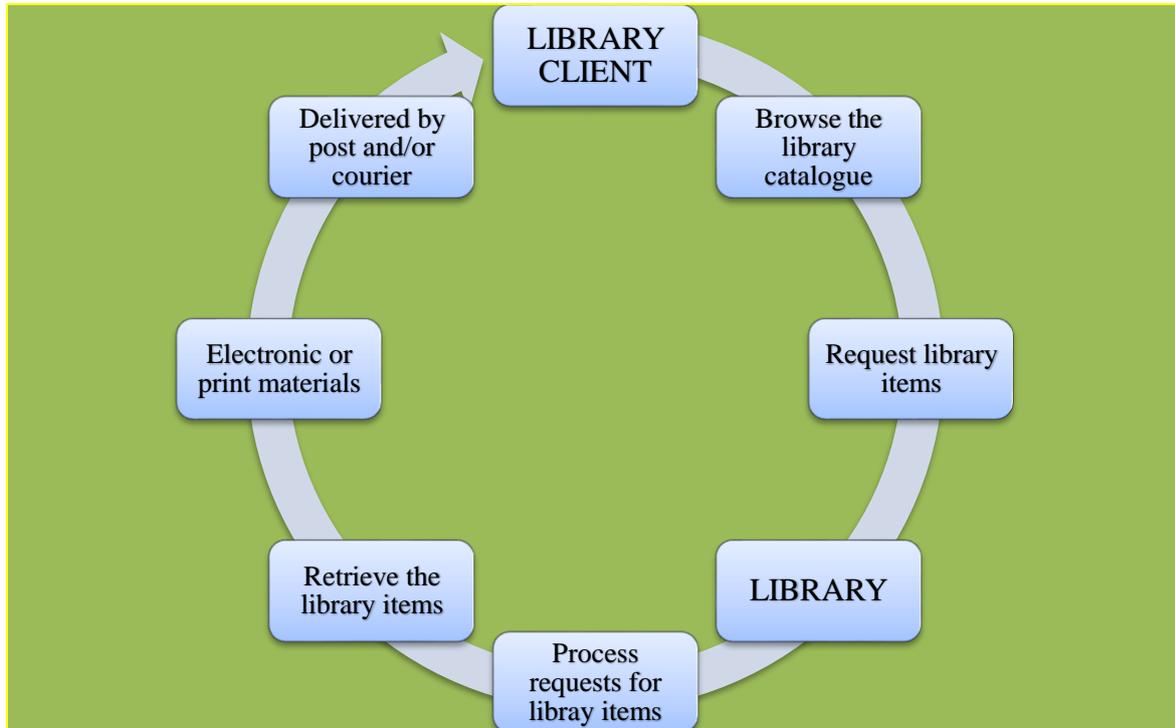
### 3.2.6 Egain

Egain is a new IT tool that UNISA Library recently introduced to manage queries from remote clients. The queries are received in the form of e-mails. This tool allocates queries to assigned staff members automatically. The supervisors use it as a control tool, as they are able to retrieve individual statistics and see the conversations between library staff members and clients.

### 3.3 REQUESTING INFORMATION RESOURCES

The request for information resources is done through the UNISA Library website (OASIS and MyUnisa), which contains information about library services. In addition, the website provides guidelines to library clients, as well as the information required to access the services offered by the UNISA Library.

Figure 3.1 below depicts the process for requesting information resources (Gopakumar & Baradol, 2009:3).



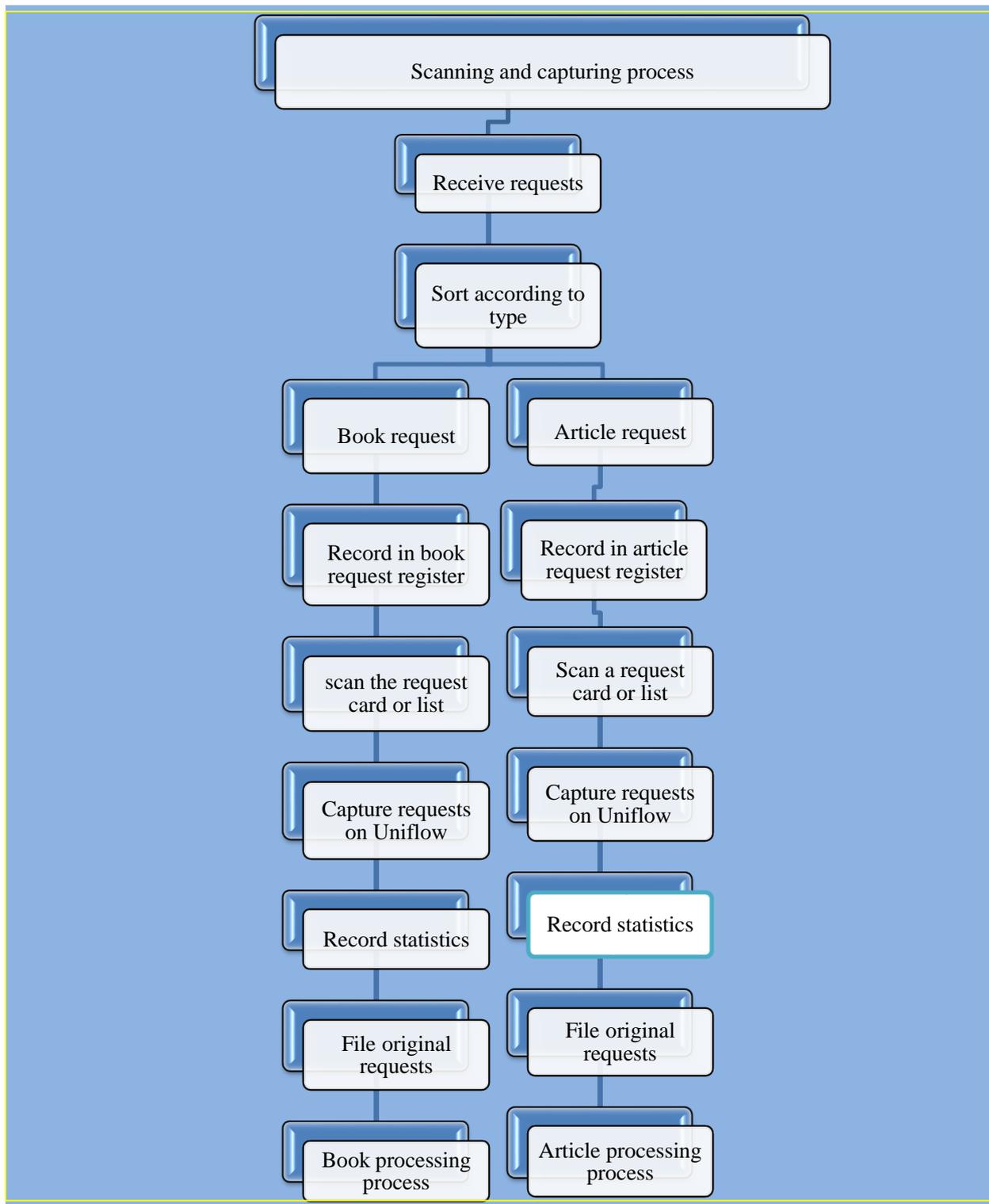
**Figure 3.1: Process for requesting information resources**

Source: Gopakumar and Baradol (2009:3)

The requests are downloaded and received by the IRRP for processing, which includes the verification of requested items and checking of the status of information resources. The available information resources are forwarded to the IRSO for the retrieval of books and audiovisual items, and then sent to the IRDO. The available journal articles and e-reserves are printed and sent to the IRDO for packaging, postage and couriering. The handling of online requests involves keeping library clients informed about the status of the requested information resources through SMS and e-mail (UNISA Library Annual Report, 2011). SMSes and e-mails also inform clients of the expected date of delivery of the requested information resources.

### **3.4 SCANNING AND CAPTURING**

Figure 3.2 below depicts the full process involved in scanning and capturing new requests that are received via request cards and lists sent by fax and post (Process 360 End-user Account, 2009:10).



**Figure 3.2: Scanning and capturing process**

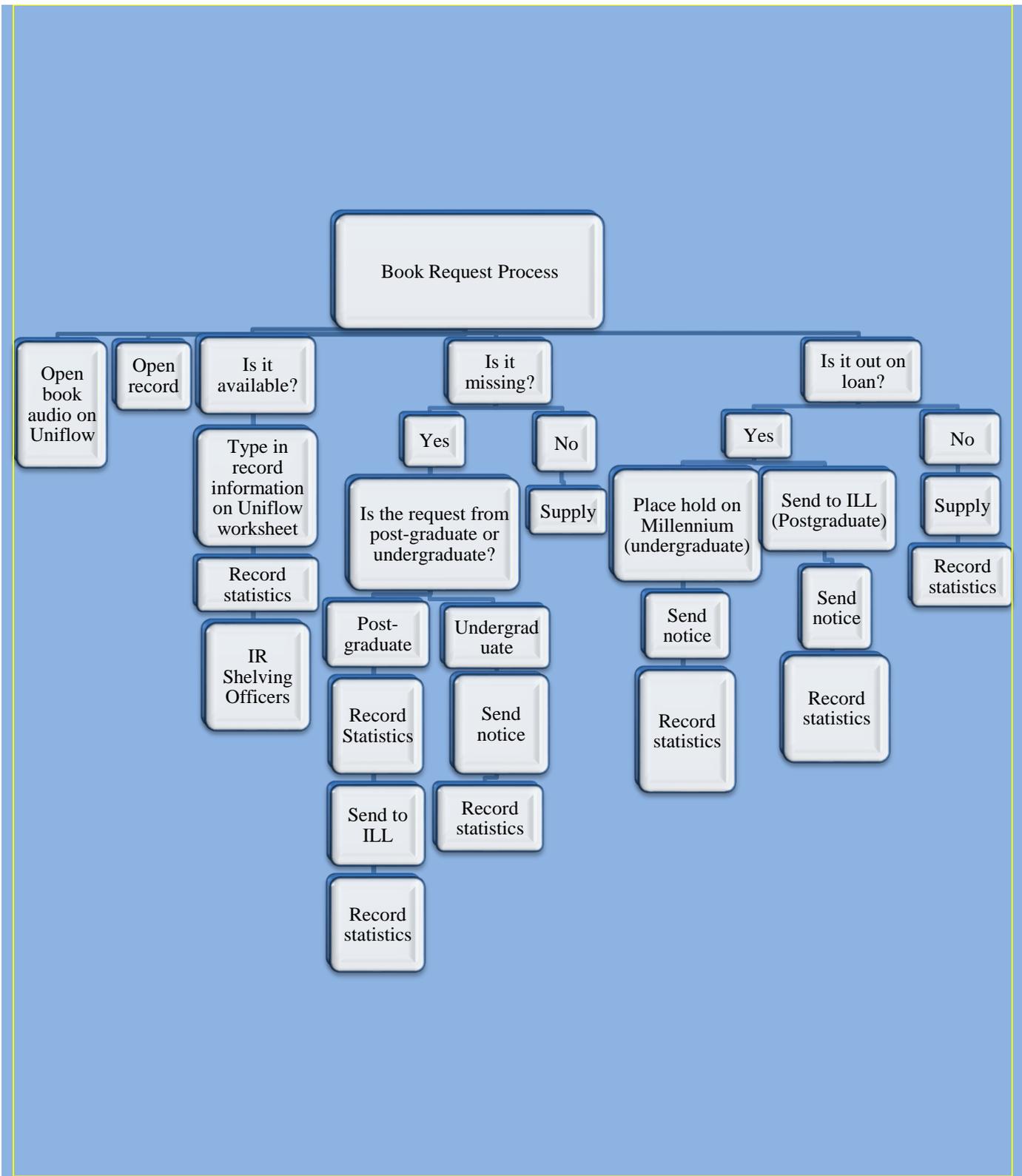
**Source: Process 360 End-user Account (2009:10)**

The IRRP members scan and capture request cards and lists received via post or fax. The request cards and lists are sorted according to their types, namely books, excerpts and journal articles. These requests are recorded in a request register for record and queries. The request cards and

lists are scanned, and all the bibliographic information and student number are captured on Uniflow. The forwarded data on Uniflow will be available in the book-audio inbox (book requests), book-excerpt inbox (excerpts) and article inbox (journal article and e-reserve request), where it is available for the IRRP to process. The original request cards and lists are filed.

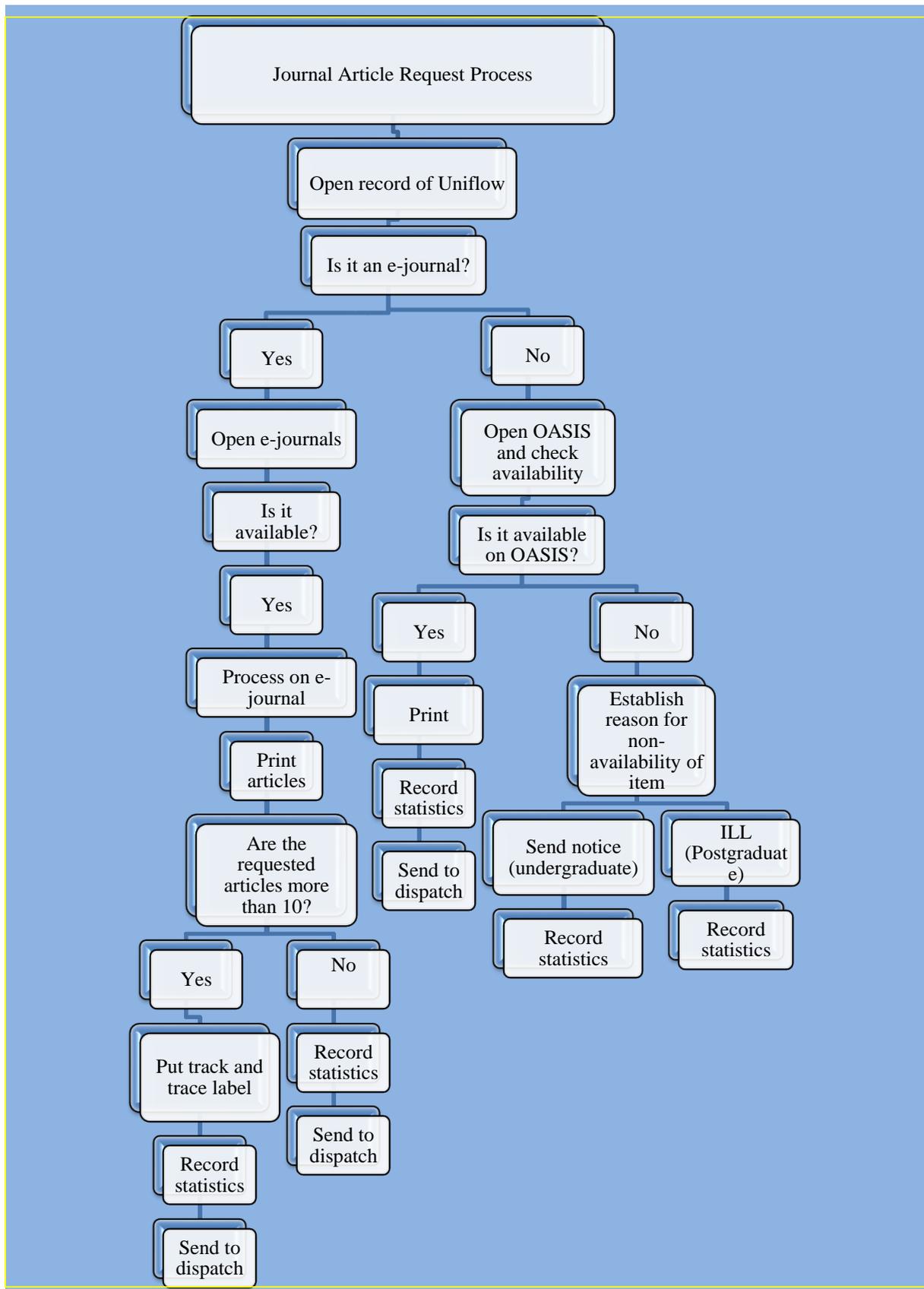
### **3.5 PROCESSING BOOK AND JOURNAL ARTICLE REQUESTS**

Figure 3.3 below depicts the processing of book requests, and Figure 3.4 illustrates the processing of journal article requests (Process 360 End-user Account, 2009:10).



**Figure 3.3: Processing of book requests.**

**Source: Process 360 End-user Account (2009:10)**

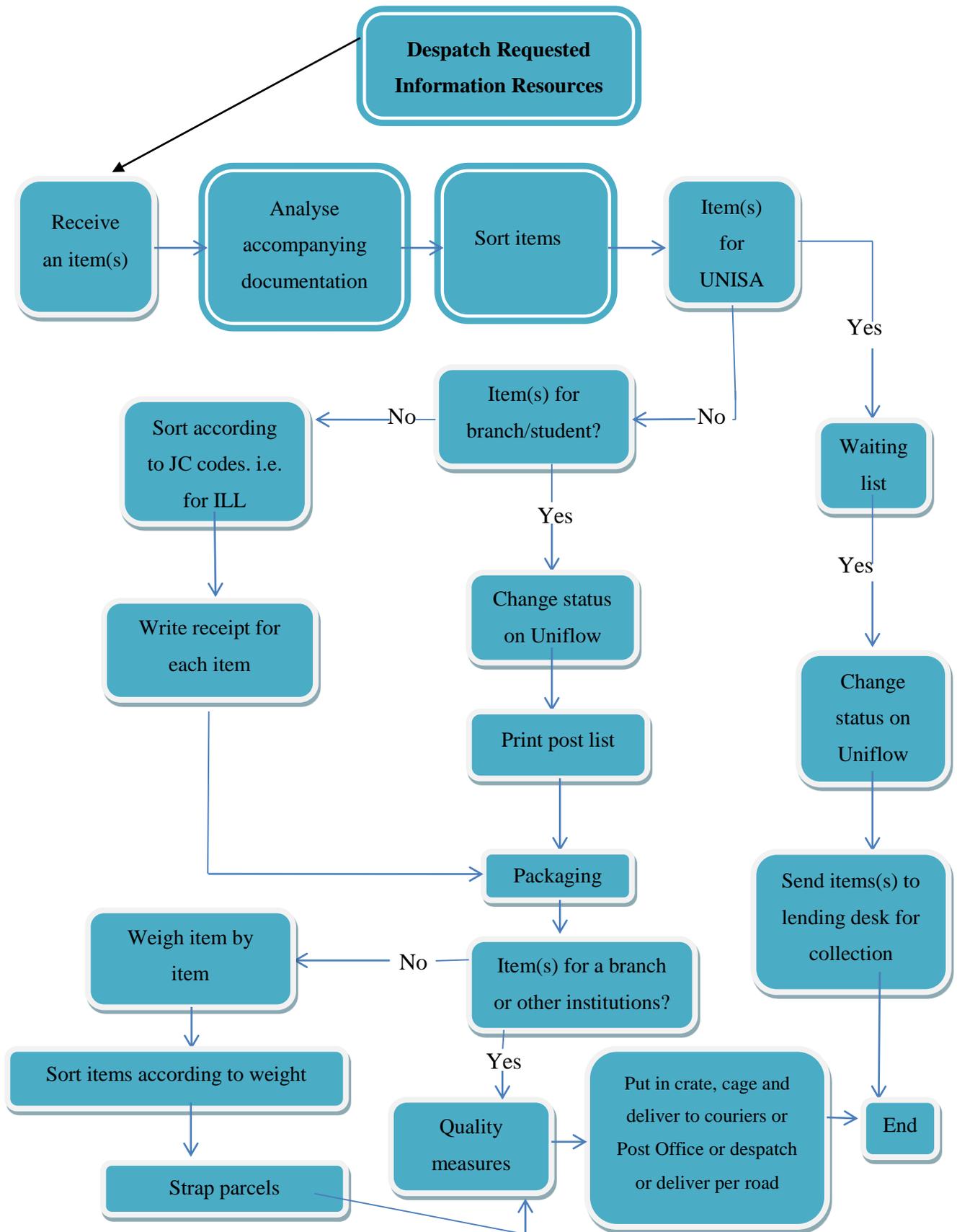


**Figure 3.4: Processing of journal article requests**  
**Source: Process 360 End-user Account (2009:10)**

Once the requests (books, book excerpts and journal articles) are available on Uniflow, they are processed by verifying the status of the requested materials. If the requested materials are available, the requests are forwarded to the IRSO for retrieval. After retrieving the items, they are sent to the IRDO for packaging, postage and couriering. If the book is out on loan, the IRRP will put the requester's name on the waiting list by placing a hold on Millennium, if the requester is an undergraduate student. The purpose of placing a hold is to prevent the books from being issued to other clients who are not on the waiting list. In the event that the requested materials, namely books and audio-visual material, are not on the UNISA library catalogue, are lost or damaged, or there are more than two library clients on the waiting list, the client is notified accordingly. UNISA staff members, masters and doctoral students can only have access to library items that are available. If items are not available, the requests are sent to ILL by requesting the items via SABINET. If the requested items cannot be obtained via SABINET, the request is sent to OCLC. If the requested materials cannot be obtained nationally or internationally, the IRRP will send a notice to the library client informing him/her that the item cannot be found anywhere.

### **3.6 DISPATCH AND DELIVERY OF INFORMATION RESOURCES**

Figure 3.5 below illustrates the process of dispatching and delivering information resources (Process Map for Information Resource Delivery Officers, 2011).

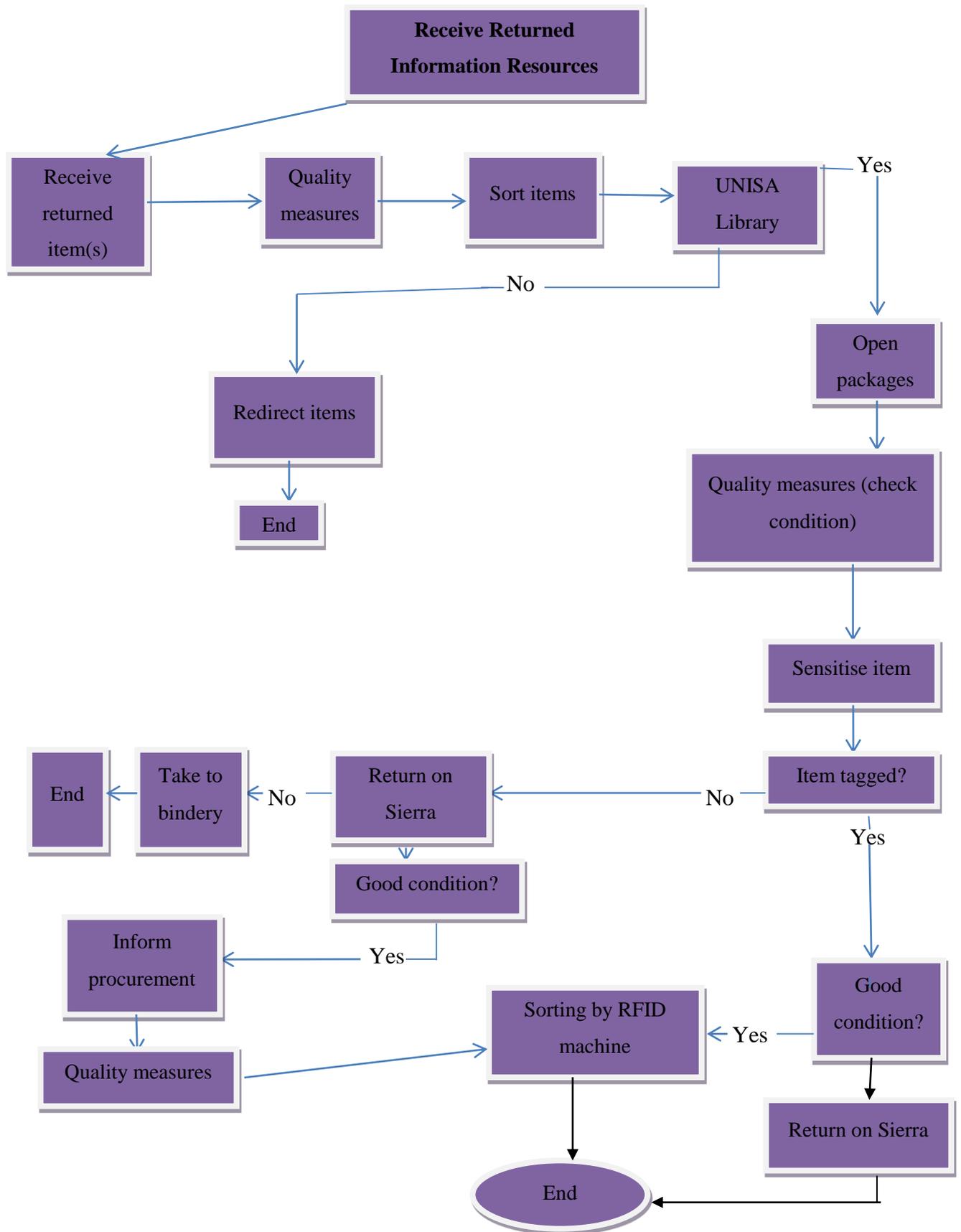


**Figure 3.5: The process of dispatching and delivering information resources**  
**Source: Process Map for Information Resource Delivery Officers (2011)**

According to the Job Description of IRDOs (2002), they are responsible for dispatching and delivering requested information resources from remote clients. The dispatching of information resources involves checking out information resources on Millennium to remote clients and updating records on Uniflow, as well as the ILL systems (SABINET and OCLC). The information resources that they dispatch include books, book excerpts, journal articles/e-reserves and audiovisual materials that are requested online by remote clients and ILL partners. IRDOs dispatch these requested information resources according to the client's preferred mode of delivery, which can be to collect the item in person, receive it by post, or to have it sent via courier to his/her nearest UNISA library branch. Library clients are notified via SMS, letter or e-mail regarding the dispatch status, and they are then also provided with a track and trace number for parcels. The IRDO also receives returned information resources from requesters. They check in these resources using Millennium and ILL systems (SABINET and OCLC). They then provide feedback on the library items that are returned damaged and/or incomplete.

### **3.7 RECEIVING RETURNED INFORMATION RESOURCES**

Figure 3.6 below depicts the process of receiving returned library materials (Process Map for Information Resource Delivery Officers, 2011).



**Figure 3.6: The process of receiving returned information resources**  
**Source: Process Map for Information Resource Delivery Officers (2011)**

All the requested information resources, except for journal articles and e-reserves, must be returned to the library within a specified loan period or renewal period. It is the responsibility of a library client to return the borrowed information resources to the library. The books can be posted, couriered or returned to any UNISA library branch. In turn, branch libraries will courier returned items to the main campus. The library will receive the library items and shelve them to be requested or checked out by another library client.

### **3.8 OTHER SERVICES OFFERED BY IRD STAFF: INFORMATION RESOURCE REQUEST PROCESSORS (IRRP)**

The IRRP has other responsibilities besides processing or handling online requests from remote clients. The additional services offered by them are discussed in this section.

#### **3.8.1 Fax-to-email**

Fax-to-email has been introduced by the UNISA Library. Accordingly, the lists of information resource requests sent by remote clients via fax-to-email are received on Uniflow. These requests are divided into categories and captured individually on Uniflow. The UNISA Library is trying to do away with ordinary fax records, which entail a great deal of work, since the IRRP has to record the received faxes on a register and then scan them. Fax-to-email is convenient because the faxed requests go straight to Uniflow, and therefore do not need to be recorded and scanned. The separation of faxes is useful when there is a query regarding specific information resource requests that are sent by fax.

#### **3.8.2 Interlibrary Loans**

IT has impacted on ILL in most academic libraries. Academic libraries use a web-based ILL system to provide ILL services to library clients through IT (Panda & Swain, [n.d.]). This has made it possible for library staff members to assist library clients in finding information resources from sources that are outside their own libraries. Raubenheimer (2010:1) states that the ILL service is useful for library items that are not on the UNISA Library catalogue or are out on loan, missing, or at the bindery, which can then be requested from another library by library staff members on behalf of library clients. If the requested materials are not available on SABINET,

the request is sent to OCLC, which is an international catalogue where library materials are requested from libraries outside South Africa.

Scanned journal articles can now be sent electronically, rather than using post or courier services that might be costly and take time to be received by library clients. Most academic libraries, including UNISA Library, are using Article Exchange to send and receive journal articles that are retrieved online. Article Exchange assists libraries in complying with the copyright regulations.

### **3.8.3 Training of Library Clients**

The IRRP is also responsible for training library clients on how to search and browse the UNISA catalogue, how to make online requests, how to access information resources on various databases, and how to download e-reserves and journal articles. Library clients who have access to the internet are encouraged to download e-reserves or journal articles on their own, rather than sending a request that might take time to be processed and posted. The UNISA Library has made this service available to library clients, in order to make it more convenient for them to access information resources on their own.

## **3.9 OTHER SERVICES OFFERED BY IRD STAFF: INFORMATION RESOURCE DELIVERY OFFICERS (IRDO)**

The IRDO has responsibilities other than packaging, dispatching and delivering requested information resources. The other services offered by the IRDO are discussed below.

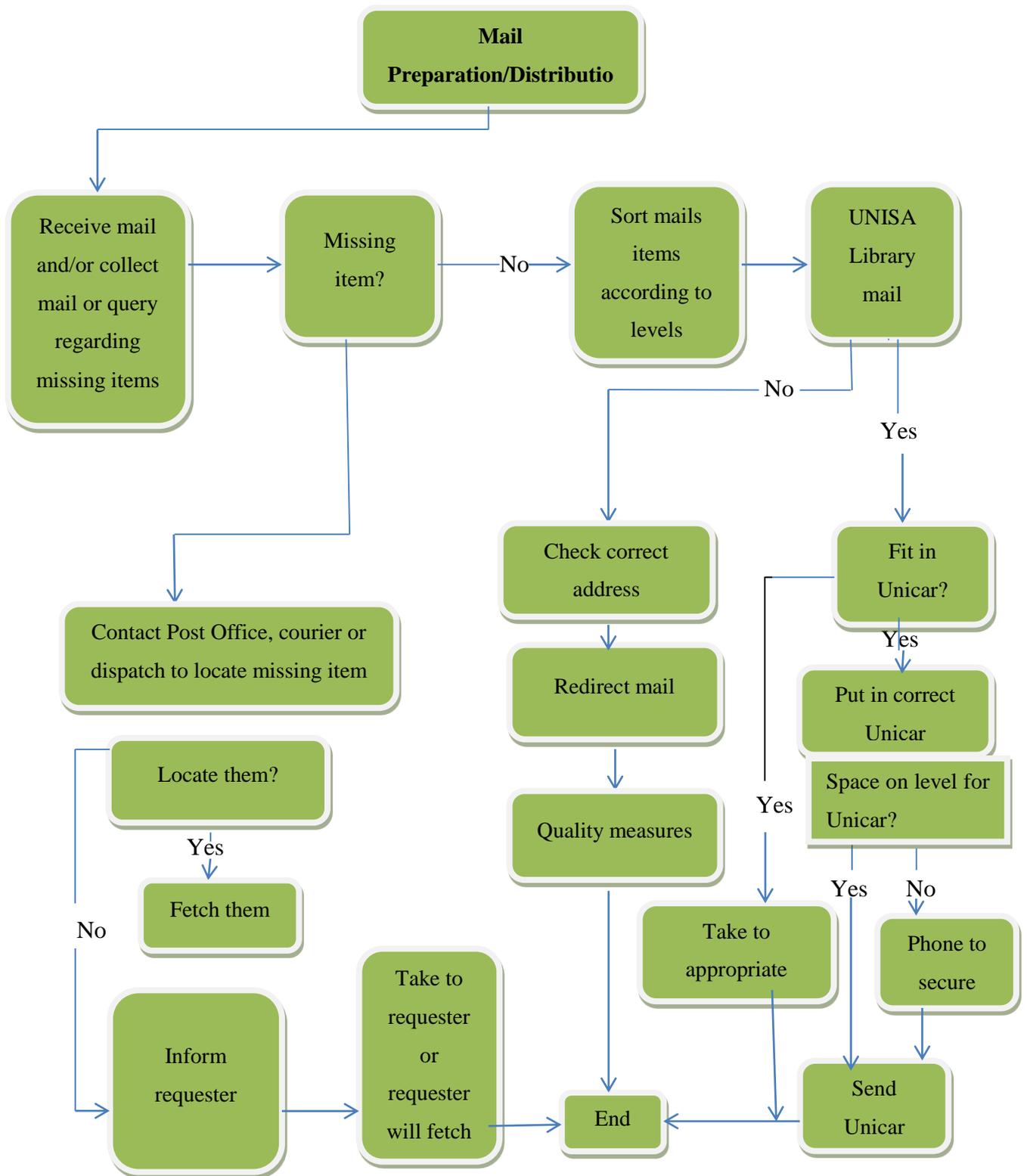
### **3.9.1 Converting Books into a Digital Format through the Digital Access Information System**

DAISY is commonly known as a talking book. It involves converting books into a digital format and is specifically designed for blind and dyslexic students. When these students request a book, the book is converted into a digital format, namely a CD, in order to make it easy for the students to listen to the book, since they cannot read the printed book. DAISY can be used by anyone because it is in the form of a CD. Users can play a CD (DAISY) on their DVD players and in their cars, thereby driving and studying at the same time. In cases where the books that are

requested by blind and dyslexic students are not owned by the UNISA Library, the request is sent via the ILL system. When the book is received, it is converted into a digital format and the book is then returned to the lending library, while the CD is sent to the student.

### **3.9.2 Mail Preparation and Track and Tracing of Library Materials**

Figure 3.7 below depicts the process for mail preparation and tracking and tracing of library materials (Process Map for Information Resource Delivery Officers, 2011).



**Figure 3.7: Mail preparation and track and tracing of library materials**  
**Source: Process Map for Information Resource Delivery Officers (2011)**

The IRD staff members, namely the IRRP and the IRDO, are responsible for tracking and tracing library items that are posted at the SAPO, as well as those that are couriered by SkyNet. The track and trace numbers are allocated to each package of information resources by the IRDO, in conjunction with SAPO and SkyNet. The library staff members can check the Student System and the SAPO website to verify the destination of the library items, using the allocated track and trace number. To see whether the items have been collected, library staff members can check on the Student System.

### **3.10 EXPECTATIONS OF THE LIBRARY STAFF**

IT is an important element of the UNISA Library, as it operates in an ODL environment. It is for this reason that Mbambo-Thata (2014:2) alludes to the “three pillars that inform an ODL Library” with regard to the access to information, broadcasting of information and excellence in ODL service delivery. She further mentions that IT is important in terms of promoting these three aspects, while also bridging the geographical factors associated with distance and time. In this regard, library clients should not be disadvantaged because of distance. This implies that library clients should be treated in the same manner as clients who come to the library in person. Therefore, the UNISA Library implemented online services to overcome delays of information resource provision, as well as to ensure that online information resources are always available and accessible.

The literature suggests that the delivery of information resources to requesters is as important as access to information (Raubenheimer, 2014:3). This implies that the effective delivery of information resources should be balanced with access to information. The IT tools that are used to speed up the request process for journal articles, such as photocopying machines, fax machines, e-mail and Ariel, have been used for many years. South African academic libraries also adopted the use of these tools with the intention of speeding up the delivery of information resources.

Since UNISA Library depends on IT to meet the information needs of remote clients, staff members should be skilled and competent enough to satisfy the needs of remote clients, who are also depending on IT to access and retrieve information resources. Lack of IT skills and competencies could result in challenges that hinder effective service delivery (Emezie & Nwaohiri, 2013:1). Therefore, it is recommended that library staff members should strive to

attend training in different forms, in order to acquire as much knowledge as possible about the changes that are brought about by IT.

### **3.11 CHAPTER SUMMARY**

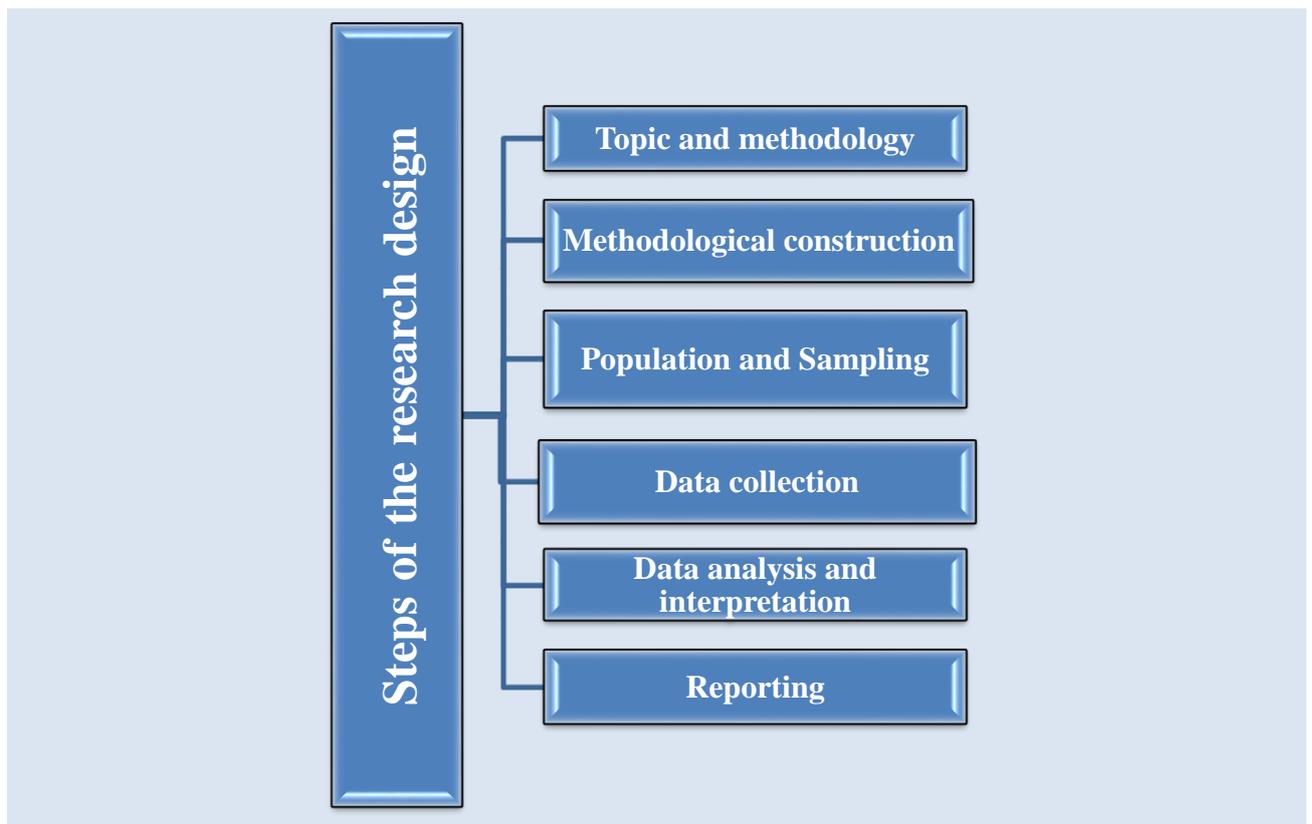
This chapter presented a discussion of the existing processes with regard to the IRD staff members of the UNISA Library. The researcher discussed the roles of the IRRP and IRDO and the processes undertaken to process and handle requests, from receiving the requests to the delivery of the requested materials. Academic libraries should strive to provide information resources to remote clients, irrespective of distance, in order to support learning, teaching and research effectively and timeously. Therefore, library staff members should be able to utilise and apply the IT tools that are used in the IRD Directorate to process or handle requests for information resources from remote clients. Ultimately, the success of an academic library lies in its ability to provide quality library and information services to all library clients.

The next chapter discusses the methodology used to conduct this study.

## CHAPTER 4: RESEARCH METHODOLOGY

### 4.1 INTRODUCTION

This chapter discusses the research design and methodology used to investigate the IT skills and competencies of the IRD staff of the UNISA Library, and to report the findings. A research design is a procedural plan that is used to conduct a study (Kumar, 2011:94; Sarantakos, 2005:105). The researcher concurs with Bui (2009:11) that describing the actual procedures used to conduct a study informs the readers how the study was conducted. It explains in detail how the researcher intended to conduct the study, how the research questions were addressed, and how the research objectives were achieved. This means that in order to conduct this study successfully, the researcher had to follow the steps of conducting a study, and describe the steps undertaken, as indicated in Figure 4.1 below (Sarantakos, 2005:105).



**Figure 4.1: Steps of the research design**

**Source: Sarantakos (2005:105)**

In this study, the researcher used the above steps to explain and discuss the research design.

## **4.2 TOPIC AND METHODOLOGY**

Identifying a research topic is the first step in a research design, followed by describing a methodology to be used to conduct the study. The research topic that the researcher chose was of interest to her and aroused her curiosity. She decided to investigate the IT skills and competencies of the IRD staff of the UNISA Library, where she was currently working. The researcher understood that there were some issues to be considered before concluding the topic to be investigated. These issues included the following (Sarantakos, 2005:105):

- Determining whether the topic is researchable
- Determining whether the research topic corresponds with the research study
- Determining how to formulate the research questions and research objectives
- Determining the data collection tools to gather information, as well as the types of questions to ask the participants
- Determining the time needed to conduct the study and to gather relevant information to be analysed and interpreted.

Selection of the appropriate methodology for a study depends on the research problem that needs to be investigated. Some studies can be conducted using one research approach, namely a quantitative or qualitative approach, and others can be conducted by using a combination of both approaches to enhance the research findings. The research can be strengthened by using triangulation, which permits the use of multiple research approaches and data collection tools that are aimed at strengthening the data collected by the main data collection tool.

## **4.3 METHODOLOGICAL CONSTRUCTION**

Two well-known and recognised research approaches can be found in most research literature, namely the quantitative approach and the qualitative approach (Bless, Higson-Smith & Sithole, 2013:16; De Vos, Strydom, Fouche & Delport, 2011:63). A research study can be conducted using one of these two approaches. Where the research study needs to be strengthened, both quantitative and qualitative approaches can be used. Using both research approaches is considered as one of the research approaches, as it focuses on collecting, analysing and combining both quantitative and qualitative data in a single study, in order to validate the findings

(De Vos *et al.*, 2011:63). The rationale for using both quantitative and qualitative approaches in a single study is to provide a better understanding of a research problem than is possible with only one research approach. These research approaches differ because each approach has its own purpose, methods for addressing the research problem, strategies for collecting and analysing the data, and the manner in which the findings are presented. For the purposes of this study, the researcher familiarised herself with these research approaches in order to determine which would be most suitable for this study.

The researcher chose to use both quantitative and qualitative approaches, with the triangulation of data. Triangulation is used to overcome the imbalance of both quantitative and qualitative data, by enhancing the research findings. Furthermore, combined approaches can improve the quality of research findings by reducing biases, limitations and weaknesses. The disadvantages of one approach are balanced by the advantages of the other approach and *vice versa*.

#### **4.3.1 Quantitative Approach**

The quantitative approach is a method that researchers use to test objective theories by examining the relationships between variables (Creswell, 2014:4). It is concerned with collecting data and information that can be summarised, presented and analysed numerically in the form of graphs, tables and charts (Golafshani, 2003:598; Matthews & Ross, 2010:141). The raw data (numbers) are analysed using statistical methods to answer the research questions that are formulated before the commencement of the study. This indicates that the quantitative approach is more concerned with finding out about concepts relating to how much, how many, how often, and to what extent. It lays more emphasis on the facts and causes of behaviour (Golafshani, 2003:598).

The numerical process is the norm for analysing numerical data where the final results are expressed in statistical terminologies. Teddlie and Tashakkori (2009:23) indicate that the objective of the quantitative approach is to explain the relationship between variables.

This study aimed to obtain information that is useful to investigating the IT skills and competencies of the IRD staff members of the UNISA Library with regard to the manner in which they process or handle online requests from remote clients. Using the quantitative approach familiarised the researcher with the problem to be studied.

### **4.3.2 Qualitative Approach**

Creswell (2014:4) defines the qualitative approach as a method used by researchers to explore and understand the meaning attributed to social or human problems. This denotes that the qualitative approach is concerned with the feelings, opinions, understandings and beliefs of the participants, and studies events and their complexity (Leedy & Ormrod, 2010:135; Marshall & Rossman, 2016:17). It involves investigating spoken and written words and human experience using interviews and observations as data collection tools, which involve face-to-face interaction between the researcher and the participants (Punch, 2005:168). This implies that the qualitative approach is used to explore information in the form of quality, such as explanations, descriptions and narratives (Fidel, 2008:265).

This approach produces findings derived from the real-world settings where the phenomena occur naturally (Golafshani, 2003:600). In the context of this study, the researcher gained insight into the nature of the problems affecting the IRD staff members of the UNISA Library by using a qualitative approach.

### **4.3.3 Justification for Using a Combination of Quantitative and Qualitative Approaches**

The differences between and characteristics of the quantitative and qualitative approaches were examined in order to determine which approach would be most suitable for this study. On the one hand, the researcher found that using the quantitative approach would only assist with collecting numerical and statistical information which is relevant for measuring the IT skills and competencies of the IRD staff members of the UNISA Library through the generalisation of findings (Struwig & Stead, 2013:5). However, generalising the research findings does not provide complete and accurate information that can be used to address the research problem satisfactorily. Another problem with the quantitative approach is that it does not allow for the in-depth exploration of research problems.

On the other hand, the qualitative approach focuses on events that take place in a natural setting (Leedy & Ormrod, 2010:135). Unlike the quantitative approach, the qualitative approach enabled the researcher to pose questions and obtain clarity through observation and face-to-face interviews. The observation and interviews helped her to gain more information and obtain an in-depth understanding of the research problem, which enabled her to draw conclusions and

make recommendations. Using a qualitative approach did not only help the researcher in seeking information and opinions, but also provided her with an opportunity to observe and understand the emotions and motivations, based on the topic, the questions asked and the answers provided. This implies that if she had decided to use the qualitative approach only, this study would explore the feelings, opinions, understanding and beliefs of the participants, without generalising the findings.

In light of the above differences between and characteristics of quantitative and qualitative approaches, it became evident to the researcher that the research questions could not be addressed by using only one research approach. Both approaches, when used independently, would only partially address the research question. The quantitative approach encouraged the participants to choose an answer, as required by the questionnaire, and also allowed for the answering of open-ended questions. The closed-ended questions, however, could not provide meaning and clarity to the questions asked, unlike the qualitative approach, which enabled the participants to provide opinions and motivations regarding the answers they provided. However, the open-ended sections and Likert scale type of questions in the questionnaires, for example, were able to reflect the opinions and motivations of the participants.

Having taken these differences and characteristics of the quantitative and qualitative approaches into consideration, the researcher decided to adopt the use of both quantitative and qualitative approaches, with the triangulation of data. Using both approaches helped the researcher to address questions from different angles, which enabled the study to meet its objectives.

#### **4.4 POPULATION AND SAMPLING**

A population includes all the elements that make up a unit of analysis, namely the community, the size of the population, and a brief social profile of the community (Kumar, 2011:230; Terre Blanche, Durrheim & Painter, 2006:133). The research population for this study consisted of all the permanently employed IRD staff members and supervisors in the IRD Directorate of the UNISA Library. The researcher felt that it was not necessary to sample the population because it comprised less than 100 participants, and using all of the participants provided a true picture (Leedy, 1997:211). Terre Blanche, Durrheim and Pinter (2006:49) express a similar viewpoint to Leedy (1997:211), namely that in a research study where the number of participants is too small, it is not advisable to use a sample, because that sample may not be representative enough

for the entire population of the study. Studying the whole population increases the accuracy of the findings, instead of only using a restricted sample (Bless, Higson-Smith & Sithole, 2013:174).

The IRRP and IRDO staff members, as well as their supervisors, were included in this study. In terms of the list of IRD staff members, the IRD Directorate consisted of the following numbers of permanently employed staff members and supervisors, as indicated in Table 4.2 below.

**Table 4.1: IRD staff members and supervisors**

<b>IRD Staff members</b>	<b>Number of IRD staff members</b>
Information Resource Request Processors	32
Information Resources Delivery Officers	7
<b>TOTAL</b>	<b>39</b>
<b>IRD Supervisors</b>	<b>Number of IRD supervisors</b>
Information Resource Request Processors	3
Information Resource Delivery Officers	1
<b>TOTAL</b>	<b>4</b>

#### **4.5 DATA COLLECTION**

Three main data collection tools were used in this study, namely:

- Observation
- Questionnaires
- Interviews

Observation was used as starting point for data collection, and questionnaires and interviews were used as confirmatory and complementary data collection tools. The researcher felt that confirming and complementing observation with questionnaires and interviews would produce richer and more accurate findings, as suggested by Mason (2002:33). The questionnaires and interviews were used to support and explain observational data and to reveal meaningful information that was not highlighted or discovered during observation. The following is a detailed discussion of the data collection tools used in this study.

### 4.5.1 Observation

Observation is a method used by researchers to systematically observe and record the behaviour of the targeted population (Bryman, 2012:272). Creswell (2014:190) concurs with Bryman (2012:272) that observation is one of the tools for collecting qualitative data, and it focuses on taking note of phenomena in the field setting, using an instrument to record observed information. Unlike other data collection tools, observations do not rely on what people say that they do or think. This implies that observation does not involve questioning or communicating with the participants (Denscombe, 2007:206; Maree, 2007:83). In this study, the researcher had to observe the actions and behaviour of the participants.

Observations play an important role, because they help the researcher to gain a better understanding of various activities and situations in the research context. Creswell (2013:166) mentions four types of observation, namely complete participant, participant as an observer, non-participant/observer as participant, and complete observer. In the case of this study, the researcher was engaged in participant as observer. This type of observation was convenient for the researcher, as she had been working as an IRRP in the IRD Directorate for six years. This denotes that the observation was ongoing, as it began when the researcher started working at the UNISA Library, and this kind of observation was informal. The researcher made this study formal by designing an observation schedule and complying with ethical issues. As part of ethical practice, before the commencement of formal observation, the researcher asked one of the supervisors for the IRRP and one for the IRDO to introduce her to their teams and explain the purpose of the study (Denscombe, 2007:218). Since the participants were from IRRP and IRDO, and their supervisors were based on different floors in the library, the researcher decided to observe both IRRP and IRDO separately, using the same observation schedule, on different dates and at different times. Through these observations, the researcher had an opportunity to obtain first-hand information by observing the frequency of events, duration of events, and events at a given point in time. In addition, participating as an observer enabled her to identify some of the issues that were not addressed in the questionnaire and interviews, and provided the researcher with an opportunity to:

- Check for non-verbal expression of feelings.
- Determine who interacts with whom.

- Determine how participants communicate with each other.
- Determine how much time was spent on various activities.
- Observe the events that the participants were unable or unwilling to share about in the questionnaire and during interviews. These events might be those which they perceived as sensitive or unimportant. This helps to ensure that the information they provided in the questionnaires and interviews is true.
- Increase the validity of the study.

The observation schedule consisted of two sections, namely:

- Descriptive notes: This is the section where the researcher recorded the processes, activities and situations to be observed.
- Reflective notes: This is the section where the researcher recorded notes about the processes, activities and situations observed.

#### **4.5.2 Questionnaire**

Kumar (2011:145) defines a questionnaire as a printed list of questions which are to be answered by the participants. A questionnaire is prepared and distributed to participants to secure responses to the questions asked, and the information in the questionnaire constitutes facts and opinions. The reason for using a questionnaire is to collect statistical information that can be generalised during data analysis and interpretation.

For the purposes of this study, a list of questions was designed to answer the research questions based on the research objectives. A designed questionnaire should be short, with simple questions written in clear language, since one of the major problems is that participants are reluctant to read the questions carefully if they are too long. This may lead the participants to provide inaccurate information (Mavodza, 2010:115). The participants in this study were provided with instructions on how to complete and return the questionnaire. The questions in the questionnaire were built upon each other, in order to provide a sequence for the participants. Easy questions such as demographic data were asked at the start of the questionnaire, in order to encourage participants not to give up on answering all the questions. The wording in the questionnaire did

not provide the participants with any clues regarding which answers were preferred or desired for a particular question.

A designed questionnaire can consist of both open-ended and closed-ended questions. In this study, closed-ended questions provided the participants with the option to choose the most relevant answer only. Some questions were designed using a Likert-type scale to determine participants' attitudes. Open-ended questions provided the participants with an opportunity to express their views and opinions in their own words, and there was no limit when answering questions (Powell & Connaway, 2004:124).

The questionnaire was divided into three sections, namely:

- Section A: Personal information of the IRD staff members
- Section B: IT skills and competencies of the IRD staff members
- Section C: Problems and challenges encountered in processing requests from remote clients.

The questionnaire was pre-tested to verify bias and to clarify its validity and reliability, as well as to determine the value of the questionnaire (Leedy & Ormrod, 2005:111; Marutha, 2011:88). Kumar (2011:158) states that pre-testing a questionnaire involves distributing the questionnaire to a small number of people who have the same characteristics as the target population of the study. In this case, the four IRD supervisors (IRRP and IRDO) were chosen to pre-test the questionnaire. The findings from the pre-test questionnaire were then used to improve the instrument (Burns & Grove, 2005:746).

A pre-tested questionnaire was administered by e-mail to all the IRD staff members, in order to obtain their responses, considering that:

- All the IRD staff members of the UNISA Library had access to e-mail and the internet.
- E-mailed questionnaires could reach the participants immediately, unlike a hand-delivered questionnaire, which has to be delivered individually. Distributing questionnaires by e-mail overcame the problem when the participants were on leave, since e-mailed questionnaires

could reach the participants even if they were out of the office, and they were able to complete and return the questionnaire, irrespective of geographical distance.

- It was simple and cheap to send reminders to the participants who did not complete the questionnaire within the given timeframe.

An e-mailed questionnaire was attached and accompanied by a cover letter explaining the purpose of the study. The researcher concurs with Powell and Connaway (2004:142) that including a cover letter is a means of addressing ethical concerns. In general, the cover letter clearly explains the intention of the researcher to conduct the study, and how people can benefit if they participate. The participants are assured that their information will be kept confidential and that the information gathered is for research purposes only.

### **4.5.3 Interviews**

An interview is simply described as a dialogue or exchange of words between two or more people. It involves direct contact with the participants, who are asked questions about the problem under investigation (Bless, Higson-Smith & Sithole, 2013:193).

A list of questions was drawn up to ask the IRD supervisors during the interview. These questions were aligned with the objectives of the study, observations and questionnaire. The interview questions comprised of a combination of both easy and difficult questions. The reason for asking such questions was to encourage the participants to provide honest answers to the questions, and to get as much information from the participants as possible.

Face-to-face interview sessions were arranged with the IRD supervisors based on their schedules. Unstructured interviews were conducted, which comprised closed and open-ended questions, which allowed for follow-up questions when clarity was needed. During the interview process, the researcher had the freedom to decide on the format of the questions to ask the participants, and to ask follow-up questions when necessary (Kumar, 2011:144). The interview questions did not provide the participants with clues as to how the questions should be answered.

The purpose of using an unstructured interview is:

- To gain more understanding of the phenomena under study
- To uncover new aspects of the problem by analysing the explanations provided by the participants
- To identify some of the answers that are not provided in a questionnaire
- To provide an opportunity to pose follow-up questions for purposes of clarity.

Before the commencement of the interview, the researcher introduced herself and explained the purpose and importance of conducting the interviews (Powell & Connaway, 2004:147). English was used as a medium of communication with the participants. The researcher created a non-threatening atmosphere, in order to encourage the participants to feel free and to provide true, sufficient and accurate information.

The interview schedule was divided into six sections, namely:

- Section A: About the IRD supervisors.
- Section B: About the IRD staff members.
- Section C: Determined the methods or strategies used to handle or process online requests.
- Section D: Investigated the IT skills and competencies of the IRD staff members of the UNISA Library.
- Section E: Investigated the challenges faced by the IRD staff members in the effective utilisation and application of IT tools to process online requests from remote clients.
- Section F: Suggested measures and recommendations to improve the effective and efficient handling or processing of online requests to enhance service delivery.

#### **4.5.4 Triangulation**

Triangulation is defined as the use of different approaches and multiple sources of data in a single study, so that findings may be cross-checked (Bryman, 2012:717). The rationale behind using different approaches and multiple sources of data is to gain a better understanding of phenomena under investigation and to enhance the quality of the study.

There are four types of triangulation (Flick, 2014:183). The first type of triangulation is data triangulation, which uses different sources of information to validate the findings. The researcher compares data collected from different informants (Denscombe, 2007:136). The second type of triangulation is investigator triangulation. This type of triangulation uses different investigators, interviewers or observers in the analysis process. The findings from different investigators, interviewer or observers are compared for consistency. The purpose of using investigator triangulation is to determine whether the investigators, interviewers or observers have the same interpretation of the research findings, and to determine whether the research findings are interpreted in the same manner. The third type of triangulation is theory triangulation. Different researchers' theoretical points of view are used to analyse the findings. Using different theories can assist in determining the kind of data to be interpreted. The fourth type of triangulation is methodological triangulation. This type of triangulation uses quantitative and qualitative approaches to study the same phenomena (Flick, 2014:183).

In this study, the researcher used data triangulation, where different sources of information were used, that is, information was gathered from IRD staff members and their supervisors. Using data triangulation assisted the researcher to achieve the completeness and confirmation of the findings (Risjord, Moloney & Dunbar, 2001:5). Data were collected from two different perspectives (quantitatively and qualitatively), in order to enable collected data to be compared, verified and validated (Powell & Connaway, 2004). It is important to collect data from participants who are likely to have different views (Bailey, 2007:77). The triangulation of data enabled the researcher to use the existing data that was collected quantitatively and qualitatively for the analysis and interpretation of the findings. In addition, the triangulation of data helped the researcher to obtain a better understanding of the research questions, by integrating data collected by means of observation, questionnaires and interviews, without any restrictions (Denscombe, 2007:138). Quantitative data were supported by concrete evidence, because quantitative findings are often narrow, superficial and misleading, as they emphasise standardisation and generalisability. The findings were corroborated and any weakness of one data collection tool was offset by the strength of the other data collection tools, thereby increasing the validity and reliability of the results. This implies that triangulation reduced the risk of false interpretation.

#### **4.5.5 Reliability and Validity**

Babbie (2011:129) emphasises that when the procedure for data collection is theoretically applied to similar participants, it should produce a uniform outcome every time it is used. Bless, Higson-Smith and Sithole (2013:222) assert that a data collection tool that does not produce the same results every time it is used cannot be relied upon to produce accurate results. Therefore, testing the reliability and validity of a data collection tool is crucial for the effectiveness of the data collection procedure. The tools intended to collect data should be reliable and valid, so that they are able to measure what they are intended to measure (Leedy & Ormrod, 2010:28; Rossouw, 2003:123). The researcher should be able to rely on the data collection tool intended for the study, and should also ensure that it produces valid results. For example, if a questionnaire or interview produces outcomes that are not relevant to answering the research questions, it is not valid or reliable, and cannot be used.

All data collection tools that were used for this study were tested for their reliability and validity before being used to collect data from the participants (Hernon & Schwartz, 2009:73), as Mavodza (2010:94) emphasises that the quality of the research findings depend on the validity of data collection tools. Conducting a research study without validating the data collection tools is useless (Ngulube, 2005:136). The questionnaires and observation schedule were pre-tested (refer to Appendix D) for credibility, transferability and dependability. Pre-testing quantitative and qualitative data collection tools is one of the strategies used for content validity (Ngulube, 2005:136). As part of the testing for reliability and validity, four questionnaires and four observation schedules were sent to IRD supervisors (IRRP and IRDO) with the checklist, with a request that they be returned within two weeks. This aimed to determine whether the designed questionnaire and observation schedule could produce a valid and reliable outcome, before the questionnaire was distributed to, and the observation schedule used for, the IRD staff members who formed part of this study. The reason for using IRD supervisors was because they have the same characteristics as the IRD staff members (Kumar, 2011:158), and they were able to understand the contents of the questionnaire and what the researcher intended to observe. After receiving feedback from the IRD supervisors, the researcher had to address some of the mistakes, suggestions and typing errors that were identified by the IRD supervisors. The correctness of interview sessions with the supervisors was confirmed by sending the interview questions and answers back to the participants, in order to determine the validity and reliability of the responses. The questionnaire that was used for this study was tested for reliability in terms of the consistency

of outcomes, selection bias and non-response. Criterion-related validity was also used to predict future outcomes and diagnose the current subject. This aimed to ensure a high level of quality in the data collection tools. The validity of the research tools was also determined in terms of their ability to generalise the population, and by accurately determining what the researcher planned to measure.

#### **4.6 DATA ANALYSIS AND INTERPRETATION**

Data analysis is the procedure for bringing order, arrangement and meaning to the group of collected data (Gorman & Clayton, 2005:206). The aim of analysing data is to transform collected data into meaningful information. Data analysis is used to arrange information in such a manner that readers can understand and make sense of the findings. Mouton (2002:111) is of the opinion that the process of analysing data involves the arrangement of data and theme identification from the data, and ultimately assures that the conclusions will be considered as the outcome of the study, but that these conclusions should be drawn from empirical evidence to be considered valid.

Most researchers use software such as SPSS data analysis software to analyse the collected data, as was also the case with Hlongwane's (2014:84) study. However, this was not the case with this study. This study applied manual data analysis, which was established by creating a tally sheet. Data collected by means of questionnaires were captured on the tally sheet immediately after the questionnaires were received from the participants. The recorded data on the tallies were counted and calculated manually on a separate sheet of paper, where each question and the total number of respondents were recorded. The calculated figures were captured on a MS Excel spreadsheet, which was designed in line with the questionnaire. Spread-sheet-based calculations for total figures, for conversion into percentages, were carried out. Graphs and charts were drawn using an MS Excel spreadsheet database, and these graphs and charts are reflected in chapter 5 of this dissertation, which will be in the form of a MS Word document. The graphs and charts were then interpreted in words, in order to give a clear understanding to the readers.

During the interviews, the sessions with participants were recorded on paper. The interviews collected both qualitative and quantitative data. The quantitative data were transformed into data, which were coded by determining how many participants gave the same answers and then recording it on a separate sheet, and then counting the number of times it occurred in the text

data. Like the data collected by means of a questionnaire, the researcher also drew graphs and charts on a MS Excel spread sheet, where recorded data were captured, calculated and converted into percentages. The graphs and charts were also reflected in Chapter 5 of this dissertation in a MS Word format, in order to be analysed and interpreted. This implies that the data that were needed for triangulation were collected, aggregated and then presented in the form of tables, charts and graphs, thereby making it easy to compare the similarities and differences, as well as strengths and weaknesses, of the input given by the participants. The researcher explained the qualitative findings in words only, without tables, charts and/or graphs. Moreover, during observations, observation notes were also taken, and were then presented and analysed qualitatively.

#### **4.7 ETHICAL CONSIDERATIONS**

The researcher conducted this study in strict accordance with the Research Ethics Policy of UNISA (2007). The UNISA policy promotes four internationally established and accepted moral principles of research ethics, namely autonomy, beneficence, non-maleficence and justice. These moral principles were introduced to protect participants' rights and dignity.

The IRD staff members of the UNISA Library were requested to complete an informed consent form. This means that participants were not forced to participate in this study. Accordingly, participation in this study was voluntary. The reasons for conducting the study were also outlined, in order to give the participants a clear understanding of why they should participate in the study. The actual information gathered from the participants was used when writing this dissertation. In this regard, the researcher understood that reporting false information in order to benefit other parties, apart from the participants, was considered unethical.

Protection of the participants was ensured in terms of privacy and confidentiality during the process of data collection, data analysis, publishing of the dissertation and dissemination of the findings of the study. The researcher made certain that the information gathered was not disclosed to anyone. Furthermore, she ensured that the study did not cause any harm to the participants or anyone else involved. In this regard, if there are any risks involved during the research process, the participants should be made aware of any possible risks or dangers that might arise, since the aim of ethics in any research study is to ensure that participants are not subjected to any harm when providing information or participating in research (Creswell,

2014:98). Lastly, all sources of information used for this study are acknowledged by means of complete references.

#### **4.8 CHAPTER SUMMARY**

This chapter discussed the methodologies that were used to conduct the study. The study employed a combination of quantitative and qualitative approaches, with the triangulation of data. Observation was used as the main data collection tool. Choosing an appropriate research approach to achieve the research objectives of this study was challenging. With regard to the data collection tools, the researcher used observation, a questionnaire and interviews to collect and analyse the data. Observation as the main data collection tool was therefore complemented by a questionnaire and interviews. This process is known as triangulation. All the quantitative data were captured onto a MS Excel spread sheet, which assisted in the formulation of graphs and charts to analyse data. The data collected qualitatively were analysed in words. To ensure the validity and reliability of research findings, the observation schedule and questionnaire were pretested by asking the four IRD supervisors to complete and return their responses, before using the observation schedule and questionnaire to collect data. With regard to the interviews, the transcripts of the interview responses were sent back to the participants to determine the correctness of their responses. This was a way of determining the validity and reliability of the interviews. Ethical issues were also considered, as the study was conducted in strict accordance with the Research Ethics Policy of UNISA (2007).

The next chapter focuses on the presentation, analysis and interpretation of the findings obtained through the observation, questionnaire and interviews.

## **CHAPTER 5: PRESENTATION, ANALYSIS AND INTERPRETATION OF THE FINDINGS**

### **5.1 INTRODUCTION**

The previous chapter discussed the research methodology used to conduct this study. This chapter presents the findings derived from the observations, questionnaires and interviews. The researcher will first analyse the observation data, followed by the questionnaires and then the interviews. Data collected by means of the questionnaires and interviews were used to confirm and compare with the observation findings. These confirmations and comparisons will be discussed in Chapter 6, when the researcher summarises the findings of all the data collection tools, and then draws conclusions and recommendations.

The observation findings are qualitative in nature and are presented as written words. Data collected by means of the questionnaires are presented in the form of graphs, charts and tables, and are discussed in order to clarify meanings and understandings, whereas the interview data are presented in graphs, tables and narrative form.

This chapter attempts to answer the research questions, and the interpretations and discussions are done in line with the four research objectives of this study, as listed in Chapter 1, namely:

- To assess the IT skills and competencies of the IRD staff members of the UNISA Library
- To establish the challenges faced by the IRD staff members in the effective utilisation and application of IT tools to process online requests from remote clients
- To determine the problems experienced by staff with the methods or strategies used to handle or process online requests
- To suggest recommendations to improve the effective and efficient handling or processing of online requests, in order to enhance service delivery.

### **5.2 OBSERVATION FINDINGS**

As indicated in Chapter 1, this study came about as a result of the researcher's observations regarding the manner in which information resource requests from remote clients were handled,

which resulted in queries related to clients' requests that took time to reach them, and sometimes did not reach them at all. Therefore; informal observations were in the form of e-mails (refer to Appendix E) that were received as queries and complaints. These informal observations were made formal by conducting formal observations.

The formal observation findings were obtained in accordance with an observation schedule (refer to Appendix A), which ran for 30 days and entailed six-hour sessions per day, during which the researcher collected data through questionnaires and interviews. The six-hour sessions were divided between the IRRP and their supervisors, and the IRDO and their supervisors. This means that each section was observed for three hours at a time. The observation schedule was used as a checklist to record and establish the status of issues such as the setting where the IRRP worked; the settings where the IRDO worked; the problems and challenges observed; training staff members received; meetings; and the staff members' interaction with one another. Some of the observed events helped the researcher to ask the supervisors certain questions, in order to obtain more clarity and understanding.

The data collected by means of observations were presented, analysed and interpreted, and are discussed in this section.

### **5.2.1 Informal Observation**

The informal observation started in 2010, and took place in the IRD Directorate of the UNISA Library, where the researcher worked. She observed that the staff members were unable to meet the information needs of remote clients. This resulted in an increasing number of queries and complaints being received on a daily basis. These queries and complaints were received through the designated e-mail address. Most of them were related to the information resources, which either took time to reach them or did not reach them at all. The researcher decided to conduct a formal study to investigate the cause of the delay in the delivery of requested information resources.

One of the reasons for the researcher deciding to conduct a formal study was that in the IRD Directorate of the UNISA Library, the majority of staff members had more than ten years' experience. This raised some concerns as to why the library clients still receive poor service from staff members, considering the level of experience of the latter. The volume of queries and

complaints received via e-mail were high, which resulted in the supervisors, together with the line manager, decided to assign staff members within the IRRP to deal with queries only. The handling of queries was then considered as one of the key performance areas, to such an extent that the library management devised some means to ensure that queries and complaints were monitored. The Egain was then introduced for this purpose. The researcher assumed that all the staff members lacked the necessary IT skills and competencies to handle online requests, and this warranted investigation.

## **5.2.2 Formal Observations**

The following are the events which were considered during formal observations:

### **5.2.2.1 The setting where the IRRP worked**

All the IRRP staff members worked in an open plan office, together with the three supervisors, and each staff member had two big screen computers and a telephone. A few staff members had scanners on their desks, which they used to scan requests sent via fax. There was another desk with two big screen computers, a scanner and a telephone, where no one sat or used the computer or phone. However, the researcher observed some staff members switching or transferring incoming calls from that phone. In this regard, the researcher asked one of the supervisors to obtain clarity on why the incoming calls were switched or transferred interchangeably among the staff members. The supervisor indicated that the phone was for queries. The transferring of calls enabled incoming queries to ring on the staff members' phones on their desks. Based on the given setting, the staff members had sufficient resources to perform their duties.

The researcher also observed that the team was divided into three sub-teams and each team had its own responsibilities. The first team was responsible for book processing, book excerpt processing, article processing, national ILL (requesting) and queries. The second team was responsible for book processing, book excerpt processing, article processing, national ILL (supplying) and queries. The third team was responsible for book processing, book excerpt processing, article processing, international ILL (requesting and supplying) and queries. The division of teams was meant to split responsibilities, in order to enable received requests for information resources to be processed and delivered within the specified turnaround time. This was the supervisors' decision, together with the line manager, as they thought that it would be

impossible for staff members to work according to their job description, which involved all the mentioned activities.

### **5.2.2.2 The setting where the IRDO worked**

The setting where the IRDO worked is almost the same as the setting for the IRRP. The only difference was that, in the open plan office, there was an RFID sorting machine, which was used to sort information resources returned from the requesters. The researcher also observed that there was one staff member at the delivery office who was responsible for photocopying and printing requested journal articles and book excerpts requested by remote clients and ILL partners. Another responsibility of this staff member was to convert hard copies into a digital format for blind and dyslexic library clients.

With regard to the delivery of requested information resources, this involved generating a track and trace number that had to be recorded on both Sierra and the Student System. This enabled the staff members to handle queries related to requests not received by the requesters, but posted through the SAPO. Most of their activities involved printing stickers with the student/staff number and delivery address, and packaging books and journal articles that needed to be posted and couriered.

### **5.2.2.3 Problems and challenges observed**

During the observation, the researcher wanted to determine whether staff members experience problems and challenges when processing requests from remote clients. In this regard, the researcher observed that staff members had a negative attitude towards downloading received requests. Downloading requests occurred only once a day, but staff members assigned to download these requests seemed to be reluctant to do this. This problem had been occurring since the researcher started working as an IRRP, and is still happening today. The researcher asked one of the supervisors what the reason could be for the reluctance of staff members to download requests. The supervisor mentioned that many requests were received. In this regard, around 1000 requests were received every day during the peak period. The downloading of these requests took time because they had to be downloaded one by one. After downloading, they also had to be deleted from Sierra. In most cases, these downloaded requests got stuck in the system before appearing on Uniflow. The reason for this was unknown, but it was assumed to be IT-

related. This caused frustration for the library clients when they made enquiries about the progress of their requests, only to find out that the requests could not be retrieved on Uniflow. Therefore, library clients had to place another request(s) for the same item(s). When the ICT personnel tried to trace the request and release it, the IRRPs realised that there were duplicates, which made the number of requests on Uniflow higher than normal. Based on these findings, the researcher assumed that one of the reasons why library clients did not receive their requested items in time might be because the requests were stuck on the system, without the staff members realising that there was a problem. The ICT personnel investigated the problems that did not have a solution and staff members who had to deal with the duplicates that were piling up on Uniflow became frustrated.

From the time when the researcher started working at the UNISA Library, the IT tools that were used to handle or process online requests were stable. There was no problem of slowness and/or the malfunctioning of IT tools, which only started occurring three years ago. Currently, the problem observed regarding IT tools was the instability of the Uniflow system, which served as a hub for requests from remote clients. The researcher considered this system to be unreliable, as it was constantly out of order. When Uniflow was malfunctioning, the requests were not handled or processed, as well as the queries related to whether the requests had been received or not. Furthermore, the staff members were unable to determine if a notice was sent to the students, as some of them claimed not to have received any notice from the library when they made queries.

In order to resolve the above challenge, the supervisors tried to log calls to the library ICT. The calls were logged through official e-mails, but the response by the ICT personnel was very slow. They did not treat problems with the IT tools in the IRD Directorate as urgent, and two to three days often passed without a response from them. The researcher assumed that this might be because the cause of the problem was never found. This resulted in more queries and complaints from the clients, who tend to query the status of their requests. To make matters worse, staff members were unable to provide valid answers, as they were unable to login on Uniflow. During the period of registration, staff members were allocated times that they should log off from Uniflow. The reason for this was said to be the challenge of system overload. This means that Uniflow, which is also used for registrations, is unable to handle the load. The staff members were therefore instructed to log off from Uniflow at specified times each day.

The IRD Directorate received many queries on a daily basis. Most of the queries and complaints received were to verify the status of requested information resources and to complain that the library material sent to the Post Office took time to reach the requesters. When the staff members track and traced the requested information on the Student System and SAPO website, most of the requests showed that they had been received at the requester's local Post Office. It also indicated that notifications had been sent to the requesters to collect the items. Surprisingly, many requesters claimed not to have received any notifications from the Post Office. As this was a concern for most requests, the researcher assumed that the problem lies with the Post Office.

The researcher observed that all the staff members had access to the Student System, but they did not have the same functions. Only six IRRP were authorised to lift a block, and all the IRDOs were sanctioned to allocate track and trace numbers. This was done as a control measure and to ensure accountability, as it involved finances. However, it was problematic to handle queries, because all the staff members handled queries on a rotational basis. This meant that a staff member who was not sanctioned to lift a block would have to request his or her colleagues for permission to use the Student System while the client was on the line. According to the researcher, this is considered as poor service, as the client would have to hold on while the staff members were requesting colleagues to lift a block.

The observations indicated that the IT tools that were used to process requests did not communicate with one another. This became a problem when one system was malfunctioning, as it affected the duties of the staff members. Besides the malfunctioning of the IT tools, staff members were tasked with many responsibilities and could not cope with the load, and the volume of requests that were received on a daily basis was very high. This might be the cause of the reluctance of staff members to download new requests.

#### **5.2.2.4 Training staff members received**

Training for newly employed staff was provided by different training providers (internal and external) before the formal observation commenced. Weeks after the researcher started working as an IRRP, the kind of training received was peer training by staff members that worked in the IRD Directorate and were more experienced. After three months, the supervisors conducted training with the entire team. As time went by, external training providers conducted ILL (SABINET and OCLC) training. The training was informational and relevant, and assisted the

newly employed staff to perform their duties. However, newly employed staff members were not allowed to work with ILL requests, as there were problems regarding the supply of requested information resources to the ILL partners.

During the period of the formal observations, no training was conducted for the IRD staff members. The researcher only observed some staff members asking for help from other colleagues and supervisors when they encountered challenges with the requests.

#### **5.2.2.5 Meetings**

During the period of observation, there were two general staff meetings held, as well as one urgent meeting. At the general meetings, issues regarding the performance of both the IRRP and IRDO were discussed. The staff members were given a chance to express their own frustrations, apart from the issues on the agenda. An urgent meeting was called pertaining to the fact that the Student System, for unknown reasons, had not been working for a period of two weeks. All the requests that were downloaded and processed by the IRRP were stuck with the IRDO at the delivery office, waiting to be posted. Due to this external issue, the IRDOs were unable to complete requests and answer queries. It was estimated that there were more than 1700 outstanding requests for the two-week period. The IRRP were requested to assist in this regard and they reacted positively, which enabled the requests to be dispatched within a short space of time.

#### **5.2.2.6 Staff members' behaviour and interaction with one another**

It was observed that there was cooperation among the staff members, which the researcher perceived to be a characteristic of the staff members who worked as a team. When staff members encountered problems or challenges, they assisted one another in trying to handle the request faster. This was viewed as a positive attitude for the purpose of anticipating and solving problems and challenges. However, some of the staff members worked at their own pace, and came to work late and left early. They took tea and lunch breaks at any time. The researcher assumed that the reason for staff members coming to work late and leaving early was because they worked flexi-time. Staff members also accumulated hours for coming early or leaving late, and these hours were converted into leave (called internal leave).

## 5.3 QUESTIONNAIRE FINDINGS

Table 5.1 below indicates the questionnaire response rate.

**Table 5.1: Questionnaire response rate**

<b>Targeted participants</b>	<b>Targeted number</b>	<b>Number of returned questionnaires</b>	<b>Number of unreturned questionnaires</b>
<b>Information Resource Request Processor</b>	32	21 (66%)	11 (34%)
<b>Information Resource Delivery Officer</b>	7	6 (86%)	1 (14%)
<b>Total</b>	39	27 (69%)	12 (31%)

The questionnaire was divided into three sections (refer to Appendix B), namely:

- The personal information of the IRD staff members
- The IT skills and competencies of the IRD staff members
- The problems and challenges encountered when processing requests from remote clients

### 5.3.1 Personal Information of the IRD Staff

This section presents the personal information of the participants. The questions were asked to gain a better understanding of the background of the participants, before asking them about their IT skills and competencies with regard to handling and processing online requests from remote clients.

#### 5.3.1.1 Participants' gender

The participants' gender is shown in Figure 5.1 below.



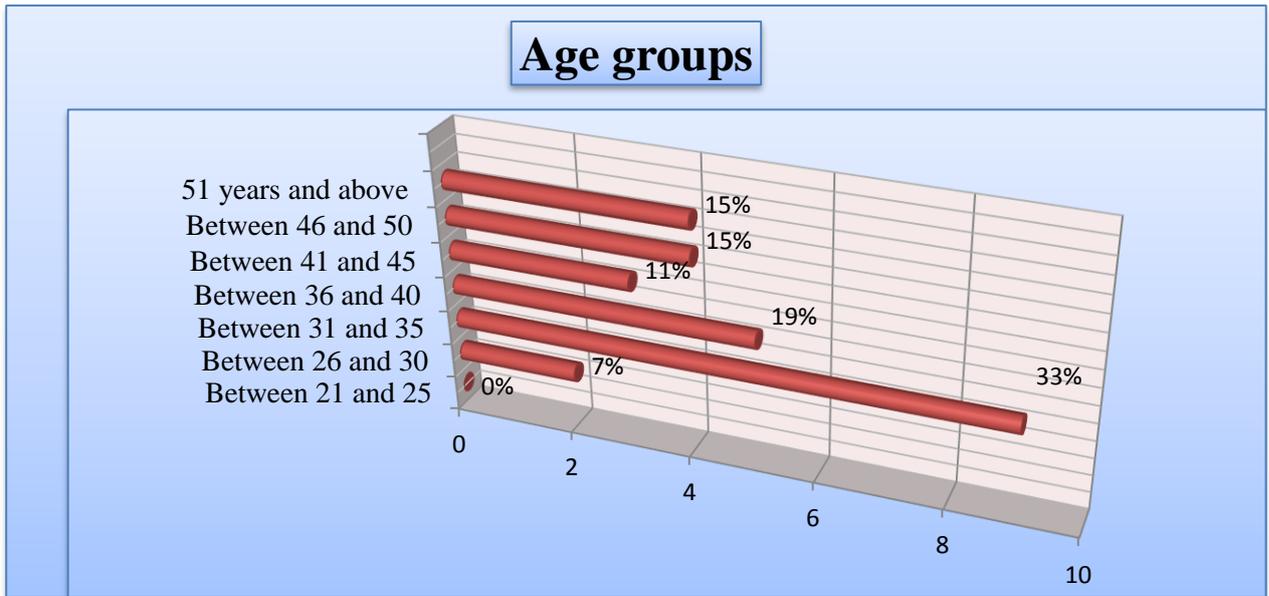
**Figure 5.1: Participants' gender**

The participants were asked to disclose their gender, in order to determine the variables of the participants in terms of gender. If one gender had participated in this study, the findings would have been considered biased. Therefore, the researcher sought to include both genders in this study.

In this study, the researcher distributed the questionnaire to both males and females. The breakdown was almost equal, with 52% of the participants being male and 48% female. These findings indicated that there were more male participants than female participants, but this could not be considered as because gender-based patterns were not an issue for this study.

### **5.3.1.2 Participants' age groups**

The age groups of the participants are indicated in Figure 5.2 below.

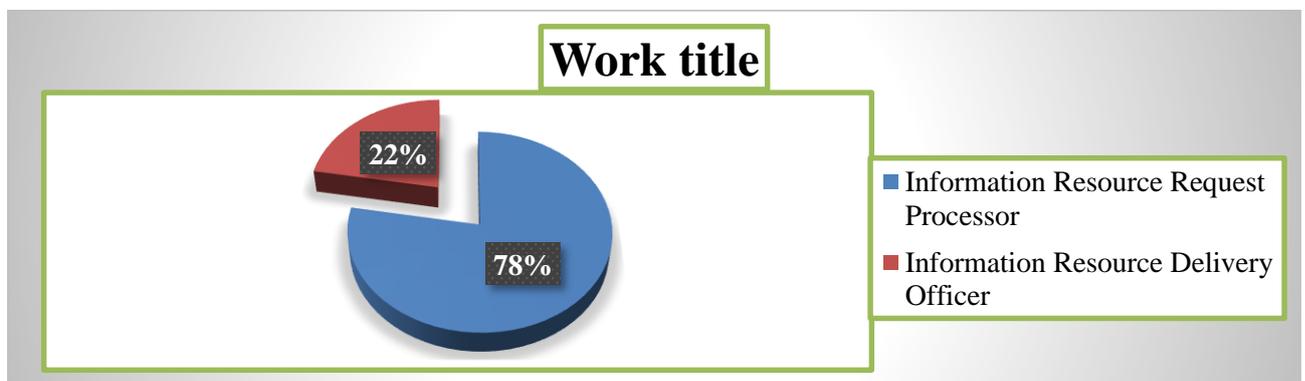


**Figure 5.2: Participants' age groups**

The age groups were included to assist the researcher in determining whether participants from all the age groups had participated in this study. Based on these findings, it is evident that participants from all age groups were represented, and that the majority of the participants were young, ranging in age from 31 to 35 years old. The participation of young staff members could be attributed to the fact that staff members do not participate in research studies, and that the younger generation was occupying positions in the library, as the number of staff members from the older generation was decreasing due to retirement.

### 5.3.1.3 Participants' work titles

The participants' work titles are indicated in Figure 5.3 below.

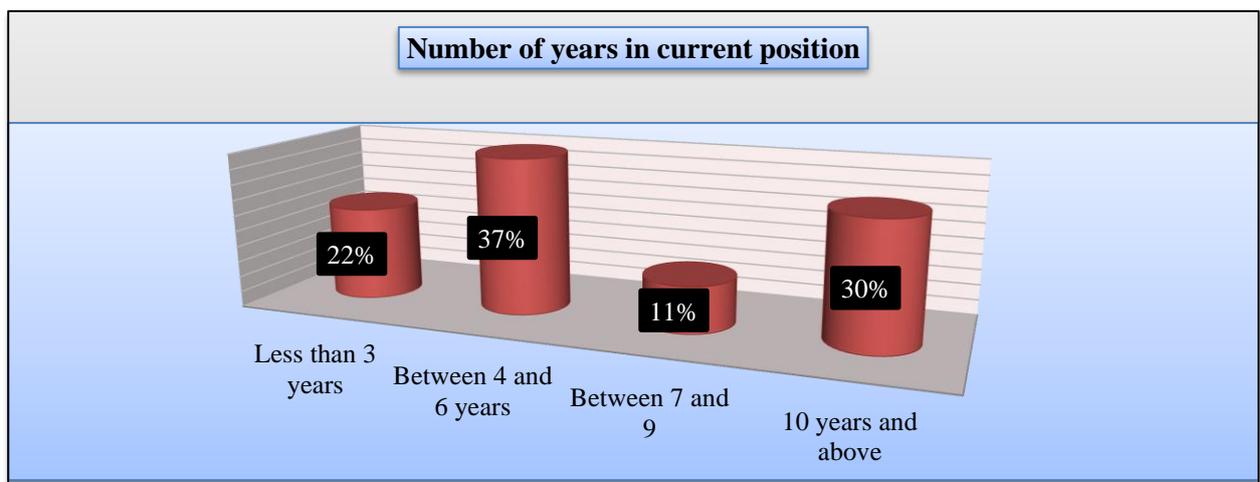


**Figure 5.3: Participants' work titles**

The response to the questionnaire by both the IRRP and IRDO was satisfactory enough for the researcher to continue with the study. Based on the total number of questionnaires distributed to staff members, it was obvious that there were more IRRP than IRDO participants.

#### 5.3.1.4 Number of years in current position

The total number of years in participants' current position is shown in Figure 5.4 below.

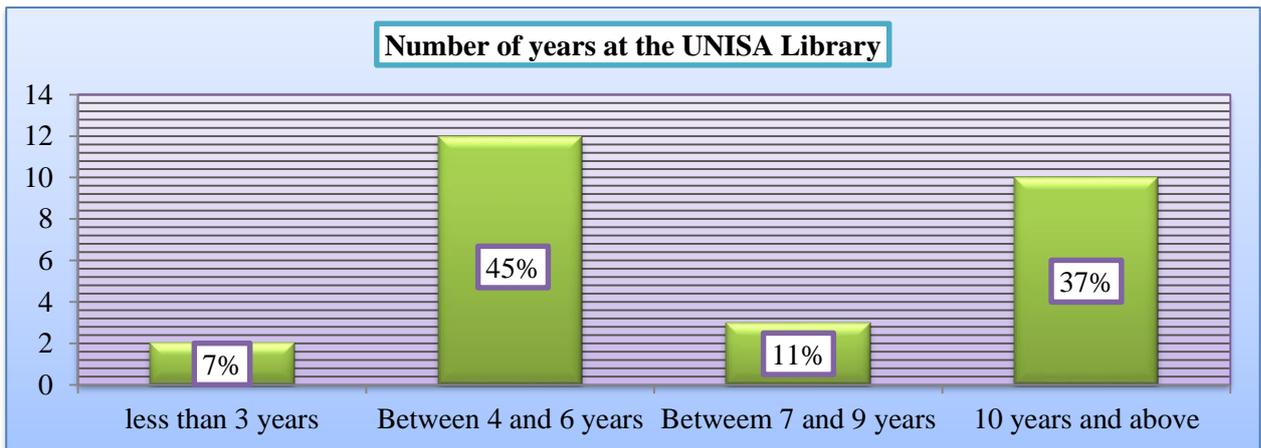


**Figure 5.4: Number of years in current position**

Based on the findings, it is evident that the IRD staff members comprised 37% of staff members who had worked in their current position for four to six years, followed by 30% of staff members who had ten years' experience and more. These years of experience were enough for the staff members to be regarded as skilled and competent with regard to handling or processing online requests.

#### 5.3.1.5 Number of years at the UNISA Library

The findings for the number of years that the staff members had worked at the UNISA Library are indicated in Figure 5.5 below.

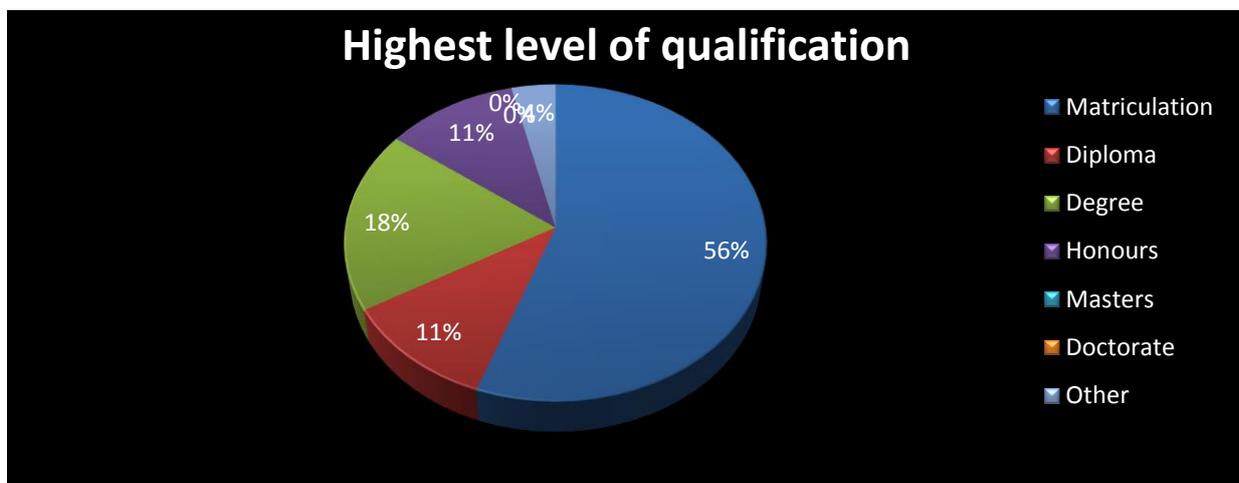


**Figure 5.5: Number of years at the UNISA Library**

The purpose of asking the participants to indicate their number of years of service at the UNISA Library was to determine whether the IRD staff members started working at UNISA as IRRPs and IRDOs. The experience gained since working at the UNISA Library, as an ODL institution, might contribute positively to rendering a good library and information services. The majority, which constituted 45%, indicated that they had worked between four and six years at the UNISA Library in other positions. This was followed by 37% of the participants who indicated that they also worked in other positions for ten years and more.

### 5.3.1.6 Highest level of qualification

The highest level of qualification for the participants is shown in Figure 5.6 below.

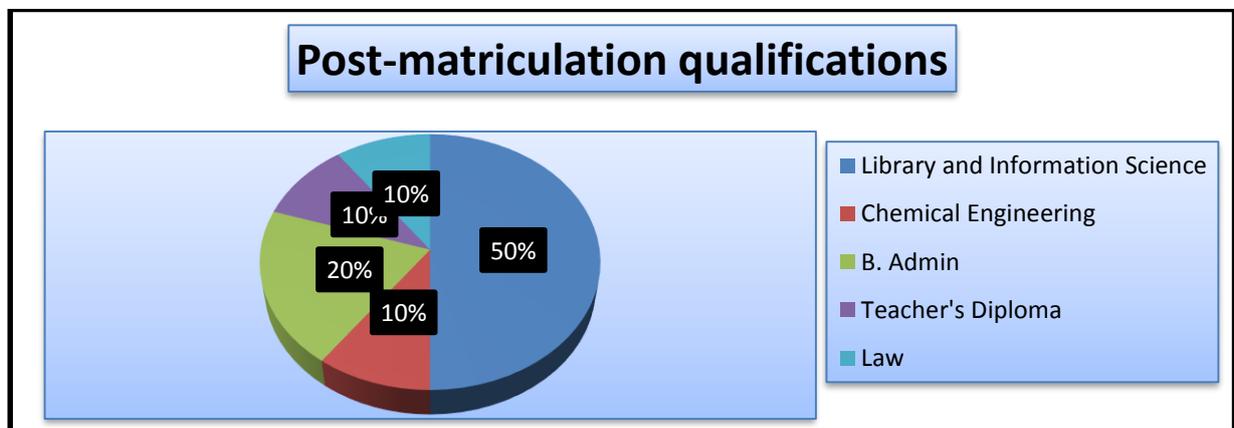


**Figure 5.6: Highest level of qualification**

The findings indicate that the majority (56%) of the participants were those with a matriculation certificate. It was mentioned in Chapter 2 that some academic libraries consisted of paraprofessionals, who assisted professional librarians. The UNISA Library differed from certain other academic libraries, as the work that was supposed to be handled by professionals was done by paraprofessionals.

### 5.3.1.7 Post-matriculation qualifications

The researcher sought to determine the qualifications of those participants who indicated that they had post-matriculation qualifications. The findings are presented in Figure 5.7 below.



**Figure 5.7: Post-matriculation qualifications**

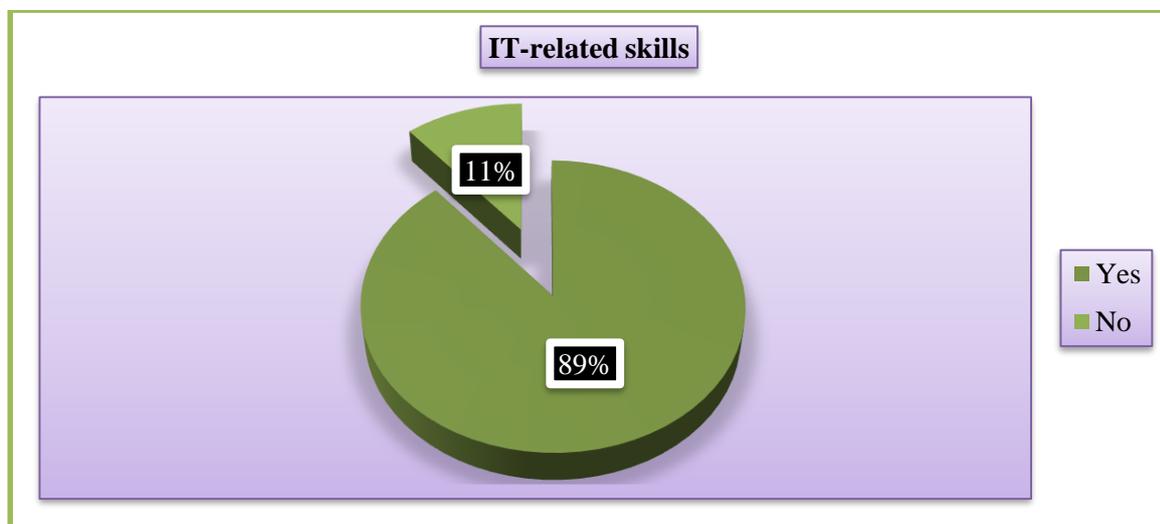
The participants who had post-matriculation qualifications were asked to specify their field of study. Based on the findings, there were some participants who were in possession of a library and information science degree. Others had qualifications that were in the field of chemical engineering, administration, teaching and law, which were irrelevant for someone working in an academic library, who depended extensively on IT to meet the information needs of remote clients. However, this does not mean that they could not do the work, and might even do it much better than those with a library and information science qualification.

### 5.3.2 IT Skills and Competencies of Information Resource Distribution Staff

This section of the questionnaire asked the participants about their IT skills and competencies, with the purpose of determining whether they are skilled and competent enough to carry out their daily duties.

#### 5.3.2.1 IT-related skills

The IT-related skills of the participants are indicated in Figure 5.8 below.



**Figure 5.8: IT-related skills**

The participants were asked to select 'yes' or 'no' on whether they have IT related skills. The researcher sought to determine if there were any staff members who did not have IT skills. The findings indicated that 89% of the participants had IT skills.

#### 5.3.2.2 Acquired IT skills

In Table 5.2 below, the participants who indicated that they had IT skills were asked how they had acquired these IT skills.

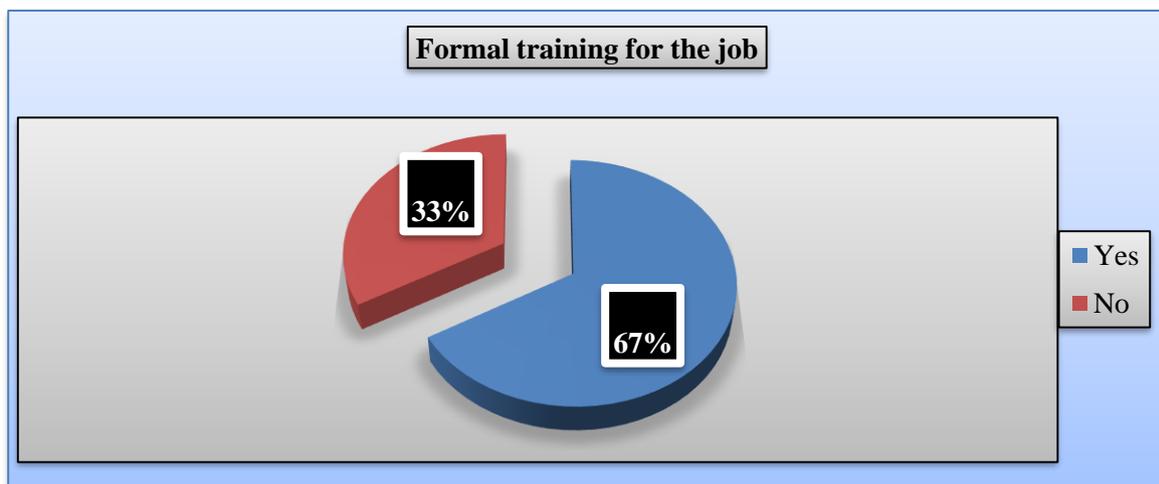
**Table 5.2: Acquired IT skills**

Number of responses	Responses
18 (67%)	The participants indicated that they had acquired IT skills for handling online requests through internal training
7 (26%)	The participants indicated that they had acquired IT skills through peer training and coaching by experienced colleagues
2 (7%)	Participants indicated that they had an IT certificate, even though the UNISA Library provided internal training for processing online requests

Based on these findings, it is clear that the majority of the IRD staff members, which was 67%, received internal training that helped them become IT skilled and competent. Internal training is usually conducted by supervisors and experienced colleagues. In addition, the UNISA Library invited external training providers to conduct training internally.

### 5.3.2.3 Formal training for the job

The findings in relation to formal training for the job are indicated in Figure 5.9 below.



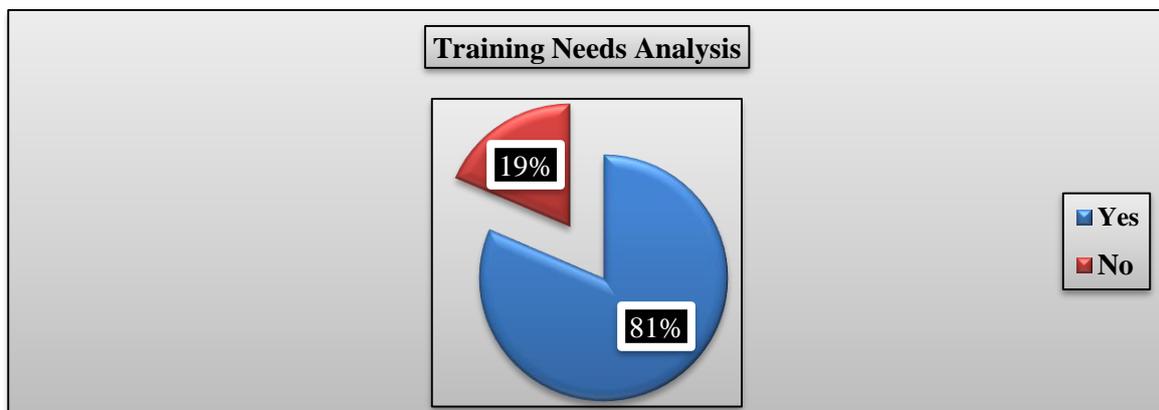
**Figure 5.9: Formal training for the job**

Formal training involves training that is awarded a certificate of completion, such as a college or university qualification or certificate. In this regard, the participants were asked to indicate whether they received formal training for the job that they are employed to do. The findings

indicate that 67% of participants had received formal training, while the other 33% indicated that they had not. Well-trained staff members are essential in any library, and they tend to be productive in their jobs.

#### 5.3.2.4 Training needs analysis

The findings regarding whether a TNA was conducted to determine the kind of training needed by the IRD staff members of the UNISA Library are presented in Figure 5.10 below.

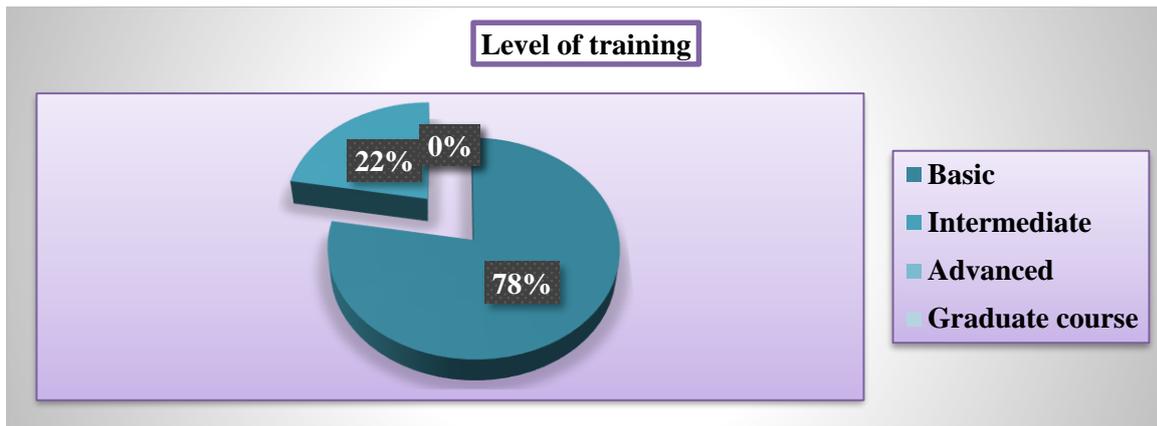


**Figure 5.10: Training Needs Analysis**

Based on these findings, where the majority (81%) of participants answered 'yes', it is clear that a TNA had been conducted. Before training can take place, a TNA should be conducted to identify gaps and to determine the kind of training needed by the staff members.

#### 5.3.2.5 Level of training

The participants were asked to indicate the level of training they had received, and the results are shown in Figure 5.11 below.

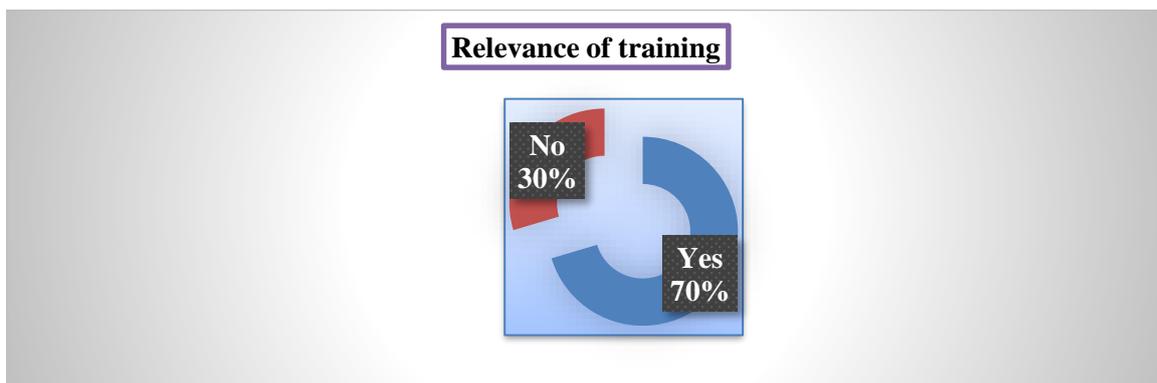


**Figure 5.11: Level of training**

The majority (78%) of the participants reported that they had received basic training, followed by intermediate training, as indicated by 22% of the participants. None of them had received advanced and/or graduate course training. Based on the findings, it is evident that the IRD Directorate provided staff members with basic training.

### 5.3.2.6 Relevance of training

Figure 5.12 below indicates whether the training they had received was relevant with regard to assisting in the handling or processing of online requests from remote clients.



**Figure 5.12: Relevance of training**

Based on the findings, it is evident that training was relevant, as indicated by 70% of the participants. The training provided to the library staff members should be relevant to the work that they do on a daily basis. It is of no use to provide training that does not have anything to do with their work, because the skills acquired will not be applicable to their daily tasks.

### 5.3.2.7 Content of training

The participants who indicated that the training was relevant were asked to mention what the training entailed. The findings are presented in Table 5.3 below.

**Table 5.3: Content of training**

Number of respondents	Responses
9 (50%)	<ul style="list-style-type: none"><li>- Uniflow</li><li>- Sierra</li><li>- SABINET</li><li>- OCLC</li><li>- Downloading newly received requests</li><li>- Converting hardcopies into a digital format</li></ul>
4 (22%)	<ul style="list-style-type: none"><li>- Student System</li></ul>
5 (28%)	<ul style="list-style-type: none"><li>- DAISY- converting hard copies into a digital format</li><li>- Checking in and checking out of requested information resources</li><li>- Allocating a track and trace number on Sierra, which is used as a guideline for the track and trace number allocated by SAPO, and is available on the Student System</li><li>- Shipping and supplying ILL books via SABINET and OCLC</li><li>- Scanning, photocopying and printing journal articles that need to be e-mailed, posted or couriered to the remote clients</li></ul>

With regard to the overall findings, it is evident that the training provided was relevant. All the duties mentioned by both IRRP and IRDO were appropriate, and the IT tools were those used to process online requests.

### 5.3.2.8 What do you think the training should have entailed?

The participants who responded that the training was not relevant were asked to indicate what they thought the training should have entailed. The findings are presented in Table 5.4 below.

**Table 5.4: What do you think the training should have entailed?**

Number of respondents	Response
2 (22%)	The training should have entailed all the daily activities according to the job description, including catalogue and database searches.
3 (33%)	How to use the Student System to be able to respond to queries that related to information resources that were sent to the SAPO and not received or collected by the requesters. This entails knowing how to check for the track and trace number on the Student System and to lift a block.
1 (11%)	Splitting of faxes that are sent through fax-to-email
1 (11%)	How to assist remote clients to be self-sufficient
1 (11%)	Handling queries that are received through the new system called Egain.
1 (11%)	SABINET and OCLC

All the activities that the staff members recommended to be covered in training are relevant and understandable, as it is important for the staff members to provide a quality and timely service to remote clients.

### 5.3.2.9 Describing practical experience

The participants were asked to describe their practical experience during training, and the findings are indicated in Table 5.5 below.

**Table 5.5: Describing practical experience**

Number of respondents	Responses
18 (67%)	They gained knowledge on how to process online requests accurately
9 (33%)	No response

The findings indicate that 67% of the participants reported that they gained knowledge on how to process online requests accurately. It was clear that the UNISA Library had done its part to equip staff members with the relevant skills they needed to perform their duties. On the contrary, 33% of the participants did not mention their practical experience gained during training. The

researcher assumed that reason for non-response is because the participants indicated in Figure 5.9 that they did not receive formal training.

### 5.3.2.10 Improving quality service

The participants were asked whether being IT skilled and competent would assist in improving quality service to remote clients, and were requested to motivate their answer. The findings are shown in Table 5.6 below.

**Table 5.6: Improving quality service**

Number of respondents	Responses
25 (93%)	<p><b><u>Yes</u></b></p> <ul style="list-style-type: none"> <li>- IT will reduce complaints and queries</li> <li>- The work in the library entails using IT tools, and enhanced IT skills and competencies would assist staff members to provide quality service to remote clients</li> <li>- IT helps to eliminate mistakes and reduce delays for clients to receive their requested items</li> <li>- Staff members will be able to train remote clients to be self-sufficient</li> <li>- Staff members will be able to access and search various databases</li> <li>- Staff members will be able to communicate with library clients through Facebook, Twitter, e-mail and Egain</li> <li>- Library clients who are affected by the digital divide will benefit because staff members will be able to download online resources and post them to remote clients</li> </ul>
2 (7%)	<p><b><u>No</u></b></p> <ul style="list-style-type: none"> <li>- Remote clients should not depend totally on the staff members to provide them with information resources, as their requests might take time to be processed and posted. Instead, they should learn to be self-sufficient</li> </ul>

- Information resources take time to reach their destination when posted through the SAPO, and some books get lost on the way, especially those which are sent to international students

The majority (93%) agreed that being IT skilled and competent will assist in improving quality service to remote clients. The staff members should provide a high-quality service to remote clients at all times. This denotes that staff members should be skilled and competent enough to handle the requests for information resources effectively and efficiently.

### 5.3.2.11 Threats to library staff members

The participants were asked if they thought that IT had posed threats to staff members in terms of handling online requests from remote clients. The findings are presented in Table 5.7 below.

**Table 5.7: Threats posed to library staff members**

Number of respondents	Responses
4 (15%)	<p><b><u>Yes</u></b></p> <ul style="list-style-type: none"> <li>- The staff members felt that they might lose their jobs if they were not properly trained to use IT tools, because remote clients were able to download online information resources without the assistance of the library.</li> <li>- IT made the staff members feel incompetent in their jobs when the library clients always queried the status of their requests</li> </ul>
14 (52%)	<p><b><u>No</u></b></p> <ul style="list-style-type: none"> <li>- IT enabled the staff members to process requests quickly</li> <li>- IT was an integral part of the process that was essential for assisting staff members to process online requests</li> <li>- In this era, working without IT was impossible</li> <li>- IT was meant to simplify the way in which they worked, and should therefore be seen as a new way of doing things</li> <li>- UNISA had many students around the world, and the staff members were able to reach these students through IT</li> </ul>

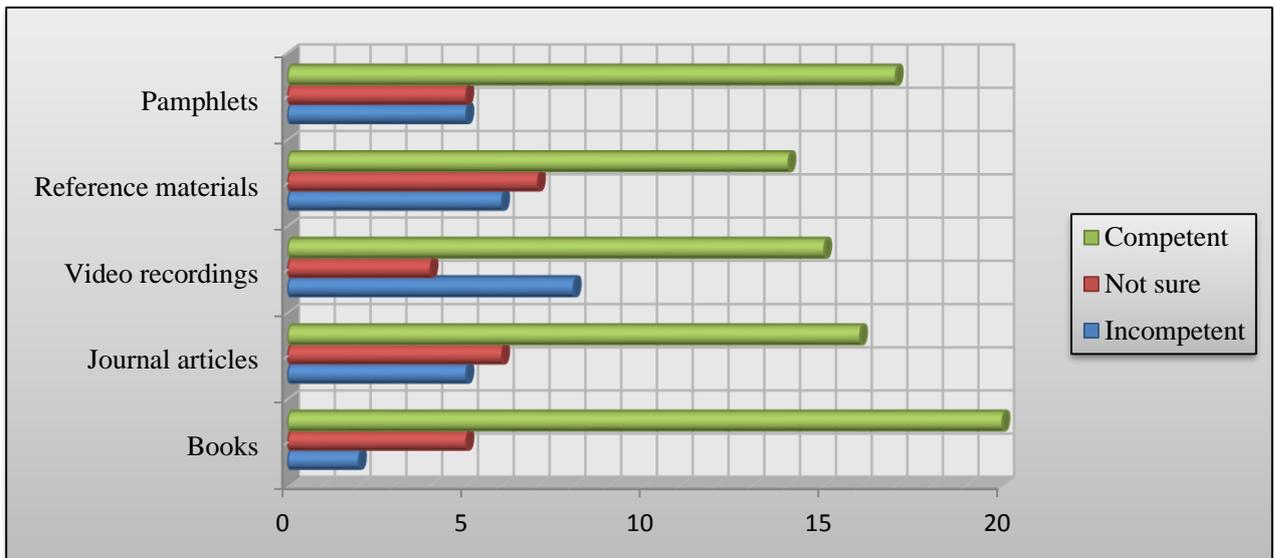
The participants gave their opinions on whether they thought IT had posed threats in terms of handling online requests from remote clients. Based on the findings, some staff members perceived IT as a positive tool that can enhance service delivery, while others had a negative attitude towards IT.

### 5.3.2.12 Ratings for IT skills and competencies for processing information resources

The participants were asked to rate their knowledge, skills and competencies for processing information resources, and were asked to choose between “highly incompetent”, “incompetent”, “not sure”, “competent” and “highly competent”, as indicated in Table 5.8 below. However, the results for “highly incompetent” and “incompetent”; and “competent” and “highly competent” were combined. For example, “highly incompetent” + “incompetent” = **“incompetent”** and “competent” and “highly competent” = **“competent”**. “Not sure” was left as it is. The results for **“incompetent”**, **“Not sure”** and **“competent”** are shown in Figure 5.13 below.

**Table 5.8: Ratings for IT skills and competencies for processing information resources**

Variables	Highly incompetent	Incompetent	Total	Not sure	Competent	Highly competent	Total
<b>Books</b>	-	2 (7%)	<b>2</b> <b>(7%)</b>	5 (19%)	8 (30%)	12 (44%)	<b>20</b> <b>(74%)</b>
<b>Journal Articles</b>	1 (4%)	4 (15%)	<b>5</b> <b>(19%)</b>	6 (22%)	13 (48%)	3 (11%)	<b>16</b> <b>(59%)</b>
<b>Video recordings</b>	3 (11%)	5 (19%)	<b>8</b> <b>(30%)</b>	4 (14%)	11 (41%)	4 (15%)	<b>15</b> <b>(56%)</b>
<b>Reference materials</b>	4 (15%)	2 (7%)	<b>6</b> <b>(22%)</b>	7 (26%)	12 (44%)	2 (7%)	<b>14</b> <b>(52%)</b>
<b>Pamphlets</b>	1 (4%)	4 (15%)	<b>5</b> <b>(19%)</b>	5 (18%)	15 (56%)	2 (7%)	<b>17</b> <b>(63%)</b>



**Figure 5.13: IT skills and competencies for processing information resources**

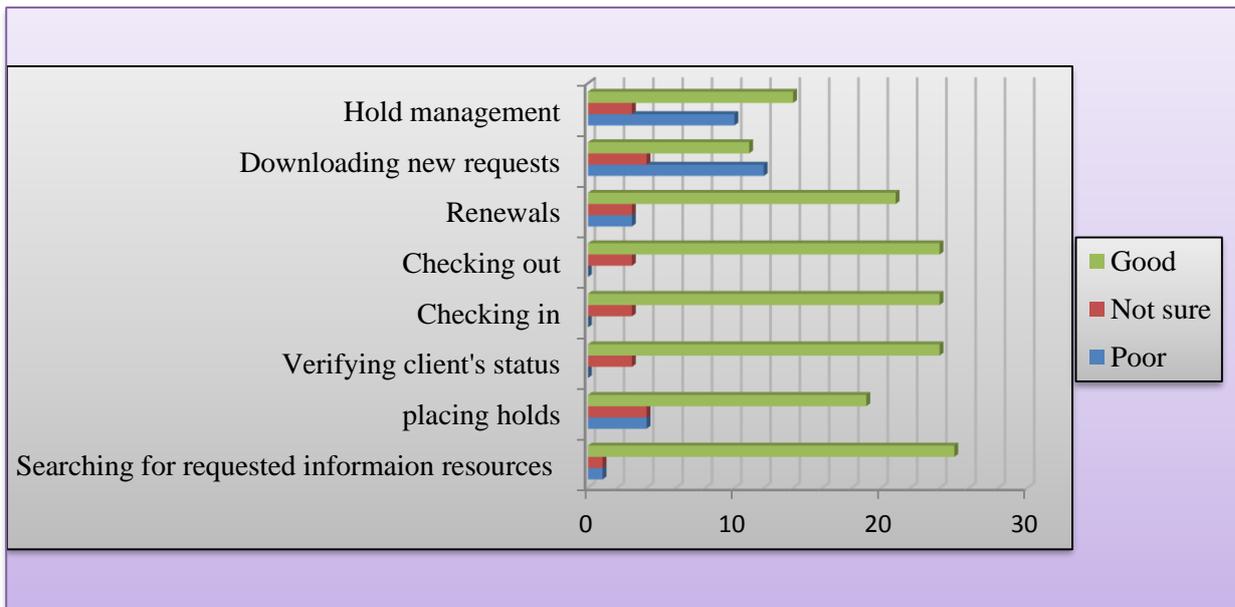
The overall findings showed that staff members were skilled and competent in processing or handling requested information resources. The handling or processing of journal article requests was one of the major responsibilities of the IRD staff members, which required IT skills and competencies, as most of the journal articles were accessed online. For the staff members to be considered competent in this regard, it means that they should have knowledge with regard to searching websites and various databases, as most of the journal articles are accessed online. The processing of reference materials requires the ability and knowledge of the staff members in order to determine how they are different from other information resources.

### 5.3.2.13 Rating of knowledge, skills and competencies on using Sierra applications

The participants were asked to rate their knowledge, skills and competencies in the use of Sierra applications, and were asked to choose between “very poor”, “poor”, “not sure”, “good” and “very good”, as indicated in Table 5.9 below. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “**poor**” and “good” and “very good” = “**good**”. “Not sure” was left as it was. The results for “**poor,**” “**not sure**” and “**good**” are shown in Figure 5.14 below.

**Table 5.9: Rating of knowledge, skills and competencies on using Sierra applications**

Sierra Applications	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for requested information resources	-	1 (4%)	<b>1</b> <b>(4%)</b>	1 (4%)	10 (37%)	15 (55%)	<b>25</b> <b>(92%)</b>
Placing holds	-	4 (15%)	<b>4</b> <b>(14%)</b>	4 (14%)	8 (29%)	11 (43%)	<b>19</b> <b>(72%)</b>
Verifying clients' status	-	-	-	3 (11%)	10 (37%)	14 (52%)	<b>24</b> <b>(89%)</b>
Checking in	-	-	-	3 (11%)	10 (37%)	14 (52%)	<b>24</b> <b>(89%)</b>
Checking out	-	-	-	3 (11%)	10 (37%)	14 (52%)	<b>24</b> <b>(89%)</b>
Renewals	-	3 (11%)	<b>3</b> <b>(11%)</b>	3 (11%)	5 (19%)	16 (59%)	<b>21</b> <b>(78%)</b>
Downloading new requests	7 (26%)	5 (19%)	<b>12</b> <b>(45%)</b>	4 (15%)	5 (19%)	6 (21%)	<b>11</b> <b>(40%)</b>
Hold management	2 (7%)	8 (30%)	<b>10</b> <b>(37)</b>	3 (11%)	8 (30%)	6 (22%)	<b>14</b> <b>(52%)</b>



**Figure 5.14: Skills and competencies on using Sierra applications**

The overall ratings confirm that staff members were skilled and competent in searching for requested information resources, placing holds, verifying clients’ status, checking in, checking out, renewals and hold management. The findings also indicated that the majority of the staff members faced a challenge in downloading new requests, which is one of the core activities of IRD staff.

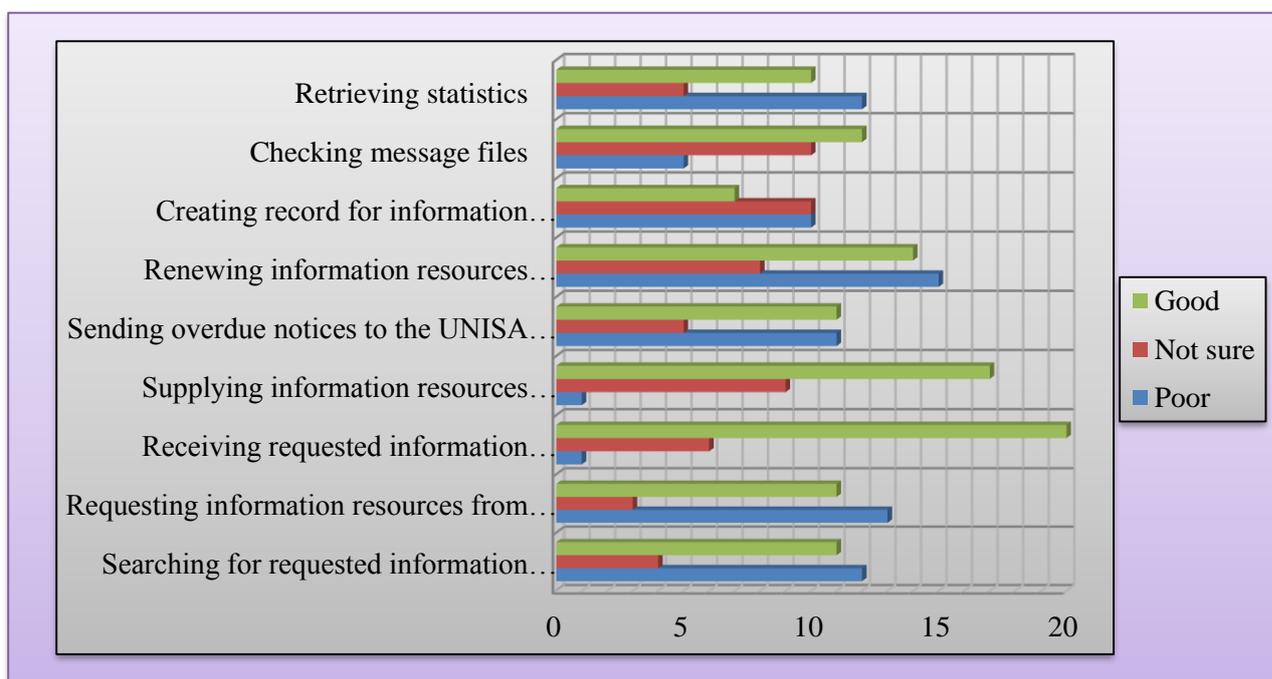
#### **5.3.2.14 Rating of knowledge, skills and competencies with regard to SABINET applications**

The participants were asked to rate their knowledge, skills and competencies with regard to SABINET applications, and were asked to choose between “very poor”, “poor”, “not sure”, “good” and “very good”, as shown in Table 5.14 below. However, the choices for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “poor” and “good” and “very good” = “good”. “Not sure” was left as it was. The results for “poor”, “Not sure” and “good” are shown in Figure 5.15 below.

**Table 5.10: Rating of knowledge, skills and competencies with regard to SABINET applications**

SABINET applications	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for requested information resources on SACat	3 (11%)	9 (33%)	<b>12</b> <b>(44%)</b>	4 (15%)	5 (19%)	6 (22%)	<b>11</b> <b>(41%)</b>
Requesting information resources from participating university libraries and partners	2 (7%)	11 (41%)	<b>13</b> <b>(48%)</b>	3 (11%)	5 (19%)	6 (22%)	<b>11</b> <b>(41%)</b>
Receiving requested information resources from participating university libraries and other partners	-	1 (4%)	<b>1</b> <b>(4%)</b>	6 (22%)	13 (48%)	7 (26%)	<b>20</b> <b>(74%)</b>
Supplying information resources requested by other university libraries and partners	-	1 (4%)	<b>1</b> <b>(4%)</b>	9 (33%)	10 (37%)	7 (26%)	<b>17</b> <b>(63%)</b>
Sending overdue notices to the UNISA Library partners	4 (15%)	7 (26%)	<b>11</b> <b>(41%)</b>	5 (18%)	5 (19%)	6 (22%)	<b>11</b> <b>(41%)</b>

Renewing information resources borrowed for the UNISA Library clients	2 (7%)	3 (11%)	5 (18%)	8 (30%)	7 (26%)	7 (26%)	14 (52%)
Creating records for information resources borrowed from other libraries	-	10 (37%)	10 (37%)	10 (37%)	2 (7%)	5 (19%)	7 (26%)
Checking message files	2 (7%)	3 (11%)	5 (18%)	10 (37%)	5 (19%)	7 (26%)	12 (45%)
Retrieving statistics	6 (22%)	6 (22%)	12 (44%)	5 (19%)	6 (22%)	4 (15%)	10 (37%)



**Figure 5.15: Skills and competencies with regard to SABINET applications**

Based on the findings, it is apparent that the staff members were knowledgeable, skilled and competent with regard to searching for the requested information resources, requesting

information resources, receiving information resources from other libraries and partners, supplying information resources, sending overdue notices and attending to message files. The findings also showed that some other staff members experienced challenges in creating a record for books that need to be checked out to UNISA Library clients, and in retrieving statistics from SABINET.

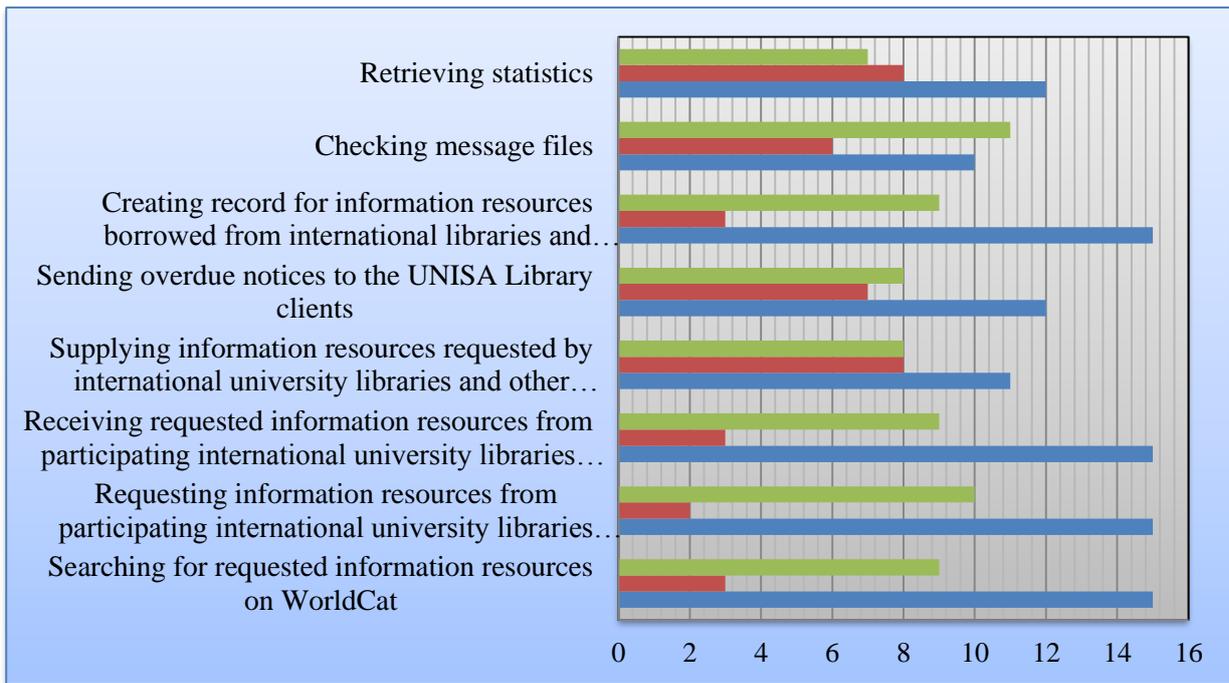
### 5.3.2.15 Rating of knowledge, skills and competencies in the use of OCLC applications

The participants were asked to rate their knowledge, skills and competencies in terms of OCLC applications and were asked to choose between “very poor”, “poor”, “not sure”, “good” and “very good”, as indicated in Table 5.11 below. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = **“poor”** and “good” and “very good” = **“good”**. “Not sure” was left as it was. The results for **“poor”**, **“not sure”** and **“good”** are shown in Figure 5.16 below.

**Table 5.11: Rating of knowledge, skills and competencies in the use of OCLC applications**

OCLC application	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for the requested information resources on WorldCat	6 (22%)	9 (33%)	<b>15</b> <b>(55%)</b>	3 (11%)	4 (15%)	5 (19%)	<b>9</b> <b>(34%)</b>
Requesting information resources from participating international university libraries and other partners	5 (19%)	10 (37)	<b>15</b> <b>(56%)</b>	2 (7%)	4 (15%)	6 (22%)	<b>10</b> <b>(37%)</b>
Receiving requested information resources from	7		<b>15</b>	3	3	6	<b>9</b>

participating international university libraries and other partners	(26%)	8 (30%)	<b>(56%)</b>	(11%)	(11%)	(22%)	<b>(33%)</b>
Supplying information resources requested by international university libraries and other partners	6 (22%)	5 (18%)	<b>11 (40%)</b>	8 (30%)	3 (11%)	5 (19%)	<b>8 (30%)</b>
Sending overdue notices to the UNISA Library clients	9 (33%)	3 (11%)	<b>12 (44%)</b>	7 (26%)	3 (11%)	5 (19%)	<b>8 (30%)</b>
Creating records for information resources borrowed from international libraries and other partners	4 (14%)	11 (41%)	<b>15 (55%)</b>	3 (11%)	4 (15%)	5 (19%)	<b>9 (34%)</b>
Checking message files	3 (11%)	7 (26%)	<b>10 (37%)</b>	6 (22%)	6 (22%)	5 (19%)	<b>11 (41%)</b>
Retrieving statistics	6 (22%)	6 (22%)	<b>12 (44%)</b>	8 (30%)	4 (15%)	3 (11%)	<b>7 (26%)</b>



**Figure 5.16: Skills and competencies in the use of OCLC applications**

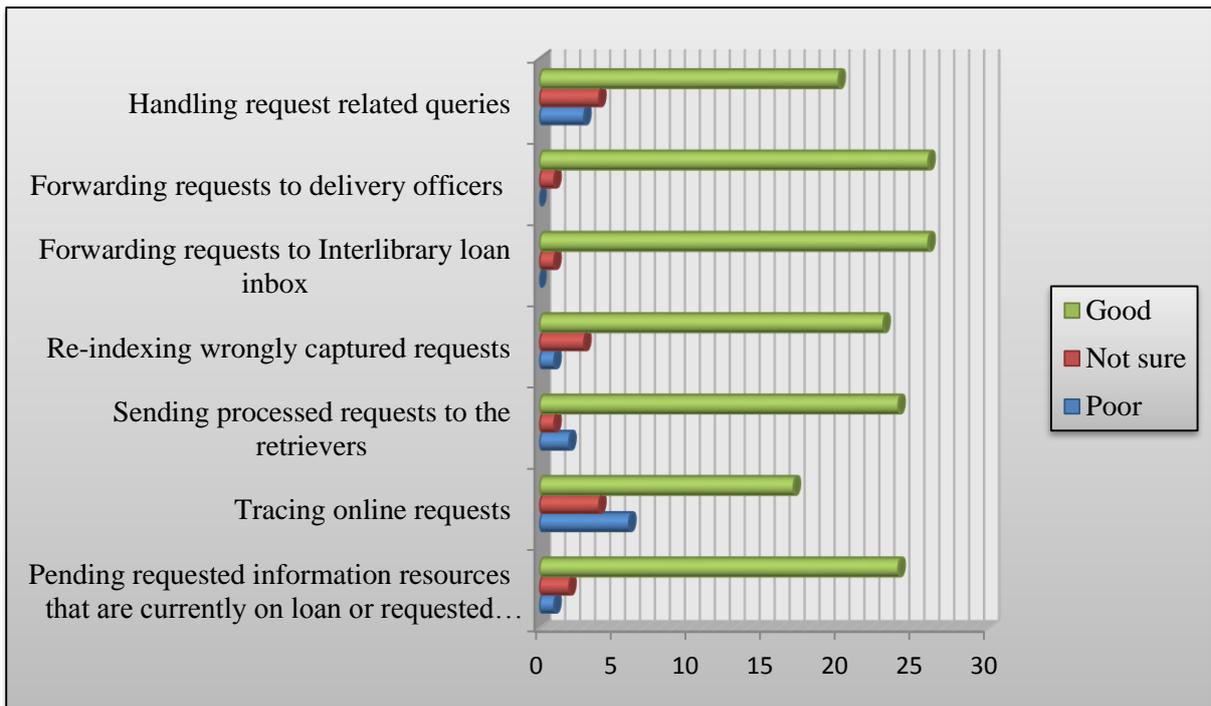
Based on the findings, it is evident that the staff members were not knowledgeable, skilled and competent enough with regard to searching for the requested information resources, requesting information resources from participating libraries and partners, receiving the information requested from other libraries and partners, supplying information resources, sending overdue notices, creating a record for information resources that needed to be checked out to UNISA Library clients, and retrieving statistics. The findings also showed that the staff members experienced challenges in reading message files from OCLC.

### **5.3.2.16 Rating of knowledge, skills and competencies with regard to Uniflow applications**

The participants were asked to rate their knowledge, skills and competencies with regard to Uniflow applications, and were asked to choose between “very poor”, “poor”, “not sure”, “good” and “very good”, as indicated in Table 5.12 below. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “poor” and “good” and “very good” = “good”. “Not sure” was left as it was. The results for “poor”, “not sure” and “good” are shown in Figure 5.17 below.

**Table 5.12: Rating of knowledge, skills and competencies with regard to Uniflow applications**

Uniflow application	Very poor	Poor	Total	Not sure	Good	Very good	Total
Pending requested information resources that are currently on loan or requested on SABINET and OCLC	-	1 (4%)	<b>1</b> <b>(4%)</b>	2 (7%)	14 (52%)	10 (37%)	<b>24</b> <b>(89%)</b>
Tracing online requests	-	6 (22%)	<b>6</b> <b>(22%)</b>	4 (15%)	7 (26%)	10 (37%)	<b>17</b> <b>(63%)</b>
Sending the processed requests to the retrievers	-	2 (7%)	<b>2</b> <b>(7%)</b>	1 (4%)	5 (19%)	19 (70%)	<b>24</b> <b>(89%)</b>
Re-indexing incorrectly captured requests	-	1 (4%)	<b>1</b> <b>(4%)</b>	3 (11%)	7 (26%)	16 (59%)	<b>23</b> <b>(85%)</b>
Forwarding requests to the interlibrary loan inbox	-	-	-	1 (4%)	12 (44%)	14 (52%)	<b>26</b> <b>(96%)</b>
Forwarding requests to delivery officers	-	-	-	1 (4%)	7 (26%)	19 (70%)	<b>26</b> <b>(96%)</b>
Handling request-related queries	-	3 (11%)	<b>3</b> <b>(11)</b>	4 (15%)	9 (33%)	11 (41%)	<b>20</b> <b>(74%)</b>



**Figure 5.17: Skills and competencies in the use of Uniflow applications**

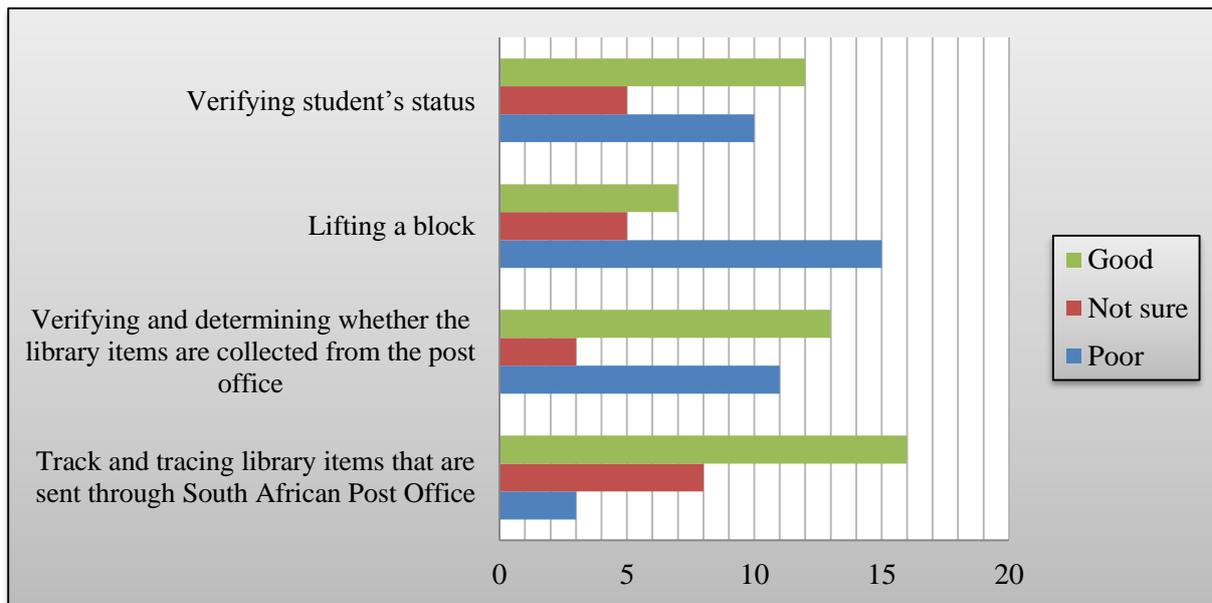
The overall findings indicated that the staff members were knowledgeable, skilled and competent in pending requested information resources that are currently on loan or requested on SABINET and OCLC, tracing online requests, sending processed requests to the retrievers, re-indexing incorrectly captured requests, forwarding requests to the interlibrary loan inbox, forwarding requests to delivery officers, and handling request-related queries using Uniflow.

### 5.3.2.17 Rating of knowledge, skills and competencies with regard to the Student System

The participants were asked to rate their knowledge, skills and competencies with regard to Student System applications, and were asked to choose between “very poor”, “poor”, “not sure”, “good” and “very good”, as indicated in Table 5.13 below. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “poor” and “good” and “very good” = “good”. “Not sure” was left as it was. The results for “poor”, “not sure” and “good” are shown in Figure 5.18 below.

**Table 5.13: Rating of knowledge, skills and competencies with regard to the Student System**

Student System	Very poor	Poor	Total	Not sure	Good	Very good	Total
Track and tracing library items that are sent through SAPO	-	3 (11%)	<b>3</b> <b>(11%)</b>	8 (30%)	12 (44%)	4 (15%)	<b>16</b> <b>(59%)</b>
Verifying that the library items were collected from the SAPO	4 (15%)	7 (26%)	<b>11</b> <b>(41%)</b>	3 (11%)	9 (33%)	4 (15%)	<b>13</b> <b>(48%)</b>
Lifting a block	6 (22%)	9 (33%)	<b>15</b> <b>(55%)</b>	5 (19%)	4 (15%)	3 (11%)	<b>7</b> <b>(26%)</b>
Verifying students' status	-	10 (36%)	<b>10</b> <b>(36%)</b>	5 (19%)	5 (19%)	7 (26%)	<b>12</b> <b>(45%)</b>



**Figure 5.18: Skills and competencies with regard to the Student System**

The overall findings indicated that the staff members were skilled and competent in the utilisation of the Student System, except for lifting a block. This might be because the staff members had stated earlier that lifting a block is allocated to specific staff members for control purposes and accountability.

### 5.3.2.18 IT skills and competencies for processing online requests

The participants were asked to describe their IT skills and competencies with regard to processing online requests, and were not limited in this regard, as presented in Table 5.14 below.

**Table 5.14: IT skills and competencies for processing online requests**

Number of response	Responses
18	Are able to process online requests from remote clients
9	Understand book processing better than the processing of journal articles, excerpts and other information resources
4	Do not know about or understand the processing of information resources. They only know about the delivery of information resources
7	Struggle to search online information resources, databases and law cases
2	Verifying a request is a challenge and confusing, as they have to check duplicates, status of the requesters and fines
14	The IT tools are always slow or hang while they are still busy with the requests, and they forget the next steps
3	Do not understand the meaning of notices that have to be sent to requesters
1	The splitting of faxes sent via fax-to-email is a challenge and confusing
2	They understand converting books to DAISY as their main responsibility. This implies that they do not understand the whole process of handling requests from remote clients

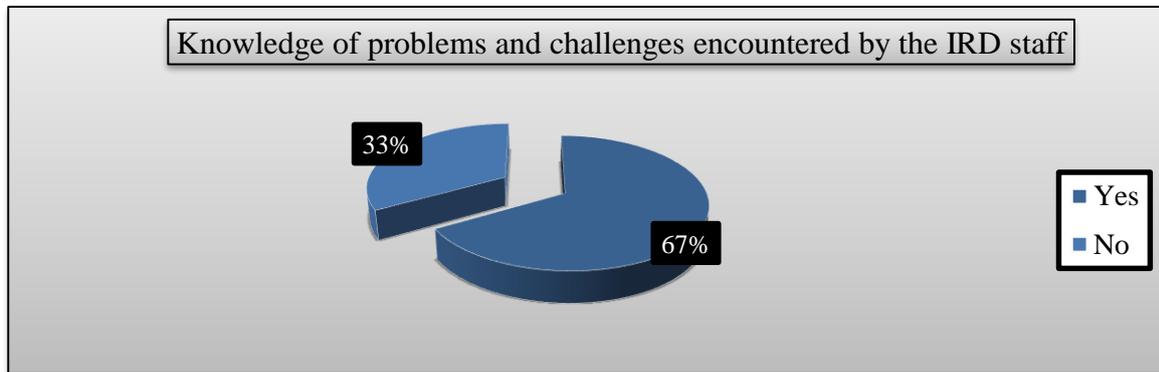
Based on the overall findings, it is evident that the staff members were able to handle or process online requests from remote clients, but they also mentioned some challenges they encountered when processing requests. These challenges might be the cause of the delay in the delivery of requested information resources, as the staff members were not functioning at the required pace.

### 5.3.3 Problems and Challenges Encountered in Processing Requests

In this section of the questionnaire, the participants were asked about the problems and challenges they encountered when processing online requests from remote clients.

### 5.3.3.1 Knowledge of problems and challenges encountered by the IRD staff members

Knowledge of the problems and challenges encountered by the IRD staff members are indicated in Figure 5.13 below.



**Figure 5.19: Knowledge of problems and challenges encountered by the IRD staff members**

The researcher asked the participants whether they were aware of the current problems and challenges affecting their jobs with regard to processing online requests from remote clients. According to the findings, it was common knowledge that there were problems that are affecting the productivity of the staff members.

### 5.3.3.2 Problems and challenges

The participants who responded “yes” were asked to mention the problems and challenges that caused delays in the delivery of information resources. These are listed in Table 5.15 below.

**Table 5.15: Problems and challenges**

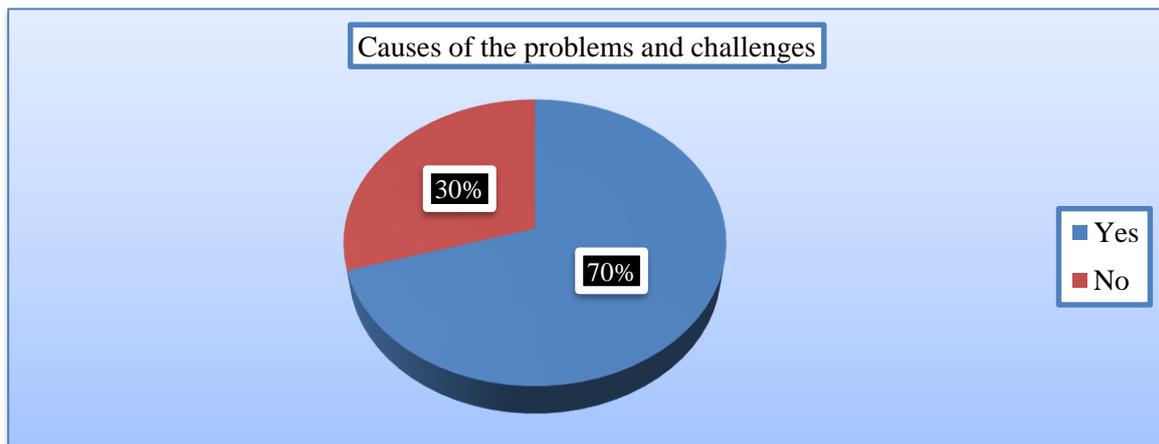
Number of participants	Responses
21	The IT tools are always slow and sometimes not working at all, and this affects the processing of requests
15	The request services should have been divided into four sub-sections. Each section should be independent
9	Shortage of staff members

6	Library management does not want to take the input of staff members into consideration
4	The processes and procedures are always changing and it is difficult to cope with and adapt to the changes
9	Too many responsibilities
1	The IT tools are not user-friendly
1	Lack of training and commitment of the staff members
5	The staff members have to respond to non-library-related queries, which consume most of the time allocated for processing requests
3	The process of handling online requests is too complicated to understand and is constantly changing
1	Library clients send requests without providing all the bibliographic information, which could assist the staff members to process the requests more quickly
4	Library clients who request information resources and want to collect them at the main campus or their nearest UNISA library branch do not collect the requested items
2	The SAPO causes delays and goes on strike
7	The IRD Directorate has many IT systems or tools that are used to process requests, and these systems do not communicate with each other

The problem mentioned by most of the staff members was the issue of the slow and/or malfunctioning IT tools. If the IT tools were not working, it meant that the library clients would not receive the expected service from the staff members, as they depended on those systems to meet the information needs of the clients. Another concern that was voiced was that the request services should have been divided into four independent sub-sections. This might be because the staff members felt that they were tasked with many responsibilities, and were failing to cope with the demands, as was mentioned earlier by the staff members.

### 5.3.3.3 Causes of the problems and challenges

The participants were asked to indicate whether they knew what the causes of the above-mentioned problems and challenges in the delivery of information resources to the requesters were. The results are indicated in Figure 5.20 below.



**Figure 5.20: Causes of the problems and challenges**

The findings indicated that 70% of the staff members knew what the causes of the problems and challenges they had encountered were.

### 5.3.3.4 Mentioning the causes of the problems and challenges encountered by IRD staff

The participants who answered “yes” were asked to mention the causes which they were aware of. The findings based on these responses are presented in Table 5.16 below.

**Table 5.16: Problems and challenges encountered by the library staff**

Number of participants	Responses
8	Lack of proper training, especially the newly employed staff members
9	Staff members are tasked with many responsibilities and cannot cope with the load
12	Shortage of staff members
23	Systems are always slow and sometimes not working
1	Lack of cooperation among the staff members

The frequently mentioned causes of problems and challenges were that systems were always slow and sometimes not working, shortage of staff members, staff members were tasked with many responsibilities and could not cope with the load, and the lack of proper training, especially for newly employed staff members. Only one participant indicated that there was no cooperation among the staff members. The staff members should work as a team to overcome the challenges that might arise. This does not seem to be a major problem, however, as it was only mentioned by one participant out of 27.

### 5.3.3.5 Ratings for the problems and challenges encountered by the IRD staff members

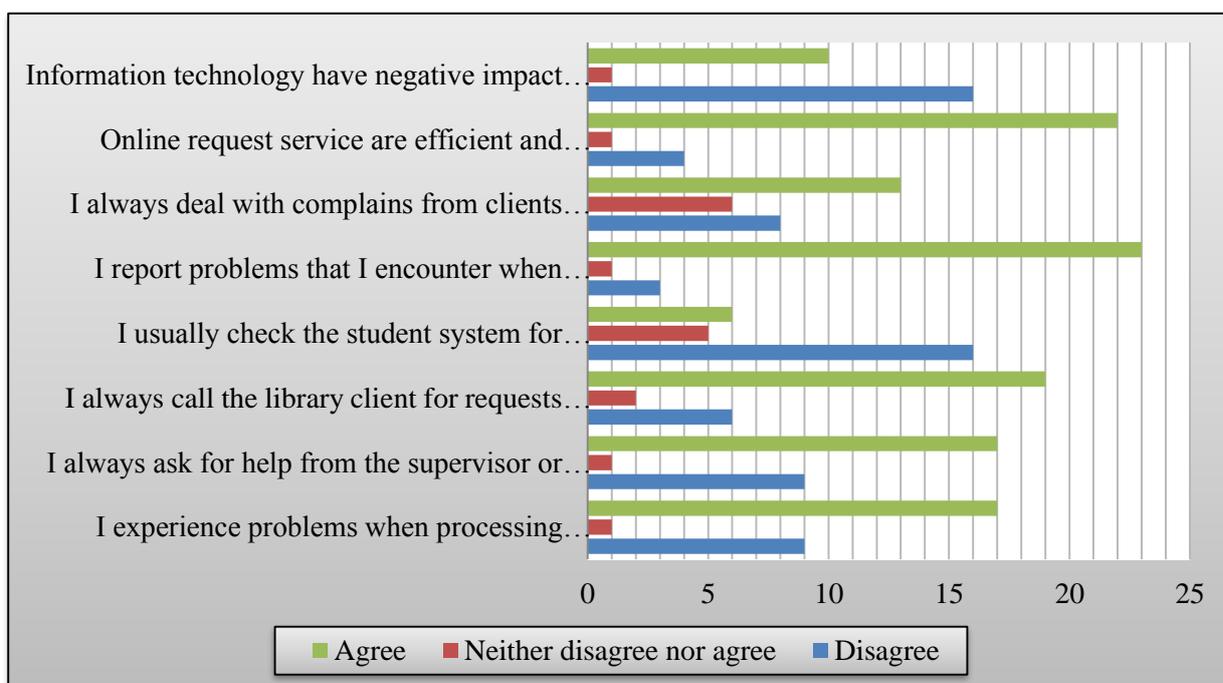
The researcher outlined eight variables according to which the participants had to indicate whether they agreed or disagreed with the variable, based on the problems and challenges they had encountered when processing online requests. They were asked to choose between “strongly disagree”, “disagree”, “neither disagree nor agree”, “agree” or “strongly agree”, as indicated in Table 5.17 below. However, the results for “strongly disagree” and “disagree”; and “agree” and “strongly agree” were combined. For example, “strongly disagree” + “disagree” = **“disagree”** and “agree” and “strongly agree” = **“agree”**. “Neither disagree nor agree” was left as it was. The results for **“disagree”**, **“neither disagree nor agree”** and **“agree”** are shown in Figure 5.21 below.

**Table 5.17: Ratings for the problems and challenges encountered by the IRD staff**

Statement	Strongly disagree	Disagree	Total	Neither disagree nor agree	Agree	Strongly agree	Total
I experience problems when processing requests from remote clients	3 (11%)	7 (25%)	<b>9 (36%)</b>	1 (4%)	11 (39%)	6 (21%)	<b>17 (60%)</b>
I always ask for help from the	3 (11%)	7 (25%)	<b>9 (36%)</b>	1 (4%)	11 (39%)	6 (21%)	<b>17 (60%)</b>

supervisors or other colleagues when I encounter problems in processing online requests							
I always call the library clients if I do not understand their requests, or if insufficient information is provided	3 (11%)	3 (11%)	<b>6</b> <b>(22%)</b>	2 (7%)	11 (41%)	8 (30%)	<b>19</b> <b>(71%)</b>
I usually check the Student System for information resources that the library clients did not receive	4 (15%)	12 (44%)	<b>16</b> <b>(59%)</b>	5 (19%)	4 (15%)	2 (7%)	<b>6</b> <b>(22%)</b>
I report problems to my supervisor or line manager that I encounter when processing requests	3 (11%)	0 -	<b>3</b> <b>(11%)</b>	1 (4%)	13 (48%)	10 (37%)	<b>23</b> <b>(85%)</b>
I always deal with complaints from clients when I did not provide them with the services that they needed	6 (22%)	2 (7%)	<b>8</b> <b>(29%)</b>	6 (22%)	11 (41%)	2 (8%)	<b>13</b> <b>(49%)</b>
The online request		4	<b>4</b>	1	8	14	<b>22</b>

service is an efficient and effective means of providing quality services to clients	-	(15%)	<b>(15%)</b>	(4%)	(30%)	(52%)	<b>(82%)</b>
Information technology has a negative impact on the quality of services for UNISA Library clients	6 (22%)	10 (37%)	<b>16 (59%)</b>	1 (4%)	8 (30%)	2 (7%)	<b>10 (37%)</b>



**Figure 5.21: Problems and challenges encountered by the IRD staff**

The findings indicated in Table 5.17 and Figure 5.21 signify that eight variables were outlined for the staff members to assess the problems and challenges encountered when processing online requests. The majority of staff members highlighted that they encountered six of the eight challenges mentioned. If the staff members constantly encounter these challenges in the processing of requested information resources, it might lead to a delay in the provision of information resources.

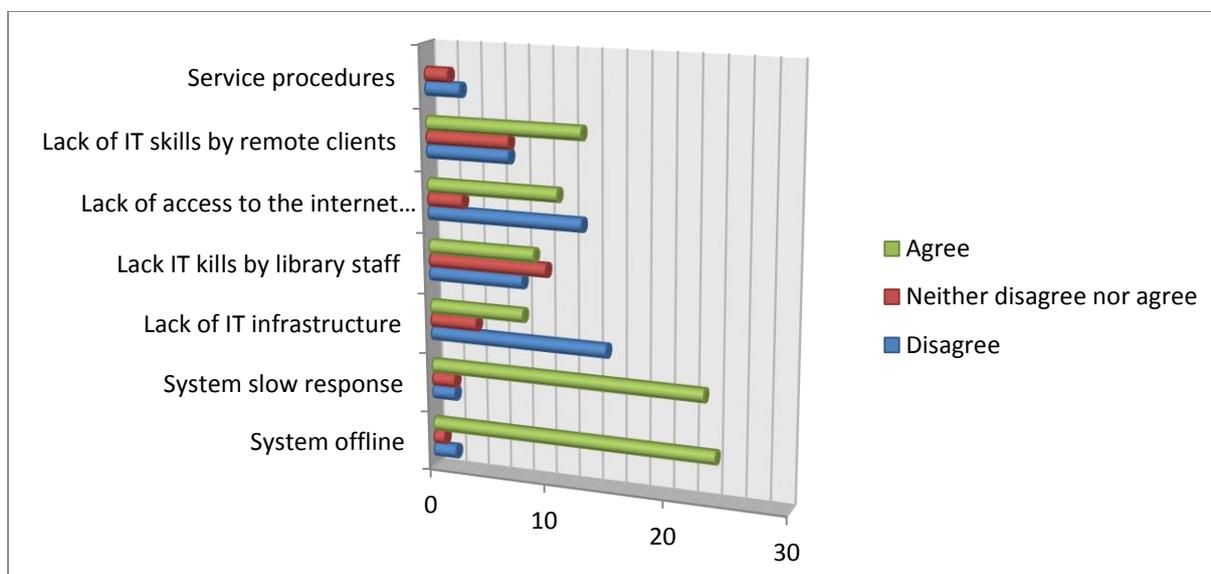
### 5.3.3.6 Ratings for the challenges or deficiencies that contributed negatively to the quality of service at the UNISA Library

The researcher sought to determine the challenges or deficiencies that contributed negatively to the quality of service at the UNISA Library. The researcher outlined seven variables in accordance with which the participants had to rate their knowledge, skills and competencies with regard to Student System applications. They were asked to choose between “strongly disagree”, “disagree”, “neither disagree nor agree”, “agree” or “strongly agree”, as depicted in Table 5.18 below. However, the results for “strongly disagree” and “disagree”; and “agree” and “strongly agree” were combined. For example, “strongly disagree” + “disagree” = **“disagree”** and “agree” and “strongly agree” = **“agree”**. “Neither disagree nor agree” was left as it was. The results for **“disagree”**, **“neither disagree nor agree”** and **“agree”** are shown in Figure 5.22 below.

**Table 5.18: Challenges or deficiencies that contributed negatively to the quality of services at the UNISA Library**

Challenges/deficiencies	Strongly disagree	Disagree	Total	Neither disagree nor agree	Agree	Strongly agree	Total
System offline	-	2 (7%)	<b>2</b> <b>(7%)</b>	1 (4%)	3 (11%)	21 (78%)	<b>24</b> <b>(89%)</b>
System slow response	1 (4%)	1 (4%)	<b>2</b> <b>(8%)</b>	2 (7%)	8 (30%)	15 (56%)	<b>23</b> <b>(86%)</b>
Lack of IT infrastructure	11 (41%)	4 (15%)	<b>15</b> <b>(56%)</b>	4 (15%)	2 (7%)	6 (22%)	<b>8</b> <b>(29%)</b>
Lack of IT skills among the library staff members	1 (14%)	7 (26%)	<b>8</b> <b>(40%)</b>	10 (37%)	4 (15%)	5 (19%)	<b>9</b> <b>(34%)</b>
Lack of access to the internet by remote clients	4 (15%)	9 (33%)	<b>13</b> <b>(48%)</b>	3 (11%)	5 (19%)	6 (22%)	<b>11</b> <b>(41%)</b>
Lack of IT skills among remote clients	-	7 (26%)	<b>7</b> <b>(26%)</b>	7 (26%)	6 (22%)	7 (26%)	<b>13</b> <b>(48%)</b>

<b>Service procedures</b>	<b>1</b> (4%)	<b>2</b> (7%)	<b>3</b> <b>(11%)</b>	<b>2</b> (7%)	<b>6</b> (23%)	<b>16</b> (59%)	<b>22</b> <b>(82%)</b>
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**Figure 5.22: Challenges or deficiencies that contributed negatively to the quality of services at the UNISA Library**

The findings indicated in Table 5.18 and Figure 5.22 show that seven variables were given for the staff members to rate themselves in terms of. Based on the findings, system offline, system slow response and service procedure were rated high by the participants. This denotes that these were the three major challenges affecting the productivity of staff members.

### 5.3.3.7 Comments about the problems and challenges encountered when processing online requests

The participants were further asked if there was anything they would like to say concerning the problems and challenges that they encountered when processing online requests from remote clients. The findings are presented in Table 5.19 below.

**Table 5.19: Comments about the problems and challenges encountered when processing online requests**

Number of participants	Responses
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17	The systems are always slow and are sometimes not working at all
6	New requests hang on the system for an unknown reason
2	IT makes the staff members look incompetent in their jobs when clients always query requests that take time to be processed and sometimes get lost along the way
4	Sometimes the system sends messages to library clients that their requests are cancelled, and these messages are not generated by the staff members
5	The slowness of the system hinders staff members from doing their jobs effectively
1	Library management should provide every staff member with a Student System password, in order to solve all the problems they may come across, instead of depending on a few staff members only
2	Most of the library clients do not have access to faxes, computers and the internet, and stay far from the SAPO. Therefore, these clients are not accommodated in this IT era.
4	ICT services at UNISA should be improved

The majority of the participants, namely 17, commented that systems are always slow and are sometimes not working at all. This implies that the slowness of the systems was a major concern.

### 5.3.3.8 Providing online services to remote clients

The participants were further asked whether they thought that the IRD Directorate of the UNISA Library had done well by providing online services to remote clients. They were also asked to elaborate on their answers. The findings are presented in Table 5.20 below.

**Table 5.20: Providing online services to remote clients**

Number of responses	Response	Comments
3	Yes	The UNISA Library has done well by providing online services to remote clients, even though the IT tools are hindering them from providing quality library and information services
1	Neutral	The UNISA Library is trying its best, but providing online services to remote clients is not enough

4	Yes	Through the use of available online resources, remote clients are able to request information resources online and interact with the library and its staff members
8	No	Those who do not have access to computers and the internet are struggling because they are unable to access online resources
3	Yes	Most library clients have access to computers, smartphones and the internet, so through online services, they will be able to help themselves, instead of depending on the staff members to download online resources, which might take time to reach the clients due to postage delays
1	Yes	Online services enhance service delivery
2	No	IT disadvantages the library clients in rural areas who do not have access to computers, the internet and even the SAPO
1	Yes	IT is good for students who have access to the internet, but it is a challenge for those who are affected by the digital divide
2	Yes	Library clients can access online services off campus, 24 hours a day
7	Yes	Online resources are always available when needed, rather than hardcopies that may be out on loan, at the bindery or lost
2	No	Some of the UNISA library clients are not computer literate, and therefore depend on staff members to download online information resources for them

The number of the participants who agreed that the IRD Directorate of the UNISA Library had done well by providing online services to remote clients was higher than the number of participants who disagreed. In this regard, the majority of the participants who agreed, namely seven, stated that the online resources were always available when needed, as opposed to hard copies, which could be out on loan, at the bindery or lost. The researcher looked at the number of participants who had agreed, as well as their comments, and then assumed that the staff members did not have problems with UNISA introducing online services to remote clients, even though there were some participants who disagreed for the abovementioned reasons.

## **5.4 FINDINGS FROM INTERVIEWS WITH SUPERVISORS**

Unstructured interviews (refer to Appendix C), consisting of closed and open-ended questions, were used in this study and were based on the research objectives. Qualitative and quantitative data were gathered from the interviews and are presented in this section.

The researcher's intention was to record the interviews and make notes at the same time, but three of the four participants were not comfortable with being tape-recorded. Therefore, the researcher decided to take handwritten notes. The names of the participants were not recorded, and the participants were not quoted or identified in terms of their responses, in order to ensure anonymity. The information provided was used to explore and analyse the responses to the questions more effectively. The information gathered from the IRRP and IRDO supervisors was combined, in order to protect the one IRDO supervisor, who was the only one representing the IRDO. In addition, some of the recorded data were coded for the purpose of quantifying data presented in the tables and graphs.

The interviews were conducted twice. The questions asked during the first interview session did not produce tangible results that could assist the researcher with answering the research questions, and therefore did not succeed in achieving the objectives of this study. The researcher assumed that the interview questions were too vague or superficial. Therefore, the researcher had to restructure the questions and the supervisors were asked for a second interview, which was successful. Relevant information was obtained during this second interview.

Four interviews were conducted in the UNISA Library at each supervisor's desk, which was the venue of their choice. The interview results are presented in this section.

### **5.4.1 About the IRD Supervisors**

In this section, the interviewer asked the IRD supervisors questions related to their job.

#### **5.4.1.1 Job titles and sections they supervised**

The researcher asked the participants to mention their job titles and the sections that they were supervising. The findings revealed that three (75%) of the supervisors were supervising the IRRP team, and only one (25%) was supervising the IRDO.

#### **5.4.1.2 Training**

The participants were also asked whether they were trained on how to supervise the staff members with regard to processing online requests from remote clients. All the supervisors indicated that they had been trained to supervise the staff members in this regard.

#### **5.4.1.3 Experience and skills for processing, retrieving and delivering the requested information resources to remote clients**

The researcher asked the participants during the interview whether they had the required experience and skills for processing, retrieving and delivering the requested information resources to the remote clients. The findings indicate that the supervisors did not have previous experience and related skills.

### **5.4.2 About the IRD Staff**

The interviewees (supervisors) were asked questions about the IRD staff members.

#### **5.4.2.1 Adequate training for staff**

The researcher asked the participants whether the IRD staff members had been provided with training on how to handle online requests from remote clients. All the supervisors indicated that training was provided to the IRD staff members, in order to equip them with the requisite skills and competencies to offer a high-quality service to remote clients. The participants were further asked to describe the kind of training that the staff members had received. The responses were as follows:

- The supervisors provided in-house training that dealt with the processing and supplying of information resources.
- The personal librarians were also asked to train the staff members on searching the various databases to access and download online journal articles.
- Peer training was carried out by the staff members who had worked in that section for many years and were more experienced.
- External training on ILL (SABINET and OCLC) was also provided.
- The UNISA Library also invited external training providers from LexisNexis and SABINET to come and conduct training on how to search the law databases and access law journal articles and cases.
- The collection developers were also invited to train the staff members, together with the supervisors.

#### **5.4.2.2 Training Needs Analysis**

The participants were asked whether a TNA had been conducted to determine the training needs of the staff members. Based on the information provided by the participants, it appeared that a TNA had been conducted. However, the supervisors did not conduct surveys or any form of known methods to conduct the TNA. They used internal resources that enabled them to determine the performance of the staff members. The researcher also asked the participants to mention the findings of the TNA, which were the following:

- The staff members were unable to process requests within the turnaround time
- The staff members frequently made mistakes when processing online requests
- The staff members struggled with recalling information resources from UNISA staff members.

#### **5.4.3 Determining the Methods or Strategies that are used to Handle or Process Online Requests**

The IRD supervisors were asked questions related to this objective of the study.

#### **5.4.3.1 Methods or strategies used to handle or process online requests**

The participants were asked to describe the methods or strategies used to handle or process online requests. The aim of this question was to establish the methods or strategies used by the staff members to process and deliver the information resources requested by remote clients. The findings indicated that the IRRP used Uniflow, Sierra, SABINET, OCLC, OASIS and Egain, while some used the Student System and scanners to process and deliver the requested information resources. All the online requests were downloaded from Sierra to Uniflow, which served as a hub for all the requests awaiting processing. All the above-mentioned IT tools were used at the same time to handle a single request. For example, the staff members opened one request on Uniflow, verified the status of the client on Sierra, and also checked the availability of the requested information resources. If the request was for a journal article, they had to go to the databases through OASIS, and for a request for e-reserves, they searched the catalogue on OASIS and used a course code to access the e-reserves. If the requested information resources were not available, they had to search the SACat via SABINET to find out which South African universities or partners held the item. If it was not available on SABINET, they had to search OCLC to see if the item was available internationally. Furthermore, if the item could not be found anywhere in the ILL participating libraries, the staff members sent a notice via Uniflow, in order to notify the client that the requested item could not be found nationally or internationally.

With regard to the delivery of the requested information resources, they were dispatched by the IRDO. This involved generating a track and trace number that had to be recorded on both Sierra and the Student System. This enabled the staff members to handle queries related to requests not received by the requesters, but posted via SAPO. Most of their activities involved printing stickers with the student/staff numbers and delivery addresses, as well as packaging books and journal articles that needed to be posted and couriered.

#### **5.4.3.2 Duties of supervisors**

The participants were asked to describe what their duties entailed, in order to establish the procedures used by the supervisors to manage the staff members and their responsibilities. One of the duties mentioned by one of the supervisors was the planning of daily activities for the staff members. Planning is one of the characteristics of a good leader or manager. When daily duties

are planned, it is highly unlikely that the staff members will not produce good results at the end of the day.

The interviews also revealed that the supervisors organised and conducted weekly meetings with the staff members. Besides the weekly meetings, the supervisors also held 1:1 meetings with staff members to discuss their performance. The purpose of the meetings was to discuss the problems and frustration that the staff members encountered when processing online requests, and to give feedback regarding ongoing mistakes or behaviour of the staff members. This was meant to eliminate noticeable errors and enhance service delivery.

Another duty mentioned during the interviews was to manage the teams that they supervised, which consisted of 11 staff members each. The first team was responsible for book processing, book excerpt processing, article processing, national ILL (requesting) and queries. The second team was responsible for book processing, book excerpt processing, article processing, national ILL (supplying) and queries. The third team was responsible for book processing, book excerpt processing, article processing, international ILL (requesting and supplying) and queries. The researcher assumed that the reason for splitting the team into three sections was to manage absenteeism, as mentioned by one of the supervisors during the interview. This was done by granting, approving and/or rejecting leave. Furthermore, the supervisors were required to mark the staff members' register on a daily basis.

A further duty mentioned by one of the participants was the compilation of a telephone roster every third week. The researcher assumed that the compilation of a telephone roster every three weeks was because the IRRP team was divided into three subsections.

The supervision of delivery activities was also mentioned during the interview as one of the duties of supervisors. The researcher asked for clarity on this statement; and the participant indicated that since the delivery of information resources is done electronically, the IT tools used for this purpose need to be monitored, and any malfunctioning of the IT tools should be reported. However, it is the responsibility of the supervisor, together with the staff members, to ensure that the requested information resources are delivered correctly and within the specified turnaround time.

#### 5.4.4 Investigating the IT Skills and Competencies of the IRD Staff of the UNISA Library

In this section, the interviewees were asked to rate the IT skills and competencies of the staff members in terms of processing information resources.

##### 5.4.4.1 Rating the IT skills and competencies of the library staff with regard to processing or handling online requests for information resources

The participants were given variables in terms of which to rate the IT skills and competencies of the staff members with regard to processing information resources. The findings are presented in Table 5.21 and Figure 5.23 below. The variables were used to acquire information from the supervisors, whereby the participants were asked to rate the staff members as “highly incompetent”, “incompetent”, “not sure”, “competent” and “highly competent”. However, the results for “highly incompetent” and “incompetent”; and “competent” and “highly competent” were combined. For example, “highly incompetent” + “incompetent” = **“incompetent”** and “competent” and “highly competent” = **“competent.”** “Not sure” was left as it is.

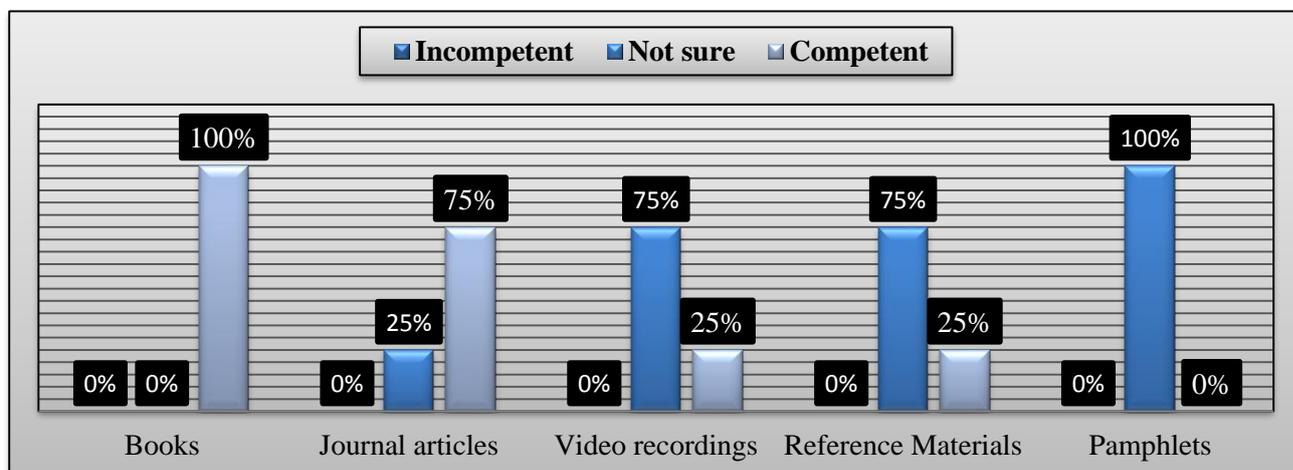
The following rating scale was used:

1= Highly incompetent; 2 = Incompetent; 3 = Not sure; 4 = Competent; 5 = Highly competent

**Table 5.21: IT skills and competencies with regard to processing information resources**

Information resources	Highly incompetent	Incompetent	Total	Not sure	Competent	Highly competent	Total
Books	-	-	-	-	4 (100%)	-	<b>4 (100%)</b>
Journal articles	-	-	-	<b>1 (25%)</b>	3 (75%)	-	<b>3 (75%)</b>
Video recordings	-	-	-	<b>3 (75%)</b>	1 (25%)	-	<b>1 (25%)</b>
Reference materials	-	-	-	<b>3 (75%)</b>	1 (25%)	-	<b>1 (25%)</b>

Pamphlets	-	-	-	4 (100%)	-	-	-
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**Figure 5.23: IT skills and competencies with regard to processing information resources**

The researcher assumed that when the supervisors indicated that the staff members were skilled and competent with regard to processing books, this also implied that they were competent in processing and supplying or delivering e-books. The UNISA Library subscribes to e-books, even though there are not as many of them as the hard copies, and e-books are convenient for staff members to supply. However, hard copies are still considered for lengthy books. The processing of journal articles involved searching various databases to access online journal articles. Most of the journals were digitised and made available online. The digitised information resources also included the e-reserves, which are mostly copies that have been photocopied, scanned and then saved onto the library's catalogue, with a link to access them. The supervisors believed that staff members were skilled and competent in processing journal articles.

Based on the findings for video recordings and reference materials, it cannot be determined whether the supervisors' point of view was that the staff members were competent or incompetent, as three (75%) participants were unsure as to whether staff members were skilled and competent. The researcher asked a follow-up question to determine the interviewees' response. Their response was that it was highly unlikely that library clients would request video recordings and reference materials, since the only reference materials that could be loaned to library clients are dictionaries, and there are some dictionaries that cannot be loaned. The results

for processing pamphlets revealed that four (100%) of the participants were not sure. The researcher also asked the participants follow-up questions to find out why they indicated that they were not sure when it came to the processing of pamphlet, as she needed clarity regarding their answers. The reason given to the researcher was that it was also highly unlikely for library clients to request pamphlets. This implies that they were unable to determine whether the staff members were competent or incompetent in this regard.

The overall findings presented in Table 5.21 and Figure 5.23 indicated that the staff members were knowledgeable, skilled and competent in handling or processing book and journal article requests. However, it could not be affirmed whether staff members were skilled and competent with regard to the processing of video recordings, reference materials and pamphlets.

#### 5.4.4.2 Rating of the library staff members’ knowledge, skills and competencies with regard to Sierra

The participants were given variables to rate the IT skills and competencies of staff members with regard to Sierra. The findings are presented in Table 5.22 and Figure 5.24 below. They were asked to rate the staff members as “very poor”, “poor”, “not sure”, “good” or “very good”. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “**poor**” and “good” and “very good” = “**good**”. “Not sure” was left as it was.

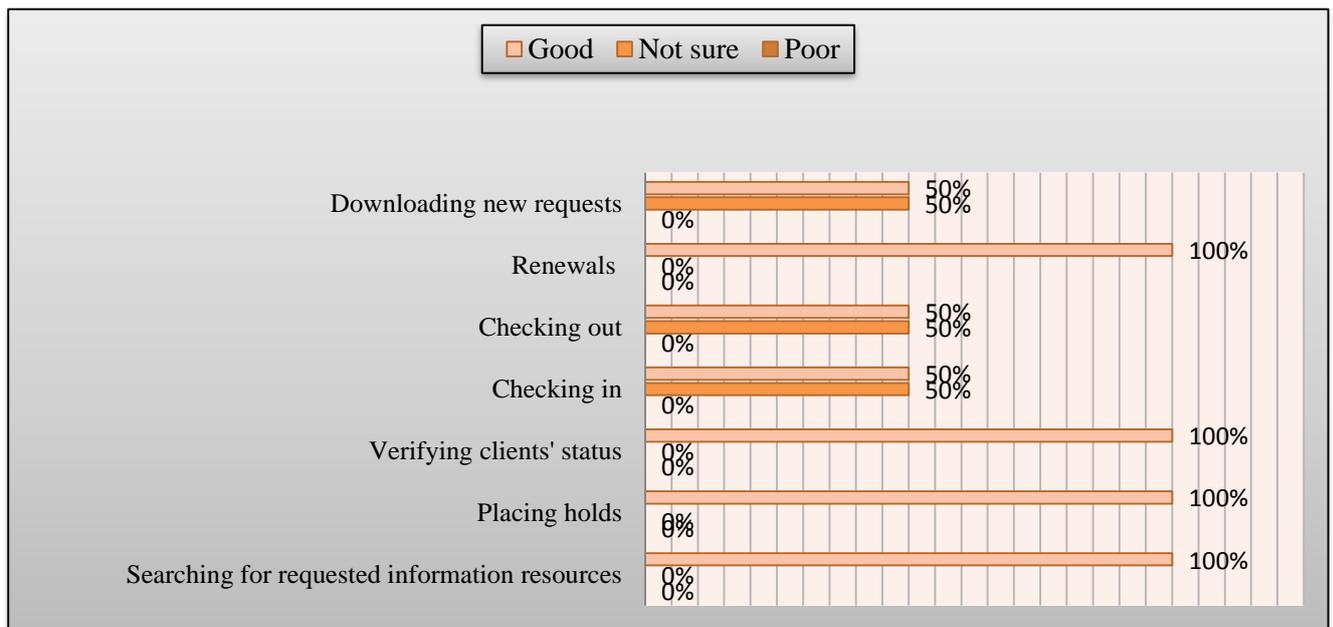
The following rating scale was used:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

**Table 5.22: Staff members’ knowledge, skills and competencies regarding Sierra**

Sierra application	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for requested information resources	-	-	-	-	4 (100%)	-	<b>4 (100%)</b>

Placing holds	-	-	-	-	4 (100%)	-	<b>4</b> <b>(100%)</b>
Verifying client's status	-	-	-	-	4 (100%)	-	<b>4</b> <b>(100%)</b>
Checking in	-	-	-	2 (50%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Checking out	-	-	-	2 (50%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Renewals	-	-	-		2 (50%)	2 (50%)	<b>4</b> <b>(100%)</b>
Downloading new requests	-	-	-	2 (50%)	2 (50%)	-	<b>2</b> <b>(100%)</b>



**Figure 5.24: Staff members' knowledge, skills and competencies regarding Sierra**

According to the findings presented in Table 5.22 and Figure 5.24, all the supervisors (100%) indicated that staff members do not have any challenge with renewals, verifying clients' status, placing holds and searching for requested information resources. Two (50%) participants were of the opinion that the library staff were good with the checking in and out of information resources on Sierra, as well as downloading new requests for information resources. It seemed

as if the supervisors did not encounter failures or problems on the side of the staff members, because none of the participants indicated that they were poor in any of the given variables.

The overall findings indicated that the staff members were knowledgeable, skilled and competent in searching for requested information resources, placing holds, verifying clients’ status, checking in and out of information resources, renewals and downloading new requests.

#### 5.4.4.3 Rating of the IRD staff members’ knowledge, skills and competencies regarding SABINET

The participants were given variables to rate the IT skills and competencies of staff members with regard to SABINET. The findings are presented in Table 5.23 and Figure 5.25 below.

They were asked to rate staff members as “very poor”, “poor”, “not sure”, “good” or “very good”, as indicated in Table 5.23. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = “**poor**” and “good” and “very good” = “**good**”. “Not sure” was left as it was.

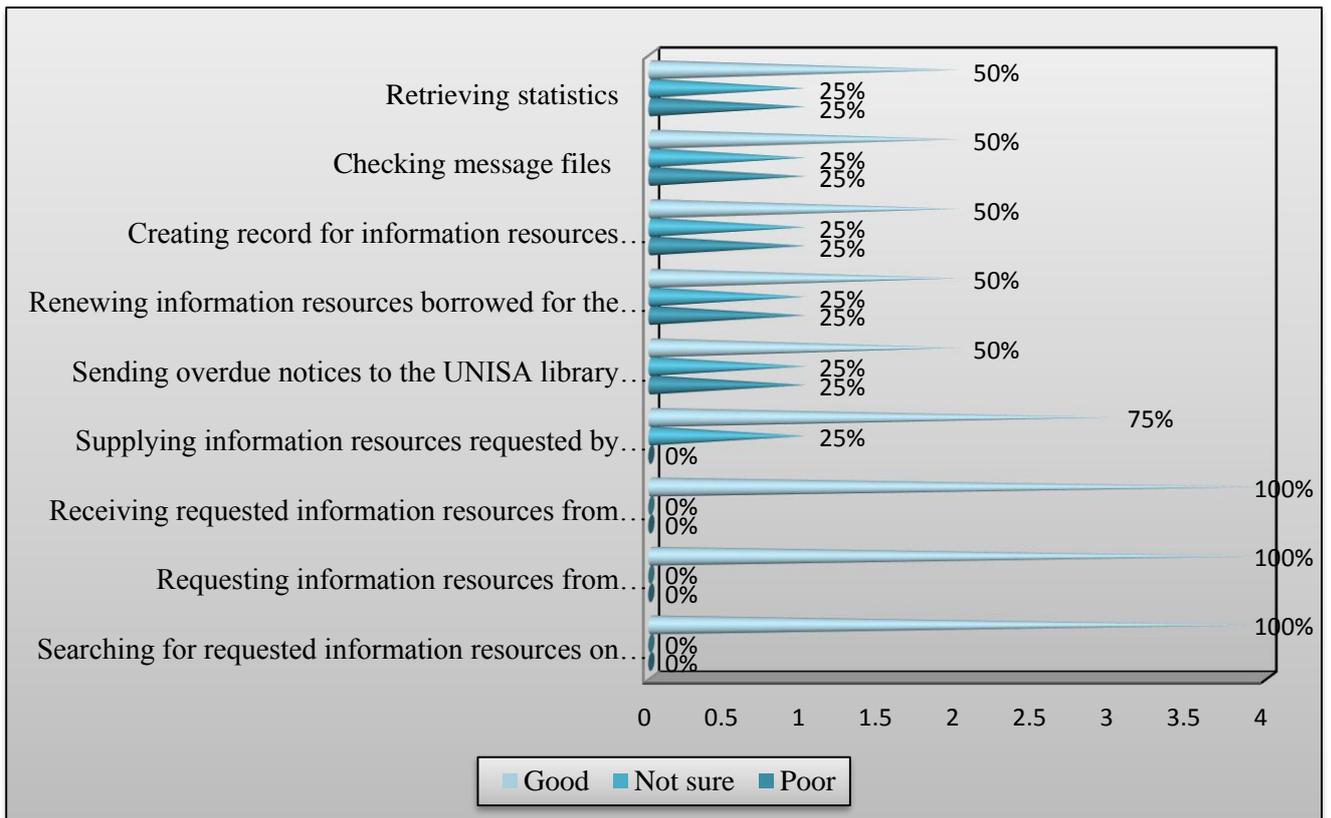
The following rating scale was used:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

**Table 5.23: Staff members’ knowledge, skills and competencies regarding SABINET**

SABINET applications	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for the requested information resources on SACat	-	-	-	-	4 (100%)	-	<b>4 (100%)</b>
Requesting the information resources from participating university libraries and partners	-	-	-	-	4 (100%)	-	<b>4 (100%)</b>
Receiving requested							

information resources from participating university libraries and other partners	-	-	-	-	4 (100%)	-	<b>4</b> <b>(100%)</b>
Supplying information resources requested by other university libraries and partners	-	-	-	1 (25%)	3 (75%)	-	<b>3</b> <b>(75%)</b>
Sending overdue notices to the UNISA Library partners	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Renewing information resources borrowed for the UNISA Library clients	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Creating a record for information resources borrowed from other libraries	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Checking message files	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Retrieving statistics	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>



**Figure 5.25: Staff members' knowledge, skills and competencies regarding SABINET**

According to the overall findings presented in Table 5.23 and Figure 5.25, it is evident that the supervisors believed that staff members were not knowledgeable, skilled and competent enough with regard to searching for the requested information resources, requesting information resources from participating libraries and partners, receiving the information requested from other libraries and partners, supplying information resources, renewing information resources borrowed for UNISA library clients, sending overdue notices, creating a record for information resources that needed to be checked out to UNISA Library clients, retrieving statistics and checking message files from SABINET.

#### **5.4.4.4 Measuring the IRD staff members' knowledge, skills and competencies with regard to OCLC**

The participants were given variables to rate the IT skills and competencies of staff members with regard to OCLC. The findings are presented in Table 5.24 and Figure 5.26 below. They were asked to rate the staff members as “very poor”, “poor”, “not sure”, “good” or “very good”, as indicated in Table 5.23. However, the results for “very poor” and “poor”; and “good” and

“very good” were combined. For example, “very poor” + “poor” = “**poor**” and “good” and “very good” = “**good**”. “Not sure” was left as it was.

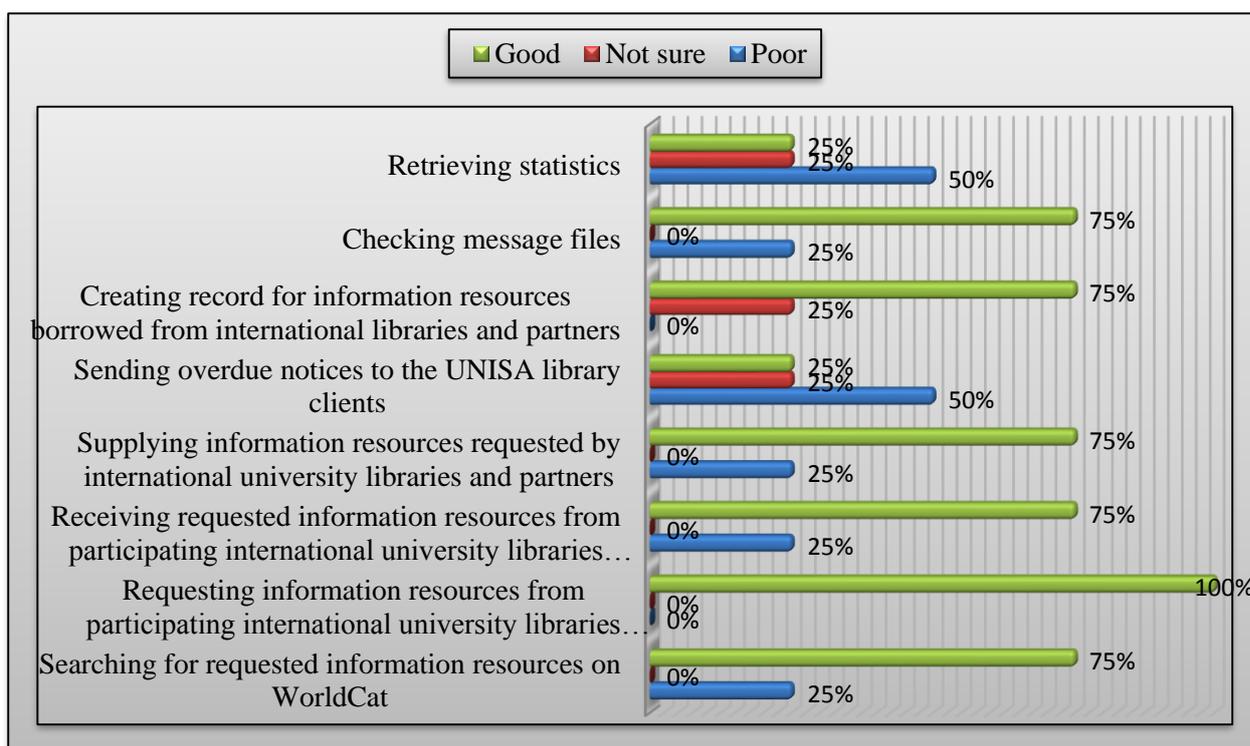
The following rating scale was used:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

**Table 5.24: Staff members’ knowledge, skills and competencies with regard to OCLC**

OCLC applications	Very poor	Poor	Total	Not sure	Good	Very good	Total
Searching for requested information resources on WorldCat	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	3 (75%)	-	<b>3</b> <b>(75%)</b>
Requesting information resources from participating international university libraries and partners	-	-	-	-	4 (100%)	-	<b>4</b> <b>(100%)</b>
Receiving requested information resources from participating international university libraries and partners	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	3 (75%)	-	-
Supplying information resources requested by international university libraries	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	2 (50%)	1 (25%)	<b>3</b> <b>(75%)</b>

and partners							
Sending overdue notices to the UNISA Library clients	-	2 (50%)	2 (50%)	1 (25%)	1 (25%)	-	1 (25%)
Creating a record for information resources borrowed from international libraries and partners	-	-	-	1 (25%)	3 (75%)	-	3 (75%)
Checking message files	-	1 (25%)	1 (25%)	-	3 (75%)	-	3 (75%)
Retrieving statistics	-	2 (50%)	2 (50%)	1 (25%)	1 (25%)	-	1 (25%)



**Figure 5.26: Staff members' knowledge, skills and competencies with regard to OCLC**

Based on the overall findings presented in Table 5.24 and Figure 5.26, it is apparent that the supervisors believed that staff members were knowledgeable, skilled and competent enough with

regard to searching for the requested information resources, requesting information resources from participating libraries and partners, receiving the information requested from other libraries and partners, supplying information resources, creating a record for information resources that needed to be checked out to UNISA Library clients and checking message files. However, they experienced challenges in sending overdue notices and retrieving statistics from OCLC.

#### 5.4.4.5 Measuring the IRD staff members’ knowledge, skills and competencies with regard to Uniflow

The participants were given variables to rate the IT skills and competencies of staff members with regard to Uniflow. The findings are presented in Table 5.25 and Figure 5.27 below. They were asked to rate the staff members as “very poor”, “poor”, “not sure”, “good” or “very good”, as indicated in Table 5.23. However, the results for “very poor” and “poor”; and “good” and “very good” were combined. For example, “very poor” + “poor” = **“poor”** and “good” and “very good” = **“good”**. “Not sure” was left as it was.

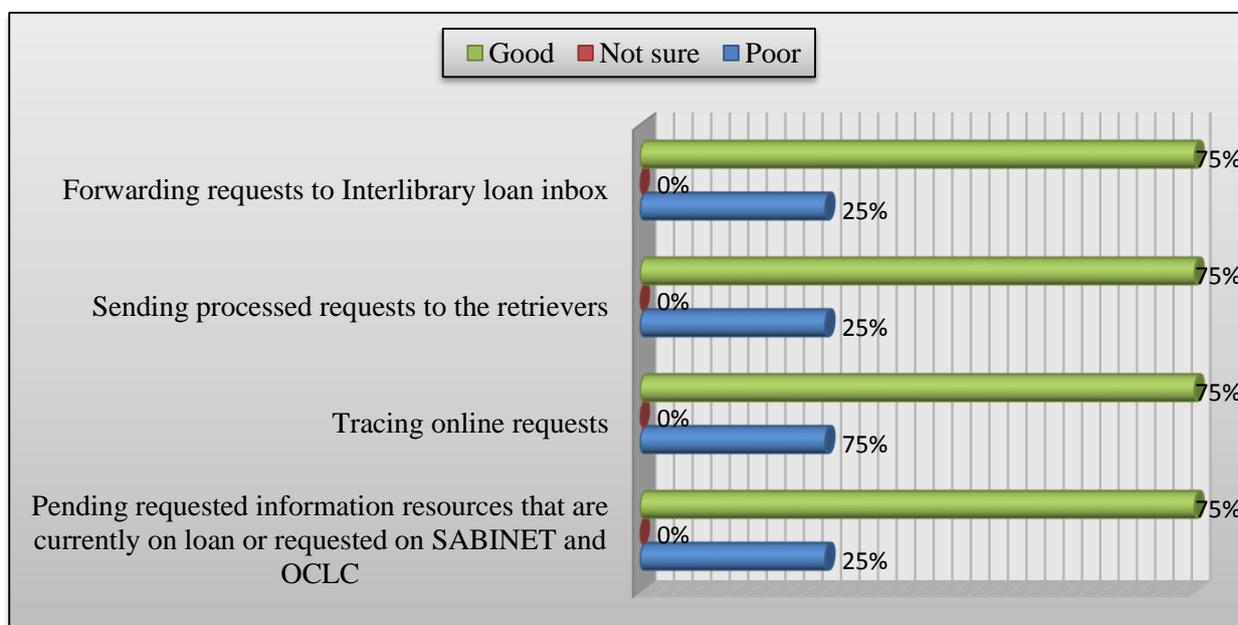
The following rating scale was used:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

**Table 5.25: Staff members’ knowledge, skills and competencies with regard to Uniflow**

Uniflow applications	Very poor	Poor	Total	Not sure	Good	Very good	Total
Pending requested information resources that are currently on loan or requested via SABINET and OCLC	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	3 (75%)	-	3 (75%)
Tracing online requests	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	3 (75%)	-	3 (75%)
Sending processed requests to the	-	1 (25%)	<b>1</b> <b>(25%)</b>	-	3 (75%)	-	3 (75%)

retrievers							
Forwarding requests to the interlibrary loan inbox	-	1 (25%)	1 (25%)	-	2 (50%)	1 (25%)	3 (75%)



**Figure 5.27: Staff members' knowledge, skills and competencies with regard to Uniflow**

Based on the results presented in Table 5.25 and Figure 5.27, supervisors indicated that staff members were knowledgeable, skilled and competent with regard to using various functions and applications on Uniflow to process online requests. This means that staff members were able to pend requested information resources, trace online requests, send processed requests to the retrievers, and forward requests to the ILL inbox.

#### **5.4.4.6 Measuring the IRD staff members' knowledge, skills and competencies with regard to the Student System**

The participants were given variables to rate the IT skills and competencies of staff members with regard to the Student System. The findings are presented in Table 5.26 and Figure 5.28 below. They were asked to rate the staff members as “very poor”, “poor”, “not sure”, “good” or “very good”, as indicated in Table 5.23. However, the results for “very poor” and “poor”; and

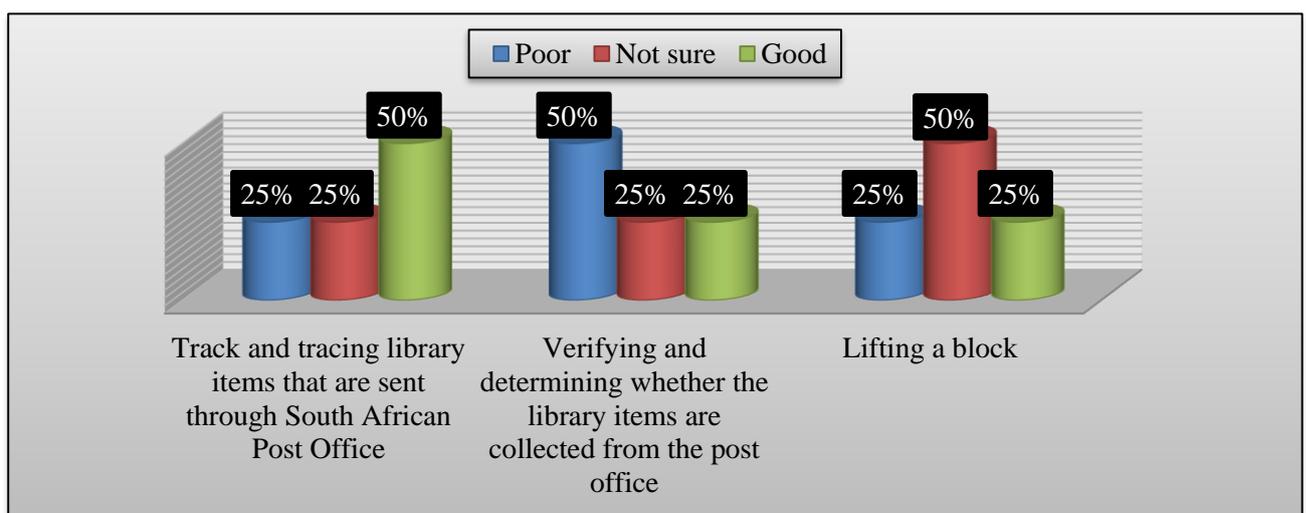
“good” and “very good” were combined. For example, “very poor” + “poor” = “**poor**” and “good” and “very good” = “**good**”. “Not sure” was left as it was.

The following rating scale was used:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

**Table 5.26: Staff members’ knowledge, skills and competencies with regard to the Student System**

Student System	Very poor	Poor	Total	Not sure	Good	Very good	Total
Track and tracing library items that are sent via the SAPO	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Verifying whether the library items were collected from the SAPO	-	2 (50%)	<b>2</b> <b>(50%)</b>	1 (25%)	1 (25%)	-	<b>1</b> <b>(25%)</b>
Lifting a block	-	1 (25%)	<b>1</b> <b>(25%)</b>	2 (50%)	1 (25%)	-	<b>1</b> <b>(25%)</b>



**Figure 5.28: Staff members’ knowledge, skills and competencies with regard to the Student System**

The findings presented in Table 5.26 and Figure 5.28 revealed that two (50%) of the supervisors indicated that staff members were good at track and tracing information resources that were sent via the SAPO. Both the IRRP and IRDO should have the necessary skills and competencies to track and trace items that are sent via the SAPO. In this regard, some of the items get stuck along the way, before reaching the requesters and the library, when the clients return the items.

It is the responsibility of staff members to verify whether the requested information resources are collected from the SAPO by the requesters. However, the supervisors acknowledged that the staff members were poor in this regard. When the information resources are collected, the SAPO records the items, together with the identity number of the person who collected them, and the time and date. The staff members should be able to view the clients' records on the SAPO website and the Student System.

The findings also revealed that staff members lacked the skills and competencies for lifting a block. A block is lifted when the library clients are charged fines for the replacement of library items that did not reach them, or when the items were mistakenly checked out on their names. However, this function is not available for all the staff members, for control and accountability purposes.

#### **5.4.5 Investigating the Challenges or Problems Faced by the IRD Staff Members Concerning the Effective Utilisation and Application of IT Tools**

In terms of this objective, the interviewees were asked the following question:

What are the current challenges or problems that IRD staff members are experiencing with regard to handling and delivering online requests?

##### **5.4.5.1 Current challenges or problems experienced by IRD staff members with regard to processing and delivering online requests**

The participants were interviewed and asked to mention the challenges or problems they faced with regard to processing and delivering information resources. The participants indicated that the books that were loaned to clients did not get returned on time due to SAPO delays. Besides the SAPO delays, staff members did not want to return the books that were recalled for other

library clients. When UNISA staff members did not want to return the book(s), it caused delays for library clients waiting for the items, as they had to wait for a long time for the book(s) to be returned. This could also be considered a cause of the delays in processing and delivering information resources, because the staff members put the requesters on the waiting list when the book was out on loan and there were no other available copies on the shelf. The books loaned to students can be recalled at any time when other library clients need or request that book. UNISA Library clients are given preference in terms of requesting and loaning information resources.

In addition, the books that are returned via UNISA branches take time to reach the main campus. When the staff members at the branch libraries do not treat the returning of books to the main campus as a matter of urgency, it causes a delay in the delivery of the books to the main campus and then to the requesters. One of the supervisors stated that they had instructed the staff members to stop placing a hold on books that are marked “in transit”, as there is no guarantee as to when the books will arrive at the main campus.

Some of the supervisors mentioned the malfunctioning of the IT system as one of the problems leading to the staff members not being able to process and deliver the requested information resources on time. Since all library activities are carried out using IT systems, it means that there is nothing that the staff members can do, because the items have to be processed and then checked out using the available IT tools. The manual system is not an option because all the checked out library items must be traceable if they get lost on the way to and from the requesters.

The interviews also revealed that the staff members were not committed to their work. The staff members should be committed to their jobs to ensure high-quality service and avoid unnecessary queries. When the staff members do not show commitment to their jobs, the provision of service tends to be poor.

In addition to the problems mentioned by the participants, the researcher sought to determine the challenges or deficiencies that contributed negatively to the quality of services at the UNISA Library. The participants were asked to rate the library staff members using a five-point Likert scale, as used in the questionnaire, in order to confirm the responses of the staff members, by agreeing or disagreeing with the challenges outlined in Table 5.26 as contributing to a delay in the provision of services. They were asked to choose between “strongly disagree”, “disagree”, “neither disagree nor agree”, “agree” or “strongly agree”. However, the results for “strongly

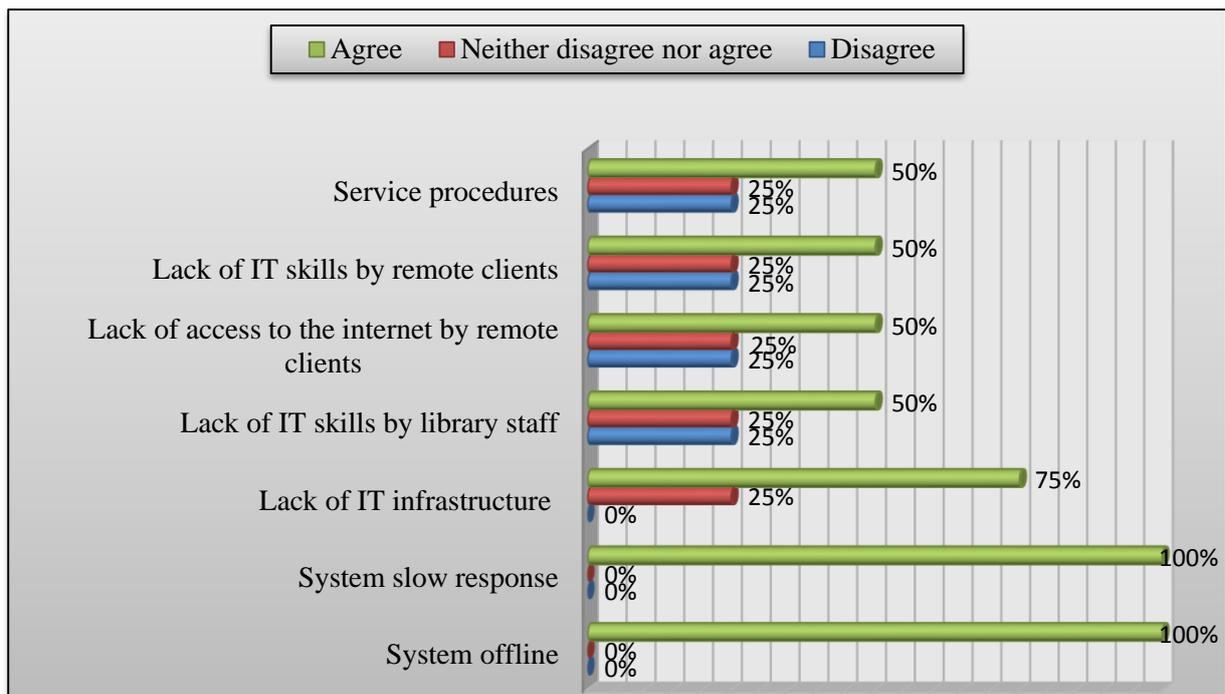
disagree” and “disagree”; and “agree” and “strongly agree” were combined. For example, “strongly disagree” + “disagree” = **“disagree”** and “agree” and “strongly agree” = **“agree”**. “Neither disagree nor agree” was left as it was. The results for **“incompetent”**, **“Not sure”** and **“competent”** are shown in Figure 5.29 below.

The participants were asked to use the following rating scale:

1 = Strongly disagree, 2 = Disagree, 3 = Neither disagree nor agree; 4 = Agree; 5 = Strongly agree

**Table 5.27: Challenges/deficiencies that may contribute negatively to the quality of services at the UNISA Library**

Challenges / deficiencies	Strongly disagree	Disagree	Total	Neither disagree nor agree	Agree	Strongly agree	Total
System offline	-	-	-	-	1 (25%)	3 (75%)	<b>4</b> <b>(100%)</b>
Slow response of the system	-	-	-	-	1 (25%)	3 (75%)	<b>4</b> <b>(100%)</b>
Lack of IT infrastructure	-	-	-	1 (25%)	2 (50%)	1 (25%)	<b>3</b> <b>(75%)</b>
Lack of IT skills among the library staff members	1 (25%)	-	<b>1</b> <b>(25%)</b>	1 (25%)	1 (25%)	1 (25%)	<b>2</b> <b>(50%)</b>
Lack of access to the internet by remote clients	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>
Lack of IT skills among remote clients	-	1 (25%)	<b>1</b> <b>(25%)</b>	1 (25%)	1 (25%)	1 (25%)	<b>2</b> <b>(50%)</b>
Service procedures	1 (25%)	-	<b>1</b> <b>(25%)</b>	1 (25%)	2 (50%)	-	<b>2</b> <b>(50%)</b>



**Figure 5.29: Challenges/deficiencies that may contribute negatively to the quality of services at the UNISA Library**

The overall findings confirmed that the offline system, the slow response of the system and lack of IT infrastructure were the main problems, as the scores were high. This implies that these were the problems that the staff members encountered when handling online requests, and were assumed to be the reason for staff members not being able to deliver requested information resources within the turnaround time.

#### **5.4.6 Suggested Measures and Recommendations to Improve the Effective and Efficient Handling or Processing of Online Requests to Enhance Service Delivery**

In this regard, the interviewees were asked the following three questions:

- What are the measures and recommendations adopted to improve the effective and efficient handling or processing of online requests to enhance service delivery?
- Do you think that the IRD Directorate of the UNISA Library has done well by providing online services to remote clients? Please elaborate on your answer.
- Is there anything you would like to say as a supervisor with regard to the problems and challenges faced by IRD staff members?

#### **5.4.6.1 Measures and recommendations to improve the effective and efficient handling or processing of online requests to enhance service delivery**

The participants were asked to describe the measures that were taken to improve effective and efficient handling of online requests to enhance service delivery. The supervisors ensured that the staff members received adequate training immediately after commencing their employment. The training was also provided to the staff members after determining gaps that needed attention. Supervisors conducted a TNA to determine the training needs of the staff members. The need for training was determined through e-mails that were sent when resolving a query, which indicated that the staff member was not skilled and competent enough in certain areas. The need for training was identified through the following:

- A supervisor working on the items processed by the staff members will notice that certain staff members need training in specific areas.
- The manner in which the staff members handle e-mail and telephone queries makes it possible for the supervisors to determine the skills and competencies of the staff members.
- Another method is LibSupervisors, an inbox for all the processed and forwarded requests that are supposed to go to the retrievers before reaching the delivery office. The researcher asked for clarity in this regard. It was mentioned that the tenth request they forward or send goes to the Libsupervisors, and all the requests with a notice have to go via the supervisors, in order to determine whether the correct notice has been allocated.
- The SQL system also assists supervisors to determine the training needs of the staff members, as it shows individual statistics. When the performance of the staff members is not satisfactory, the supervisors discuss their performance during the 1:1 meetings that they have with the staff members.
- Some of the questions that the staff members ask the supervisors when they struggle with requests also assist them to determine the type of training which is needed.
- Furthermore, all the requests that were sent to the retrievers are verified by the supervisor in the retrievers' section, in order to determine whether the requests have been processed properly before releasing them to the retrievers. The requests with mistakes are sent back for the attention of the supervisors. In this way, the supervisors are able to determine who worked on that request, note the mistakes, and notify the staff member accordingly.

This is how the supervisors become aware of the need for the training of staff members, even before the training is suggested. The supervisors organised peer training by fellow colleagues, formal training by external training providers such as SABINET and LexisNexis, internal training or in-house training, and refresher training, which were conducted by supervisors and staff members, and were hands-on. The collection developers and personal librarians at UNISA were called upon to train the staff members. The method of training provided for the staff members seemed to be adequate, in line with the view of Yan (1996:2), who avers that in-house or internal training and attendance of conferences by staff members should be hands-on, in order to facilitate fast and easy learning.

#### **5.4.6.2 Providing online services to remote clients**

The researcher asked the participants to provide their input on whether the UNISA Library had done well by providing online services to remote clients. Some of the participants gave positive responses, while other responses were negative. The positive and negative responses were as follows:

- The intention of the UNISA Library's provision of online services to remote clients was to speed up the turnaround time. This was not achieved, as they assumed that the IRD management did not do thorough research on how the remote clients are supposed to help themselves, as well as checking whether the ICT department will be able to handle the demand.
- Online services are good - the only challenge is the slowness of the IT systems, which is beyond their control.
- UNISA has not done well with regard to providing online services to remote clients, because the IT systems are constantly experiencing problems, which can take time to be rectified.
- Providing online services is an extremely good idea because online requests are able to cover a large number of clients, unlike manual requests.
- Remote clients are able to access information resources that are made available online, without having to visit the library physically or depend on the staff members to provide information resources, which might take time due to SAPO delays. The clients can download the required information resources from the databases by themselves.

#### **5.4.6.3 Comments by the supervisors with regard to the problems and challenges faced by the library staff**

The participants were requested to comment on the problems and challenges that the IRD staff members were facing. They commented as follows:

- It was mentioned that it is difficult to supervise the duties in the IRD Directorate, in light of the kind of problems they are currently experiencing. The supervisors are no longer confident about what they do, as this makes performance extremely difficult to manage.
- Since the IT tools are preventing the staff members from performing their duties effectively, the library management should acknowledge their workload and the complexity of their work. This will help to boost the staff members' morale.
- The UNISA Library should look for a workflow IT system that is appropriate for the library, which is operating in an ODL environment, in order to provide high-quality services to library clients.
- The only major problem that the IRD Directorate was experiencing was the slowness or malfunctioning of the IT systems. If this could be resolved, everything would be in order.

### **5.5 CHAPTER SUMMARY**

This chapter presented the data collected from two different categories of participants in the IRD Directorate of the UNISA Library. Data were collected from the staff members and the supervisors. The researcher used three data collection tools, namely observation, questionnaires and interviews. The study objectives and research questions were used as a basis for collecting data. The researcher used the actual words of the participants to emphasise the opinions that were stated. The next chapter presents the summary, conclusions and recommendations of the study.

## **CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 INTRODUCTION**

In the previous chapter, the collected data were presented, analysed and interpreted. This chapter provides a summary, conclusions and recommendations arising from the study. This study was conducted at the University of South Africa. The aim of the study was to investigate the IT skills and competencies of library staff members in the IRD Directorate of the UNISA Library with regard to the utilisation and application of IT tools to handle or process online requests from remote clients timeously and efficiently.

The researcher re-examined the research questions and the research objectives, and then reflected on the research findings of this dissertation. Thereafter, she summarised the findings, and drew conclusions and recommendations. This is supported by Greenall and Sen (2014:2), who state that reflection involves looking back at what the researcher achieved, and then analysing and evaluating the events that took place during the research process. For this researcher, the reflections were done to increase self-awareness, clarify thoughts and ideas, and enhance here understanding. This enabled the researcher to meet the objective of answering the following research question, as stated in Chapter 1.

**Do the IT skills and competencies of staff members in the IRD Directorate of the UNISA Library play a pivotal role in the provision of quality services in an ODL environment?**

The researcher also asked the following sub-questions:

- Are the current IT skills and competencies of staff members in the IRD Directorate sufficient for an ODL library in the information era?
- What are the challenges faced by the IRD staff members regarding the effective utilisation and application of IT tools that are used to process online requests from remote clients?
- What are the problems experienced by staff with the methods or strategies used to handle or process online requests.

- What can be done to improve the effective and efficient handling or processing of online requests?

## **6.2 SUMMARY OF THE FINDINGS**

A summary of the findings based on the objectives of the study is presented in this section.

### **6.2.1 IT Skills and Competencies of the IRD Staff Members**

The UNISA Library depends on IT to the extent that remote clients are provided with online services, whereby they are able to download the online information resources they need for their studies and research purposes.

According to the findings of this study which were obtained through observation, questionnaires and interviews, the library staff members were skilled and competent with regard to handling or processing online requests from remote clients. They were able to handle or process requests from remote clients using the IT tools, as discussed in Chapter 3. The IT tools included Uniflow, Sierra, the Student System, SABINET, OCLC, DAISY and OASIS, the latter being used to access and search various databases and e-reserves. Nonetheless, the observation findings also indicated that some staff members were reluctant to download new requests, and it was assumed that this might be due to the fact that downloading new requests takes time. The reluctance to download new requests does not indicate that they were skilled and competent in their jobs, because downloading new requests was one of their core responsibilities. In this regard, staff members were not supposed to choose to do the duties that suited or interested them. The clients should come first, and their reluctance to download requests causes delays in the delivery of information resources.

### **6.2.2 Challenges Faced by the IRD Staff Members When Processing Online Requests**

Even though the study revealed that the staff members were skilled and competent, they were faced with challenges that hindered them from providing excellent library and information services to remote clients, thus affecting the turn-around time. The challenges identified during this study were the following:

- The slowness and/or malfunctioning of the IT tools affected both the processing and delivery of the requested information resources, as well as the performance of the staff members. The challenge with the slowness and/or malfunctioning of the IT tools was mentioned by both the staff members and the supervisors, and was observed by the researcher during observation, as indicated in Chapter 5. It seemed as if the library ICT personnel were not committed enough to resolve the problem of the slowness and/or malfunctioning of the IT tools. This was observed by the researcher when staff members and/or supervisors logged a call. They did not treat the call as a matter of urgency. Instead, they seldom answered the phone or took the time to come and resolve the matter. Staff members and supervisors therefore no longer felt motivated to log a call.
- The processes and procedures for handling or processing online requests were always changing, and it was difficult to cope with and adapt to the changes. Change is needed and acceptable, especially in this technological era, where academic libraries depend on technology to meet the information needs of library clients. Staff members should learn to embrace change and acquire as much knowledge as possible, in order to be able to provide quality library and information services. The researcher assumed that the library management changed the processes and procedures for handling or processing online requests because they believed that they might come up with a better strategy for speeding up the delivery of information resources. This contradicts the findings from the staff members and supervisors, when they indicated that staff members were skilled and competent. When the supervisors and the line manager decided to change the processes and procedures that staff members were using, this is an indication that there was a problem. The researcher assumed that the supervisors and the line manager were trying to find a better way of providing quality service to the remote clients.
- Staff members were given too many responsibilities and could not cope with the load. This was mentioned by the staff members and was confirmed during observation. The researcher asked for clarity by asking the supervisors why staff members were given too many responsibilities. The response from the majority of supervisors was that staff members were not given too many responsibilities. Instead, the problem was that they were not committed or dedicated to their jobs. The supervisors further mentioned that dedicated or committed staff would not complain about being overloaded with work, but would find the means to

ensure that they met the information needs of remote clients. This denotes that supervisors did not consider this as a challenge. Trunk (2007:1) suggests that when staff members feel that they are overburdened with responsibilities, they should learn to prioritise and take responsibility for being overworked. Staff members who excel at work do not complain about being overburdened. Instead, they manage their time and start by doing tasks that are urgent, while important tasks are carried out later. If the supervisors do not prioritise tasks, then staff members have to do it on their own. This implies that the library staff members should know the difference between the urgent and important tasks that are given to them.

- The IT tools that are used to handle or process requests from remote clients were not user-friendly. This might be because the tools were not integrated with one another, in order to handle or process requests from remote clients more effectively and efficiently. The disadvantage of using multiple IT tools was that when one system was down, the staff members were unable to carry out their duties. This was one of the challenges that made the staff members lose confidence in their professional ability, as they always received criticism and unnecessary queries and complaints from remote clients. The researcher did not consider criticism, queries and complaints as a problem from the library clients' side - instead, the researcher assumed that this was caused by staff members' negative attitude and lack of commitment. Committed staff members should learn from criticism, queries and complaints, instead of losing focus.
- The UNISA Library depended on the Post Office to deliver printed information resources requested by remote clients. On the one hand, the Post Office delays and strikes made the staff members seem as if they were incompetent in their work, because of the nature of the queries and complaints they received from remote clients. Some of the queries were difficult for staff members to resolve when the information resources were no longer in their hands. On the other hand, the remote clients might also lose interest in requesting information resources that might take time to reach them, or not reach them at all. This might also cause library clients to become self-reliant, and staff members could then be left without a job.
- Staff members indicated that newly employed staff members were not provided with proper training. This signifies that staff members were not provided with proper training when they started working in the IRD Directorate. In contrast, the supervisors indicated during the

interviews that training was provided for the newly employed and old staff members, especially when there was an upgrade or change in terms of the IT tools used to process online requests. The researcher understood that if training was not provided, staff members would provide poor library and information services, which could result in unwarranted queries and complaints. It is a prerequisite for newly employed library staff members to receive adequate training related to what is expected from them, before they are tasked with responsibilities. The contradictory views of the staff members and supervisors make it difficult to determine whether training was provided or not.

- The interviews revealed that staff members were not committed to their work. This was a challenge that was mentioned by the supervisors, and was also observed by the researcher. She observed that staff members come late and leave early because they work flexi-time, and take long lunch and tea breaks. In addition, staff members chat in groups during working hours, and work at their own pace. There are instances when the staff members come early and leave late, in order to accumulate hours that can be taken as leave. When these improper behaviours occurred, the supervisors did not intervene. This signifies that staff members were really not committed to their work, and it seemed as if the supervisors did not have a say in this matter. It is crucial for staff members to be committed to their jobs, in order to ensure high-quality service and avoid unnecessary queries and complaints. When the staff members do not show commitment to their job, the provision of service tends to be poor.
- New requests get stuck in the system for some unknown reason. This problem was observed by the researcher and seemed to be the reason for staff members' reluctance to download new requests. This caused a delay on the part of the staff members to provide requested information resources on time, which resulted in queries and complaints. This problem occurred frequently and it seemed that the library ICT personnel did not have an idea as to how to fix the problem. This is a serious concern, because when clients do not get an acknowledgement of receipt from the library, they resend their requests. This leads to the duplication of requests. Sometimes, staff members handle or process and deliver duplicate copies to the same client without realizing it. This might be because the Uniflow system does not allocate requests to the staff members. This implies that all staff members process requests randomly. When clients always query the status of their requests, staff members feel incompetent because they failed to provide a tangible response.

- The shortage of staff members was another problem facing the IRD staff. The shortage of staff members might cause them to work under pressure to meet the information needs of the clients. However, this could not be regarded as a valid reason for poor service delivery. Interestingly, this problem was not mentioned by the supervisors during the interviews. As per her observation, the researcher does not agree that there was a shortage of staff. In fact, there were sufficient staff members who were responsible for handling or processing online requests, and received requests were not supposed to take more than 24 hours without being processed. This could raise questions such as the following: if there is a shortage of staff members, why do staff members come to work late and leave early, and why are they often seen in informal groups, instead of working to handle or process and deliver requests within the specified turnaround time?
- The staff members were expected to respond to non-library-related queries, which took up most of the time needed for processing requests. Most of the non-library-related queries were about registration, delivery of study material and financial blocks. This is regarded as a problem, since the staff members spent most of their time redirecting non-library queries to the relevant departments. This resulted in staff members not having enough time to do what was expected of them on a daily basis.
- The library clients send requests without all the necessary bibliographic information, which would assist the library staff members to process requests more quickly. The request form for online requests required the library clients to complete all the bibliographic information, as well as to indicate their preferred mode of delivery. Providing all the required bibliographic information helps the staff members to be certain of the requests, as well as enabling them to deliver the correct information resources.

### **6.2.3 Methods or Strategies for Handling or Processing Online Requests**

The processes for handling or processing online requests are discussed in detail in Chapter 3 of this dissertation, where the researcher used various sources to support the literature regarding how the IRD staff members of the UNISA Library carry out their daily duties.

The researcher observed that the complete handling or processing of online requests was done by three teams, namely the IRRP, IRSO and the IRDO. The processed and available information resources were sent to IRSO for retrieval, and then to IRDO for packaging and delivery via post or courier to the UNISA library branches. The challenge here was that requests may be delayed in other sections, and when one section makes a mistake, it affects the whole chain. For example, the Student System was malfunctioning, which meant that the IRDO could not allocate track and trace numbers for information resources that were supposed to be posted. This resulted in an estimated number of 1700 information resources being held in the delivery office, without a solution in terms of how the items would be delivered to the requesters. This problem was in the delivery office, but affected the IRRP and IRSO. In addition, the library management promoted the rule that staff members should not assume other people's responsibilities. For example, IRRP, IRDO and IRSO were not expected to assist each other, unless they were requested to assist in urgent matters.

#### **6.2.4 Improving Service Delivery**

The supervisors ensured that the staff members were equipped with different kinds of training, such as internal training, peer training, and coaching by experienced colleagues, while some had IT certificates. In addition, UNISA provided formal training, which was conducted by external training providers such as SABINET and LexisNexis, as well as in-house training and refresher training, which was conducted by the supervisors. The collection developers and personal librarians were also called upon to train the staff members on how to do searches on various databases. The training which was provided was relevant, as it included using Uniflow, Sierra, SABINET, OCLC, the Student System, downloading new requests, and DAISY. Other staff members indicated that the training would have been more relevant if it dealt with the following:

- Using the Student System to be able to respond to queries, and lifting a block
- Splitting faxes sent through fax-to-email
- How to assist clients to become self-sufficient, and handling queries on Egain.

Nevertheless, the training provided enabled the library staff members to gain more knowledge and understanding of how to process online requests.

Before the training was initiated, the supervisors conducted a TNA to determine the need for training, in order to improve the effective and efficient handling of online requests, and to enhance service delivery. All the requests with notices and every tenth request processed by the staff members went through LibSupervisors for verification. The supervisors used this inbox to quality check the work done by the staff members, and in this way they were able to determine the need for training, based on common mistakes made by the staff members.

The SQL system was also used as a tool to determine the performance of staff members. IT only showed how many requests the staff members forwarded from all the inboxes on Uniflow. This system assisted the supervisors to determine whether the staff members were able to meet the standards set for various activities.

In addition, all the requests processed and forwarded to the retrievers were verified by the supervisors at the retrievers' section. The requests with mistakes were sent back to the supervisors for their attention. The supervisors then notified the staff members and coached them on how to handle the requests.

As indicated before, poor service delivery is attributed to the fact that staff members are not committed to their job, combine with the fact that the IT tools are frequently out of order. It also seemed that staff members need to be told what to do on a daily basis, otherwise they relax and do as they wish. However, if the staff members are committed to their job, service delivery will be improved in the following manner:

- Complaints and queries will be reduced, thereby enhancing service delivery.
- The staff members will be able to handle requests effectively and efficiently, in order to eliminate mistakes and delays with regard to the delivery of information resources.
- Staff members will be able to assist and encourage remote clients to be self-sufficient.

### **6.3 CONCLUSIONS**

As indicated in Chapter 1, the purpose of this study was to investigate the IT skills and competencies of the library staff members in the IRD Directorate of the UNISA Library with regard to the utilisation and application of IT tools to handle or process online requests from

remote clients timeously and efficiently. This study concluded that staff members were skilled and competent in handling or processing online requests from remote clients. However, they were not dedicated and committed enough to ensure that requests were handled or processed and delivered on time. In addition, staff members were faced with challenges that prevented them from providing high-quality services. The major problems and/or challenges that were mentioned by both the IRD staff and the supervisors, and also observed by the researcher, were IT tools being slow or malfunctioning most of the time, Post Office delays and strikes, and the service procedures. These challenges and/or problems with the IT tools were beyond the supervisors and staff members' control. Nevertheless, staff members were affected because they were not able to handle or process and deliver the requested information resources within the specified turnaround time.

The study also concluded that using multiple IT tools that are not integrated with one another could be time-consuming. It might also affect service delivery because when one system is not working, it affects the entire handling or processing of requests. In addition, the other sections that are relying on the IRRP to send requests for retrieval and delivery might also not have work to do. This denotes that the malfunctioning of one IT tool can affect the entire operational chain.

Furthermore, the study concluded that the supervisors did a great job by providing the library staff members with training, in order to ensure that they were equipped with the relevant skills to render a high-quality library and information services. The supervisors made certain that the handling of requests was done correctly and timeously, so as to ensure that the library clients were provided with an excellent service. They had different methods of monitoring and verifying that the requests were handled properly. The LibSupervisor, SQL system, general meetings and 1:1 meetings seemed to be helpful in determining the areas that needed to be improved among the library staff members. The supervisors had done well with regard to grooming, coaching and communicating with the library staff members, in order to equip them with the necessary skills and competencies in this IT era. However, the supervisors were not confident enough to confront staff members when they are not working or coming to work late and leaving early.

## **6.4 REFLECTIONS ON LESSONS LEARNED BY THE RESEARCHER AND THE EVALUATION OF THE RESEARCH STUDY**

This section presents the researcher's reflections on the lessons learned and an evaluation of the research study.

### **6.4.1 Reflections on Lessons Learned**

Conducting a research study is not easy for most researchers, including this researcher. Being involved in the study, which focused on investigating the IT skills and competencies of library staff members, benefited the researcher with regard to enhancing her creativity and enabling her to gain new knowledge about issues that were previously not known to her. To some extent, the researcher believed that investigating the IT skills and competencies of library staff would positively influence the manner in which library and information service is provided to remote clients. The findings will be used to improve service delivery, by paying more attention to the challenges identified in areas that need improvement.

Before the commencement of this study, the researcher struggled to understand why library clients were not satisfied with the services provided by the UNISA Library, particularly the IRD Directorate, while the university has invested money in training and IT tools, including online databases that are meant to eliminate delays. The researcher assumed that technology would enable staff members to improve service delivery, increase production, and overcome the barrier of distance and time. However, this was not the case according to the findings of this study. Instead, the same IT tools that were used to handle or process online requests were disadvantaging the library clients, as well as the staff members using them.

In light of the above, it is evident that even though the researcher worked as an IRRP in the IRD Directorate, which was under investigation in this study, she did not know about the challenges that staff members were encountering. As this study was conducted during the time when the researcher was working as an IRRP, she was also looking at the challenges under general circumstances, while there were many critical issues that led to poor service delivery.

## **6.4.2 Evaluation of the Research Study**

A research study should be evaluated after completion to determine what information is required, as well as how it is acquired and analysed (Ngulube, 2005:139). The researcher takes full responsibility for the decisions involved in designing and executing the study, and interpreting the findings. The purpose of evaluating a research study is to reflect on the research approach used, including the methods and procedures used to conduct the study. According to the researcher, the value of evaluating the research methodology is not only to serve as a means of informing other researchers and readers about the challenges encountered during the process of conducting a research study, but also to contribute to improving social research practice. In this regard, the researcher reached certain conclusions, which might assist other researchers to understand the principles and practice of research methodology in relation to their studies. In this study, she encountered the following challenges:

### **6.4.2.1 Personal experience in choosing an appropriate research approach**

This research study was seen as a personal development for the researcher, as she gained more knowledge and understanding of the realities associated with research. The researcher was also able to discover personal challenges and imparted new familiarities through the process of conducting this study. One of the challenges encountered when conducting this study was choosing a suitable research approach that would assist in answering the research questions and achieving the research objective. Initially, she wanted to use a quantitative approach, believing that it would address the research problem. In the end, however, she looked at the research questions, as well as the objectives and purpose of the study, in order to obtain guidance. Due to the nature of the research question and the collected data, which were numerical or statistical, she realised that the quantitative information gathered had shortcomings, and needed to be complemented by another approach.

Having realised this challenge, she used a combination of quantitative and qualitative approaches for the triangulation of data. Observation was appropriate for collecting observable data with regard to the IT skills and competencies of the IRD staff members of the UNISA Library. The researcher complemented and confirmed the observation data with data collected by means of a questionnaire and interviews. Using a combination of quantitative and qualitative approaches

with data triangulation enabled her to conduct a successful research study, and to answer the research questions to her satisfaction.

This personal experience served as a reminder that a researcher cannot choose a research approach based on preference. The chosen research approach should be one that enables the researcher to answer the research questions and meet the research objectives.

#### **6.4.2.2 Pre-testing the data collection tools**

The pre-testing of data collection tools was new to the researcher. When reviewing the literature, the researcher learned that data collection tools can be pre-tested before they are actually used with the target population of the study. However, pre-testing should be done by those who have the same characteristics as the intended population, since they will be able to understand the content of the data collection tools to be used. For this study, pre-testing was done by the IRD supervisors (the IRRP and the IRDO). The reason why the researcher chose to use the IRD supervisors for pre-testing purposes was that they had the same characteristics as the IRRP and the IRDO, which formed part of this study. Positive feedback was received from all four IRD supervisors.

No major issues were reported during pre-testing regarding the content and structure of the data collection tools. However, based on the received responses, the researcher felt that some of the questions needed to be re-formulated. Pre-testing the data collection tools enabled her to refine the questions, so that they were able to gather the relevant data for the objectives of this study. In addition, pre-testing the data collection tools helped the researcher to consider some ideas from different perspectives. The interview schedule was not pre-tested - instead, the interview questions and answers were sent to the supervisor after the interviews, in order to confirm whether the information gathered was accurate.

#### **6.4.2.3 Challenges during the process of collecting data**

Another challenge encountered was that the data collection process took longer than three months, even though the population was relatively small. The researcher had to make repeated follow-ups to encourage the participants to return the completed questionnaires. The challenge that she encountered with the interviews was that the supervisors were either busy or on leave,

but in the end, they all participated in the study. The researcher also realised that the initial interview questions were irrelevant to answering the research questions and meeting the objectives of the study. Based on this, the researcher had to ask the IRD supervisors for another interview, using different questions. The supervisors agreed to the researcher's request. The researcher also managed to observe what the study required her to observe without any challenges.

## **6.5 RECOMMENDATIONS**

The following recommendations are based on the findings of the study:

- As this study indicated that the most crucial challenges were the non-commitment of staff members, slowness or malfunctioning of the IT tools, and the fact that these IT tools are not integrated with one another, the UNISA Library should consider upgrading or changing the IT tools used to process online requests. The IT tools were failing the staff members, thereby affecting the remote clients, who were unable to receive their requested information resources on time. The delay in information resource provision led to the library clients not being able to meet deadlines with regard to their assignments and research projects.
- The UNISA Library should ensure that the ICT personnel are competent enough to handle both minor and major problems related to the IT tools that are used to handle or process online requests. It is a serious problem when the IT tools are out of order for a long time, without any resolution. It was also mentioned during the data collection process that the new requests from remote clients sometimes get stuck in the system, without the ICT personnel being aware of it. The staff members discovered these problems when they received queries and complaints about the delay in the delivery of the requested information resources. It is recommended that the ICT personnel should monitor the IT tools on a regular basis, in order to avoid these kinds of problems and be able to detect any malfunctioning of the systems, before the library clients submit complaints that could ruin the reputation of the university.
- The UNISA Library should stick to the same processes and procedures for processing online requests. It becomes difficult for the staff members to cope with and adapt to all the changes. Learning new ways of doing things is good, but not when it is done constantly, as the staff will

be confused and end up processing requests in different ways. Moreover, the supervisors should make certain that staff members do their jobs as expected, instead of changing the processes and procedures for handling requests. This should not be regarded as a solution, especially when the changes are done to accommodate staff members who are not committed to their job. At the same time, this does not mean that change is not good, but there must be valid reasons for changing the working processes and procedures. The staff members become confused and consider change as a challenge, which could result in them adopting different ways of handling or processing and delivering information resources.

- It was noted during observation that the library staff members did not perform all the duties or activities that are mentioned in their job descriptions, even though they mentioned that they were tasked with many responsibilities. It is recommended that the library staff members should know and perform all the duties according to their job descriptions. The library management should consider changing job descriptions for staff members, so that these job descriptions contain the activities that they do. This will speed up the processing of requests and minimise queries and complaints.
- Post Office delays and strikes are also considered as a problem or challenge, as they lead to delays in the delivery of information resources. Therefore, the researcher recommends the following:
  - The UNISA Library should encourage library clients who are staying near UNISA library branches to collect information resources from the branches, in order to avoid delays and inconveniences, as SAPO staff members strike without giving notice to the UNISA Library. The SAPO strikes have a negative effect on the operations of the UNISA Library, as they are the only Post Office in the country that UNISA Library relies on for the delivery of information resources.
  - With regard to prisoners, the UNISA Library should make special arrangements with prisons, in order to allocate staff members who can receive couriered information resources on behalf of the prisoners.
- The UNISA Library, together with the staff members, should promote self-service so that library clients are able to access and download online information resources, instead of

depending on library staff members to provide them with information resources that are available online. Since the study found that the slowness or malfunctioning of IT tools was the cause of delays in the provision of requested information resources, and that there were not enough staff to process requests from remote clients, this will enable clients to not depend totally on library staff members to provide them with information resources that are available online. However, some staff members mentioned that they felt threatened by IT, as it might lead to job losses.

- Newly employed staff should receive adequate training in order to equip them with relevant IT skills and competencies, so as to help them cope with technological changes. Asante and Alemna (2015:2) emphasise that training is a crucial element in any library, although each library has its own expectations of library staff members. However, training should be designed to ensure that the staff members have sufficient knowledge and skills to be competent in their jobs. Training is also crucial in a library that is using up-to-date IT methods and has recently introduced new IT tools. However, the library staff members felt that they might lose their jobs if they were not properly trained to use IT tools, because remote clients were able to download online information resources without the assistance of library staff members. Furthermore, equipping library staff members with relevant IT skills and competencies would enable them to be more committed to their work.
- It is also recommended that the supervisors ensure that staff members are trained in the areas of time management and change management. The former will assist staff members to respect time and to understand when it is time to start working, go for tea and lunch breaks, and to leave work. The change management training will assist staff members to embrace changes brought about by IT. Furthermore, the supervisors should call the staff members to order when they do not do what is expected of them, or when they are seen having informal gatherings during working hours. With regard to coming late and leaving early, this is beyond the supervisor's control, since it is the policy for IRD staff members to work flexi-time. However, their hours need to be managed and monitored, in order to ensure fairness and increase productivity.

- The non-library queries should be redirected to the relevant departments, as it is not ethical to leave the phone ringing without answering it. The university as a whole should ensure that proper channels and relevant telephone numbers for all departments are clearly stated in tutorial letters. The researcher assumed that the high volume of non-library queries is caused by students not knowing where to direct their queries, as they are not provided with the proper channels and telephone numbers.
- When clients send requests with insufficient bibliographic information, this might lead to the requests being cancelled or delayed. It is recommended that library clients should be made aware of the consequences of not providing enough bibliographic information for their requests. In addition, the system should not allow them to send an incomplete request form for online requests.

## **6.6 Suggestion for Further Research**

The study has accomplished its goal by identifying the challenges or problems in terms of IT skills and competencies of the IRD staff members at the UNISA Library. Alternative solutions to the challenges or problems were recommended, in accordance with the findings of the study, as presented in Chapter 5. As a result, this study recommends that further research is conducted on the following topics:

- Determining the processes for downloading and accessing online information resources effectively to avoid unnecessary delays.
- Determining the processes for searching the catalogues and various databases to which the UNISA Library has subscribed. This will encourage remote clients to not use the information they accessed via Google. The UNISA Library will be also encouraged to subscribe to more databases to support learning, teaching and research.
- IT as an enabler for the access, retrieval and provision of information resources to remote clients.
- A comparative study of remote and on-campus clients' access to online information resources.
- The importance of IT as a medium for information access.

## **6.7 FINAL REMARKS**

This chapter concludes the study. It summarised the findings of the study and drew conclusions based on the research findings and the literature reviewed in Chapters 2 and 3. This chapter also provided recommendations that can assist the library management and remote clients to address certain challenges encountered by the library staff members that affect service delivery. The two key recommendations were for the UNISA Library to upgrade or change the current IT tools that they were using to handle or process online requests; and that remote clients should be taught to be self-sufficient, so that they are able to access online information resources without depending on library staff members. In short, the UNISA Library should strive to improve the timely access to and delivery of information resources.

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## APPENDIX A: OBSERVATION SCHEDULE

<b>Descriptive notes: processes, activities and situations to be observed</b>	<b>Reflective notes: processes, activities and situations observed</b>
The setting where the IRRP worked	
The setting where the IRDO worked	
Problems and challenges observed	
Whether there was training during the time of observation	
The frequency of meetings held during the time of observation	
The library staff members' interaction with one another and their behaviour	

## APPENDIX B: QUESTIONNAIRE

### UNIVERSITY OF SOUTH AFRICA: DEPARTMENT OF INFORMATION SCIENCE

**[STRICTLY CONFIDENTIAL]**

#### **“Information Technology skills and competencies of staff members in the Information Resource Distribution Directorate of the University of South Africa Library”**

I am Tinyiko Vivian Dube, Master of Information Science student at the University of South Africa (UNISA). I am conducting a research study and my topic is “Information Technology skills and competencies of staff members in the Information Resource Distribution Directorate of the University of South Africa Library”.

The aim of this study is to investigate the challenges and problems encountered by IRD staff members with regard to IT tools that are utilised to process online requests from remote clients in the IRD Directorate of the UNISA Library. Through this study, the problems that need to be addressed will be highlighted, and the recommendations will assist the UNISA Library and the library management in terms of decision making.

The information that you may provide for this study, through this questionnaire, will be kept confidential. This implies that the information provided in this questionnaire will not be used for any purposes other than the intention of this study. You are not required to disclose your name, and participation in this study is voluntary.

You are requested to answer all the questions honestly. Your participation in this study would be highly appreciated.

#### **GUIDELINES FOR COMPLETING THE QUESTIONNAIRE**

1. Please select an answer by making a **tick** or **cross** next to the correct answer.
2. Use “N/A” for ‘not applicable’ to avoid skipping questions
3. If the provided writing space is not enough for your answer, please use a separate page and write the question number, then attach the page to the questionnaire

For any queries or clarity, please feel free to contact me.

My contact details are as follows:

Tel (W) – 012 429 3754

Cell – 082 210 2464

E-mail – [tinyikov@hotmail.com](mailto:tinyikov@hotmail.com) or [dubetv@unisa.ac.za](mailto:dubetv@unisa.ac.za)

Completed questionnaires may be e-mailed using either of the above e-mail addresses.

I wish to thank you for your effort and time in completing this questionnaire and for being honest. I hope you will find this study helpful, by returning a completed questionnaire.

### Section A: About yourself

Please put a cross inside the box that describes your response

1. Your gender

Male	
Female	

2. Your age group

Between 21 and 25	
Between 26 and 30	
Between 31 and 35	
Between 36 and 40	
Between 41 and 45	
Between 46 and 50	
51 and above	

3. Your work title

Information Resource Request Processor	
Information Resource Delivery Officer	

4. Number of years in this position

Less than 3 years	
Between 4 and 6 years	
Between 7 and 9 years	
Ten years and more	

5. Number of years at the UNISA Library

Less than 3 years	
Between 4 and 6 years	
Between 7 and 9 years	
Ten years and more	

6. Your highest level of qualification

Matriculation	
Diploma	
Degree	
Honours	
Masters	
Doctorate	
Other (please specify)	

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7. If you have a post-matriculation qualification, what is your field of study?

Library and information science	
Other (please specify)	

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**Section B: About your IT skills and competencies**

8. Do you have any IT-related skills with regard to handling or processing online requests from remote clients?

Yes	
No	

9. If yes, how did you acquire your IT skills for handling or processing online requests?

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10. Did you receive formal training for the job that you are doing when UNISA employed you?

Yes	
No	

11. Did your line manager/supervisor conduct a training needs analysis (TNA) to determine the kind of training you need?

Yes	
No	

12. If your answer to question 10 is yes, on what level was the training?

Basic	
Intermediate	
Advanced	
Graduate course	

13. Was the training relevant or helpful in assisting to handle online requests from remote clients?

Yes	
No	

14. What did the training entail?

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15. If your answer to question 13 is no, what do you think the training should have entailed?

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16. What was your practical experience during the training?

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17. Based on the practical experience that you have acquired during training, do you think that being IT skilled and competent will assist in improving quality service to remote clients? Please motivate your answer.

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18. Do you think that IT has posed threats to library staff members in terms of handling or processing requests from remote clients? Please motivate your answer.

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19. How would you rate your IT skills and competency in terms of processing or handling the following information resources, when requested online by remote clients? Please use the following scale:

1= Highly incompetent; 2 = Incompetent; 3 = Not sure; 4 = Competent; 5 = Highly competent

<b>Information resources</b>	<b>Highly incompetent</b>	<b>Incompetent</b>	<b>Not sure</b>	<b>Competent</b>	<b>Highly competent</b>
Books	1	2	3	4	5
Journal articles	1	2	3	4	5
Video recordings	1	2	3	4	5
Reference materials	1	2	3	4	5
Pamphlets	1	2	3	4	5

20. How would you rate your knowledge, skills and competencies in using Millennium/Sierra to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>Millennium application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources	1	2	3	4	5
Placing holds	1	2	3	4	5
Verifying clients' status	1	2	3	4	5
Checking in	1	2	3	4	5
Checking out	1	2	3	4	5
Renewals	1	2	3	4	5
Downloading new requests	1	2	3	4	5
Hold management	1	2	3	4	5

21. How would you rate your knowledge, skills and competencies in using SABINET to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>SABINET application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources on SACat	1	2	3	4	5
Requesting information resources from participating university libraries and partners	1	2	3	4	5
Receiving requested information resources from participating university libraries and other partners	1	2	3	4	5
Supplying information resources requested by other university libraries and partners	1	2	3	4	5
Sending overdue notices to UNISA Library partners	1	2	3	4	5
Renewing information resources borrowed for UNISA Library clients	1	2	3	4	5

Creating records for information resources borrowed from other libraries	1	2	3	4	5
Checking message files	1	2	3	4	5
Retrieving statistics	1	2	3	4	5

22. How would you rate your knowledge, skills and competencies in using OCLC to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>OCLC application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources on WorldCat	1	2	3	4	5
Requesting information resources from participating international university libraries and partners	1	2	3	4	5
Receiving requested information resources from participating international university libraries and partners	1	2	3	4	5
Supplying information resources requested by international university libraries and partners	1	2	3	4	5
Sending overdue notices to UNISA Library clients	1	2	3	4	5
Creating records for information resources borrowed from international libraries and partners	1	2	3	4	5
Checking message files	1	2	3	4	5
Retrieving statistics	1	2	3	4	5

23. How would you rate your knowledge, skills and competencies in using Uniflow to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>Uniflow application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Pending requested information resources that are currently on loan or requested on SABINET and OCLC	1	2	3	4	5
Tracing online requests	1	2	3	4	5
Sending processed requests to the retrievers	1	2	3	4	5
Re-indexing incorrectly captured requests	1	2	3	4	5
Forwarding requests to the interlibrary loan inbox	1	2	3	4	5
Forwarding requests to delivery officers	1	2	3	4	5
Handling request-related queries	1	2	3	4	5

24. How would you rate your knowledge, skills and competencies in using the Student System to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>Student System</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Track and tracing library items that are sent through the SAPO	1	2	3	4	5
Verifying that the library items were collected from the SAPO	1	2	3	4	5
Lifting a block	1	2	3	4	5
Verifying students' status	1	2	3	4	5

25. Please describe your IT skills and competencies for processing online requests from remote clients.

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**Section C: About the problems and challenges you encountered in processing requests**

26. Are you aware of the current problems and challenges that the UNISA library staff members, particularly request and delivery services, are experiencing with regard to processing online requests from remote clients?

Yes	
No	

27. If the answer is yes, please indicate what problems and challenges you are aware of and which affect the services provided by IRD staff members to remote clients?

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28. Do you have any idea of what the cause of these problems and challenges might be?

Yes	
No	

29. If the answer to the previous question is yes, please indicate the causes.

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30. Do you agree or disagree with the following statements about problems and challenges that you encounter in providing services to remote clients? Please use the following scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither disagree nor agree; 4 = Agree; 5 = Strongly agree

<b>Statement</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly agree</b>
I experience problems when processing requests from remote clients	1	2	3	4	5
I always ask for help from the supervisor or other colleagues when I encounter problems in processing online requests	1	2	3	4	5
I always call the library clients if I do not understand their requests or if insufficient information is provided	1	2	3	4	5
I usually check the Student System and Post Office for information resources that the library clients did not receive	1	2	3	4	5
I report problems that I encounter when processing requests to my supervisor or line manger	1	2	3	4	5
I always deal with complaints from clients when I feel like I did not provide them with the services that they needed	1	2	3	4	5
The online request service is an efficient and effective means of providing	1	2	3	4	5

quality services to clients					
Information technology has a negative impact on the quality of services for UNISA Library clients	1	2	3	4	5

31. Do you agree or disagree with the statement that the following challenges/ deficiencies contribute negatively to the quality of service at the UNISA Library? Please use the following scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither disagree nor agree; 4 = Agree; 5 = Strongly agree

<b>Challenges / deficiencies</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly agree</b>
System offline	1	2	3	4	5
System slow response	1	2	3	4	5
Lack of IT infrastructure	1	2	3	4	5
Lack of IT skills among the library staff members	1	2	3	4	5
Lack of access to the internet by remote clients	1	2	3	4	5
Lack of IT skills among remote clients	1	2	3	4	5
Service procedures	1	2	3	4	5

32. Is there anything that you would like to say concerning the problems and challenges that you encounter in processing online requests from remote clients? Please elaborate your answer.

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33. Do you think that the IRD Directorate of the UNISA Library has done well by providing online services to remote clients? Please elaborate on your answer.

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**Thank you very much for answering the questions**

## APPENDIX C: INTERVIEW SCHEDULE

### UNIVERSITY OF SOUTH AFRICA: DEPARTMENT OF INFORMATION SCIENCE

#### **“Information Technology skills and competencies of staff members in the Information Resources Distribution Directorate of the University of South Africa Library”**

I am Tinyiko Vivian Dube, a Master of Information Science student at the University of South Africa (UNISA). I am conducting a research study and my topic is “Information Technology skills and competencies of staff members in the Information Resources Distribution Directorate of the University of South Africa Library”.

The aim of this study is to investigate the challenges and problems encountered by IRD staff members with regard to the IT tools that are utilised to process online requests from remote clients in the IRD Directorate of the UNISA Library. Through this study, the problems that need to be addressed will be identified, and the recommendations will assist the UNISA Library and the library management in terms of decision making.

I will tape-record our conversation and take notes during the interview sessions. The information that you may provide for this study, through this interview, will be kept confidential. This implies that the information provided in this interview will not be used for any purposes other than the intention of this study. You are not required to disclose your name and participation in this study is voluntary.

You are requested to answer all the questions honestly. Your participation in this study would be highly appreciated. Please feel free to ask for clarity if there are questions that you do not understand.

Please note that the answers you provide will be returned to you to verify whether I have accurately recorded what you have said.

**Section A: About the IRD supervisors**

1. What is your job title?

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2. Which section are you supervising?

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3. Were you provided with training on how to supervise the IRD staff members with regard to processing online requests from remote clients?

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4. Do you, as a supervisor, have experience and skills for processing, retrieving and delivering requested information resources from remote clients?

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**Section B: About the IRD staff members**

5. Were the IRD staff members provided with adequate training on how to handle online requests from remote clients?

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6. If the answer is yes, please describe the kind of training which was provided.

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7. Based on your knowledge and opinion, was the training relevant to handling or processing online requests from remote clients? Please motivate your answer.

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8. Did you conduct a training needs analysis (TNA) to determine the kind of training needed by the IRD staff members?

Yes	
No	

9. If yes, what were the findings?

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10. If no, why was a training needs analysis (TNA) not conducted?

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**Section C: Determining the methods or strategies used to handle or process online requests**

11. Which methods or strategies do the library staff members use to handle or process online requests?

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12. What do your duties entail?

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**Section D: Investigating the IT skills and competencies of the IRD staff members of the UNISA Library**

13. How would you rate the IT skills and competency of the library staff members in terms of processing or handling the following information resources when requested online by remote clients? Please use the following scale:

1= Highly incompetent; 2 = Incompetent; 3 = Not sure; 4 = Competent; 5 = Highly competent

<b>Information resources</b>	<b>Highly incompetent</b>	<b>Incompetent</b>	<b>Not sure</b>	<b>Competent</b>	<b>Highly competent</b>
Books	1	2	3	4	5
Journal articles	1	2	3	4	5
Video recordings	1	2	3	4	5
Reference materials	1	2	3	4	5
Pamphlets	1	2	3	4	5

14. How would you rate the library staff members' knowledge, skills and competencies in using Sierra to perform the following functions? Please use the following scale:

1= Very Poor; 2 = Poor; 3 = Not Sure; 4 = Good; 5 = Very Good

<b>Sierra application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources	1	2	3	4	5
Placing holds	1	2	3	4	5

Verifying clients' status	1	2	3	4	5
Checking in	1	2	3	4	5
Checking out	1	2	3	4	5
Renewals	1	2	3	4	5
Downloading new requests	1	2	3	4	5

15. How would you rate the library staff members' knowledge, skills and competencies in the use of SABINET to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>SABINET application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources on SACat	1	2	3	4	5
Requesting information resources from participating university libraries and partners	1	2	3	4	5
Receiving requested information resources from participating university libraries and other partners	1	2	3	4	5
Supplying information resources requested by other university libraries and partners	1	2	3	4	5
Sending overdue notices to UNISA Library partners	1	2	3	4	5
Renewing information resources borrowed for UNISA Library clients	1	2	3	4	5
Creating a record for information resources borrowed from other libraries	1	2	3	4	5
Checking message files	1	2	3	4	5
Retrieving statistics	1	2	3	4	5

16. How would you rate the library staff members' knowledge, skills and competencies in the use of OCLC to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>OCLC application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Searching for requested information resources on WorldCat	1	2	3	4	5
Requesting information resources from participating international university libraries and partners	1	2	3	4	5
Receiving requested information resources from participating international university libraries and partners	1	2	3	4	5
Supplying information resources requested by international university libraries and partners	1	2	3	4	5
Sending overdue notices to UNISA Library clients	1	2	3	4	5
Creating a record for information resources borrowed from international libraries and partners	1	2	3	4	5
Checking message files	1	2	3	4	5
Retrieving statistics	1	2	3	4	5

17. How would you rate the library staff members' knowledge, skills and competencies in the use of Uniflow to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>Uniflow application</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Pending requested information resources that are currently on loan or requested via SABINET and OCLC	1	2	3	4	5
Tracing online requests	1	2	3	4	5
Sending processed requests to the retrievers	1	2	3	4	5

Forwarding requests to the interlibrary loan inbox	1	2	3	4	5
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18. How would you rate the library staff members' knowledge, skills and competencies in the use of the Student System to perform the following functions? Please use the following scale:

1= Very poor; 2 = Poor; 3 = Not sure; 4 = Good; 5 = Very good

<b>Student System</b>	<b>Very poor</b>	<b>Poor</b>	<b>Not sure</b>	<b>Good</b>	<b>Very good</b>
Track and tracing library items that are sent via the SAPO	1	2	3	4	5
Verifying whether the library items were collected from the SAPO	1	2	3	4	5
Lifting a block	1	2	3	4	5

**Section E: Investigating the challenges faced by the IRD staff members in the effective utilisation and application of IT tools to process online requests from remote clients**

19. What are the current challenges that IRD staff members are experiencing with regard to handling and delivering online requests?

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20. Do you agree or disagree with the statement that the following challenges/ deficiencies contribute negatively to the quality of services at the UNISA Library? Please use the following scale:

1 = Strongly Disagree, 2 = Disagree, 3 = Neither Disagree nor Agree; 4 = Agree; 5 =

Strongly Agree

<b>Challenges / deficiencies</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither disagree nor agree</b>	<b>Agree</b>	<b>Strongly agree</b>
System offline	1	2	3	4	5
System slow response	1	2	3	4	5
Lack of IT infrastructure	1	2	3	4	5
Lack of IT skills among library staff members	1	2	3	4	5
Lack of access to the internet by remote clients	1	2	3	4	5
Lack of IT skills among remote clients	1	2	3	4	5
Service procedures	1	2	3	4	5

**Section F: Suggesting measures and recommendations to improve the effective and efficient handling or processing of online requests to enhance service delivery**

21. What are the measures and recommendations taken to improve the effective and efficient handling or processing of online requests to enhance service delivery?

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22. Do you think that the IRD Directorate of the UNISA Library has done well by providing online services to remote clients? Please elaborate on your answer.

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23. Is there anything you would like to say as a supervisor with regard to the problems and challenges faced by the IRD staff members?

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-----THE END-----

I would like to thank you for your time and effort in participating in this research study. I believe that the information you provided will be useful.

## **APPENDIX D: OBSERVATION AND QUESTIONNAIRE PRE-TEST SCHEDULE**

### **Questionnaire Pre-test Schedule for Information Technology Skills and Competencies of the IRD Staff Members of the UNISA Library**

Dear colleagues

My name is Tinyiko Vivian Dube. I am working at the UNISA Library and studying towards a Masters in Information Science. I am conducting a research study and my topic is “Information technology skills and competencies of staff members in the Information Resources Distribution Directorate of the University of South Africa Library”. The main aim of this study is to investigate the challenges and problems encountered by the IRD staff members with regard to IT tools that are utilised to process online requests from remote clients in the IRD Directorate of the UNISA Library. Through this study, the problems that need to be addressed will be identified, and the recommendations will assist the UNISA Library and library management in terms of decision making.

This letter serves to request your cooperation in assessing the validity and reliability of an observation schedule and questionnaire that are intended to be used to collect data for this study from participants.

For the success of this research project, your inputs regarding the observation schedule and questionnaire will be highly appreciated. I have drafted a checklist below for you to provide your input. You are requested to indicate if the items on the checklist are right or wrong in the observation schedule and questionnaire, by making a **tick** or **cross** next to each item. I have also provided a space for you to add your suggestions and/or comments about the observation schedule and questionnaire where necessary.

**OBSERVATION SCHEDULE:**

ASSESSMENT ITEM	RIGHT	WRONG	IF YOUR ANSWER IS WRONG, PLEASE PROVIDE YOUR SUGGESTIONS
Typology	RIGHT	WRONG	
Grammar	RIGHT	WRONG	
Spelling	RIGHT	WRONG	
Question numbering	RIGHT	WRONG	
Font size	RIGHT	WRONG	
Vocabulary	RIGHT	WRONG	
Length of the questionnaire	RIGHT	WRONG	
Line spacing	RIGHT	WRONG	
Question flow	RIGHT	WRONG	
Appropriateness of items	RIGHT	WRONG	

**QUESTIONNAIRE:**

ASSESSMENT ITEM	RIGHT	WRONG	IF YOUR ANSWER IS WRONG, PLEASE PROVIDE YOUR SUGGESTIONS
Typology	RIGHT	WRONG	
Grammar	RIGHT	WRONG	
Spelling	RIGHT	WRONG	
Question numbering	RIGHT	WRONG	
Font size	RIGHT	WRONG	
Vocabulary	RIGHT	WRONG	
Length of the questionnaire	RIGHT	WRONG	
Line spacing	RIGHT	WRONG	
Question flow	RIGHT	WRONG	
Appropriateness of items	RIGHT	WRONG	

I would like to thank you for your time and effort in assessing the validity and reliability of this observation schedule, questionnaire and interview schedule. Please forward the completed checklist to me via e-mail at: [tinyikov@hotmail.com](mailto:tinyikov@hotmail.com) or [dubetv@unisa.ac.za](mailto:dubetv@unisa.ac.za)

Yours Faithfully

Dube Tinyiko Vivian (Ms)

MINF Student

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## APPENDIX E: E-MAIL QUERIES AND COMPLAINTS

