The use of electronic resources by postgraduate students and academics at the Graduate School of Business and Leadership, Westville Campus, University of KwaZulu-Natal

by

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Declaration

I, Anita Somers declare that:

1. The research reported in this thesis, except where otherwise indicated, is my original research.

2. This thesis has not been submitted for any degree or examination at any other university.

3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

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Signed:

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Dedication

This dissertation is dedicated to my loving husband, Navin, and to my three beautiful children, my daughter Suvadna and my sons Nihal and Yashil.

Your endless love and faith in me has encouraged me through this difficult journey. This research is not an accomplishment of my work alone, but ours together. Behind my every success lies my family..... Love you forever, for always.

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Abstract

Advancements in technology have altered the way information is accessed and have forced academic libraries to shift to digital information. With this rapid pace of change, comes the need for academic libraries to meet the demands of researchers for better access to library resources by providing an effective way to retrieve, store and consume information. This involves harnessing information technologies to the process of teaching, learning and research to enable users to access information beyond the walls of the library.

The purpose of this study was to understand academics' and postgraduate students' awareness of e-resources, which e-resources were mainly used, how they are accessed and the barriers faced in accessing them. The study further investigated whether academics utilise e-resources in the process of teaching, learning and research. The Graduate School of Business and Leadership (GSB&L) is based at the Westville Campus, UKZN and many of their users consist mainly of part-time students and contract staff. Together with part-time study emerges the concept of convenience and time constraints which are critical factors for users who have limited time to find resources.

The study population consisted of 20 academics and 700 postgraduates from the GSB&L. All academics were included in the study and with the postgraduate students stratified random sampling was used to obtain a sample size of 250. A questionnaire was employed as the data collection instrument and distributed to 20 academics, 25 postgraduate diploma, 190 masters and 35 doctoral students. Sixteen academics responded giving a response rate of 80% while 140 questionnaires were returned from the students giving a response rate of 56%. The findings of the study revealed that the vast majority of academics (87.5%) and postgraduate students (84.3%) used e-resources and were aware of the existence of these resources. The study indicated the problems respondents encountered when using e-resources. These problems included "Limited off-campus access", "Not sure which database to choose", "Password requirements", "Slow internet connection" and the need for training in the use of e-resources. Respondents also indicated some main advantage of accessing e-resources such as "Easy/faster access", "Currency of information" and "Emailing, saving and printing results".

The e-resources that were considered very important by academics included EbscoHost, Science Direct and e-Journals. Postgraduate students also indicated similar results with EbscoHost, Google Scholar, Proquest and e-Journals. When establishing the purpose for academics' use of e-resources, results shows that a large majority of academics indicated that they used e-resources for "research" (81.3%) and "teaching" (81.3%).

Most academics (81.3%) found information about e-resources by accessing the library webpage while postgraduate students mainly found information from lecturers (31.4%), from the library webpage (28.6%) and via library user education programmes (20%). This study found that the most serious problem faced by 32.1% of postgraduate students was "Limited off-campus access". This confirmed the finding of this study that most students do not come to the library physically to access e-resources but instead used the off-campus access.

Results indicated that a majority (81.3%) of academics accessed-books that UKZN libraries subscribes to. However results from postgraduate students revealed that 32.9% accessed e-books while 52.1% did not access e-books. The results of the study indicated that while most of the respondents were aware of e-resources, there was a need for further training to advance their skills when using e-resources.

Recommendations based on the findings of the study were presented and these included the need for UKZN Libraries to conduct intensive and more focussed training programmes for both academics and postgraduate students at GSB&L, in addition these training programmes should be made compulsory for all postgraduate students and be included as part of their lectures. Further recommendations included improving the awareness of current and new resources either by sending email alerts, user guides or advertising such on the university website. Finally, suggestions for further research were given.

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Academics

Postgraduate Students

Abbreviations and Acronyms

DBA	Doctor of Business Administration
DPHIL	Doctor of Philosophy
E-LIBRARIES	Electronic Libraries
E-RESOURCES	Electronic Resources
GSB&L	Graduate School of Business and Leadership
ICT	Information and Communication Technology
IS	Information Society
ISP	Information Search Process
KS	Knowledge Society
MBA	Master of Business Administration
MCOM	Master of Commerce in Leadership
OCLC	Online Computer Library Center
OPAC	Online Public Access Catalogue
PGDLM	Postgraduate Diploma in Leadership & Management
SANLIC	South African National Library and Information Consortium
SPSS	Statistical Package for the Social Sciences
TDs	Theses and Dissertation
UKZN	University of KwaZulu-Natal

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1   Introduction

This study investigates the use of electronic resources (also referred to as e-resources) by postgraduate students and academics at the Graduate School of Business and Leadership (GSB&L), Westville Campus, University of KwaZulu-Natal (UKZN).

Advancements and the phenomenal changes in technology have altered the way in which information is accessed and has brought a multitude of advantages to the way in which information is acquired. Many academic libraries have used technology to enhance and improve access of scholarly information by bringing in significant development of electronic information. Electronic information, as iterated by Shuling (2007: 72) "has gradually become a major resource in every university library," and have also emerged as a major part of library collections providing exciting opportunities for academic libraries especially in developing countries (Vasishta, 2014). Accordingly, UKZN Libraries also recognised the need to provide hybrid resources and have undergone significant changes during the last ten years in order to provide e-resources that can be conveniently accessed and retrieved by users. Access to electronic information provides users with enhanced access to resources that is integrated into global networks and thus not restricted by geographical location. While UKZN Libraries previously offered only print-based resources, the print collections are now complemented with a rapidly growing collection of library resources in electronic format either via electronic databases (e-databases); electronic journals (e-journals); electronic theses and dissertations (TDs); online public access catalogues (OPAC); LibGuides and electronic books (e-books) collections. The use of these e-resources are available through UKZN Libraries via multiple points on the library homepage (http://library.ukzn.ac.za/).

The purpose of this study has been to understand academics and postgraduate students' awareness of e-resources, which e-resources were mainly used, how they were accessed and the barriers faced in accessing them. The study further investigates whether academics utilize e-resources in the process of teaching, learning and research. As the University is currently faced with massive budget cuts, this study will provide insight into which e-resources could be unsubscribed and to look at ways of improving the utilization of e-resources. The GSB&L is based at the Westville Campus, UKZN and many of their users consist primarily of part-time students and contract staff.

Together with part-time study, emerges the concept of convenience and time constraints which are critical factors for users who have limited time to spend looking for resources. UKZN Libraries provide access to electronic information seamlessly via the Library's webpage and via the off-campus access.

1.2   Outline of the research problem

"The traditional role of the library as an acquirer and preserver of collection has changed dramatically over the past few decades" (Li, 2011, cited in Wales, 2014: 143). These changes have forced academic libraries to shift to digital information. With this rapid pace of change, comes the need for academic libraries to meet the demands of academics and students for better access to library resources by providing an effective way to retrieve, store and consume information. This involves harnessing information technologies to the learning process to enable users to access information beyond the physical walls of the library. The role of libraries has evolved from a keeper of books and print inventory to that of knowledge navigator, allowing users to acquire knowledge in different ways (Miller, 2010). While library users previously relied predominantly on print-based journals and books, changes in technology have increasingly enabled users to access the information electronically. However, many users still want to adopt the methods they used previously such as walking into the library to browse the shelves due to certain technological-related problems (Jamali, Nicholas and Rowlands, 2009; Renwick, 2005). Studies, for example, Tomney and Burton (1998), Shuling (2007), Harle (2010), Toteng (2010), (Natarajan, Suresh, Sivaraman and Sevukam, 2010) and Oyedapo and Ojo (2013) have revealed that while most academic libraries are now providing e-resources, many academics and students are still unaware of the benefit of using these e-resources and their usage of such resources is consequently less than it could be.

This study has been undertaken to investigate the utilisation of e-resources by postgraduate students and academics in the GSB&L. Most postgraduate students at GSB&L are either working full-time or balancing family responsibilities together with their studies. This further underscores the need for fast and easy information retrieval and also that access not be limited by distance. This study will contribute to an understanding of the needs of these users when accessing e-resources and will seek to identify elements that contribute to or impede the utilization of e-resources. The results of this study will help the librarians to ensure that users are utilizing e-resources effectively and to assist the institution to "... move the power of the internet for learning from promise to practice" (Kerrey and Isakson, 2000: 134).

1.3   Problem statement

There has been a behavioural shift in the information needs of users from the traditional print to electronic format, and therefore it is imperative for academic libraries to deliver services to meet the changing needs of library users.

As indicated by Kumar (as cited in Wales, 2014: 65) libraries in United States of America, United Kingdom and the European Union today are faced with budget constraints, reduced funding and the increasing cost of books. In addition, Xie (2008: 1347) states that "millions of dollars have been invested into the development of digital libraries. Many unanswered questions related to whether users use them, how they use them, and what facilitates and hinder their access of information in these digital libraries." UKZN libraries are also facing similar challenges expanding their digital resources and managing the cost of e-resources. The funds allocated in the budget have made it difficult to acquire additional electronic databases unless the existing subscriptions for some of the e-resources are cancelled.   In 2014, UKZN Libraries spent a total of R41, 614,540 on e-resources subscriptions. These figures show the high cost of library resources and the over-expenditure on the budget is attributed to the rising subscription cost of journals and databases (UKZN Library Review, 2014). A large percentage of the library budget is allocated for e-resources subscriptions and it is therefore critical to ensure that e-resources are adequately utilized and optimally used. Similar questions indicated by Xie (2008) needs to be answered in this study to evaluate the library's existing digital resources.

Much of the library's success depends on the satisfaction of the informational needs of its users. This satisfaction is mainly derived from the effective resources and enhanced services that the library provides to users. In view of this, the library has established new methods for providing resources by making significant investments in e-resources.   The high costs of e-resources necessitates a better service and in view of this, Anderson et al. (as cited in Sadeh and Ellingsen, 2005: 2) suggests "the need for a better system that supports management of the information and workflows necessary to efficiently select, evaluate, acquire, maintain, and provide informed access to e-resources in accordance with their business and license terms."

Given the above, this study sought to determine the extent of e-resources usage, factors that influence the use of e-resources, whether adequate training is offered and to establish which e-resources are not being accessed. This information will assist in informing the decision-making process concerning the retention or cancellation of current subscriptions.

In Table 1.1 below is the list of usage statistics for 2014 of the 15 most popularly accessed electronic databases subscribed to by UKZN libraries. The column on the far right indicated the cost for the 2014 subscription.

Table 1.1: E-resources usage for 2014

Platform	Jan-2014	Feb-2014	Mar-2014	Apr-2014	May-2014	Jun-2014	Jul-2014	YTD Total	YTD HTML	YTD PDF	Cost Rand Amount
ScienceDirect	28020	50887	81052	66213	58589	44127		328888	130258	198610	7078942.06
EBSCO	6162	15954	31797	24954	17531	10397	5206	112001	15487	96514	648951.44
Wiley	5519	10620	22157	15134	14346	8890		76666	33684	42982	6,363,902.72
Taylor and Francis	2872	6776	11975	10356	8140	4695	6478	51292	9052	42240	3425972.91
Springer link	4393	8111	13189	10090	8987			44770	1762	22610	3789278.42
Web of Knowledge	2581	5060	4769	4675	4321	3718	3811	28935			665128
Sage	1478	2698	6160	4888	6117	3546	2444	27331	1588	25743	164516.56
Ovid	1176	1418	1305	1055	1576	2074		17298			999496.47
ProQuest	584	2185	4487	3850	2740	1510	1022	16378			554671.56
ACS Publications	1860	2415	3747	3641	3661			15324	923	3661	753253.65
Cambridge Univ Pre	276	760	1415	1249	840	508	576	5624	67	5557	595471.59
IEEE	558	603	915	841	777			3694	3606	88	633054.24
Scifinder Scholar	341	366	378	384	378	383	389	2226			1251659.79
JAMA	78	158	412	247	160	119	188	1362	948	414	153456
JAMA Evidence	1	5	6	10	4	3	2	36			59441

An analysis of usage data obtained as at 4th September 2014 (Unpublished Library Report, 2014).

UKZN Libraries is geared to the provision of a wide range of electronic databases that users can access electronically. However, it is important to identify which databases are currently being used by students and academics at the GSB&L, if resources are merited by usage and if these databases need to be marketed by the library (A full list of the available databases is contained in Question 12 of the Questionnaire – see Appendix 3).

1.4   Purpose

The main purpose of this study has been to investigate the awareness and use of e-resources by academics and postgraduate students in the GSB&L. The study seeks to establish the pattern and extent of e-resources usage and factors that influence or impede academics' and postgraduate students' use of e-resources.

1.5   Research questions

The main question this research will attempt to address is: What elements contribute to or impede the use of e-resources by academics and postgraduate students at the GSB&L at UKZN, Westville Campus? This broad question is broken down into the following specific questions:

▪ What is the level of academics' and postgraduate students' awareness of e-resources?

▪ To what extent do academics and postgraduate students use e-resources?

> ▪ What is the pattern of e-resources usage by academics and postgraduate students?

> ▪ For what purpose do academics use e-resources?

> ▪ What are the factors that influence the use of e-resources by academics and postgraduate students?

▪ How do academics and postgraduate students find out about the available e-resources?

▪ What problems do academics and postgraduate students encounter when accessing e-resources?

▪ What do academics and postgraduate students perceive as the benefits of using e-resources?

1.6   Rationale of the study

While a significant amount of literature has been discussed on the shift from print to e-resources (Agaba, Kigongo-Bukenya and Nyumba, 2004; Bar-Ilan and Fink, 2005), other studies have reported that e-resources will not substitute the traditional print format (Raza and Upadhyay, 2006; Kaur and Verma, 2009; Kacherki and Thombare, 2010). Only a few studies have explored the reason why some users still prefer to use print resources and the problems faced in accessing e-resources (Kaur, 2012). Studies conducted in South Africa have mainly focused on the use of electronic resource by postgraduate students (for example, Hadebe, 2010; Soyizwapi, 2005; Idoniboye-Obu, 2013). In addition, there is limited literature on the use of e-resources by academics and only one study could be identified, namely that of Nkosi, Leach and Hoskins (2011).

While previous research has been conducted on the use of e-resources (see above), the major gap identified is that of limited information on the use of some e-resources, such as e-books and electronic database for theses, by academics and postgraduate students for research, learning and teaching purposes. In addition, while many studies have been conducted on postgraduate students at UKZN (for example see studies above by Hadebe, 2010 and Soyizwapi, 2005 and the literature review below), there has been no specific study undertaken on the postgraduate students and academics at the GSB&L, thus the focus of this study. Furthermore, it appears as if not much research, if any, have been undertaken on part-time and block-release students in South Africa and specifically at UKZN.

As many students are part-time, little is known about their preference for traditional or digital libraries and the problems they encounter when using library resources. It is anticipated that the findings of the study will be of benefit to UKZN Libraries, to establish if academics and postgraduate students are aware of e-resources, are using e-resources, their preferences and the types of e-resources accessed. This could essentially benefit the libraries to identify electronic databases that are underutilized and to make possible recommendations to improve usage. Another benefit of the study would be to ensure that users are optimally trained in using e-resources.

1.7 Background to the study

The UKZN was established in January 2004 resulting from the merger of two universities in KwaZulu-Natal, namely the University of Durban-Westville and the University of Natal. The merger of these two universities was piloted as part of the reconstruction programme of the national higher education system and UKZN was the flagship of this new system (UKZN, 2012: 4). The newly merged UKZN was "by international standards … a very large and complex institution, with over 40 000 students spread across five campuses (Edgewood, Howard College, Medical School, Pietermaritzburg and Westville)" (UKZN, 2012: 4). It is among one of the top-rated universities in South Africa in terms of research with many international ratings. The University requires that its undergraduate and graduate learning programmes are underpinned by research (UKZN, 2012: 12).

1.7.1 The University's vision and mission statement

"The vision of UKZN is to be the premier university of African scholarship and the mission is to be a truly South African university that is academically excellent, innovative in research, critically engaged with society and demographically representative, redressing the disadvantages, inequities and imbalances of the past" (UKZN Vision and Mission, 2014: 1). The vision and mission give a concise overview of the University's strategic plan that should align with the goals of the library and other academic schools and colleges within the university.

1.7.2 The Library's vision and mission statement

The Library's vision is to be the leading world-class library of African scholarship and the mission is to be a strategic partner with UKZN in achieving academic excellence, innovation in research and critical engagement with society (UKZN Library, 2014). The mission of the UKZN Library is to "support teaching, learning, research and community engagement by providing a high quality, relevant, expanding and innovative library and information service" (UKZN, 2014: 1). The link between the University's vision and mission statements and the Library's vision and mission statements is that the library is to support the teaching, learning, and research activities of the University. The library will be expected to deliver outstanding facilities and services and to manage them effectively for the benefit of staff, students and users beyond the University. The library will develop a virtual infrastructure that brings together its resources through a widely deployed wireless network and updated library management systems. This infrastructure will increase visibility for the University's rich resources by placing information from the library's collections onto the library website. All these functionalities are possible with the policies and

procedures developed out of the University's vision and mission statements, and the strategic goals and plans of the University, and that of the library.

1.7.3 UKZN Libraries role in research

While UKZN Libraries have their own vision and mission statements, their main purpose is in fulfilling the vision and mission of the university. The Libraries need to enhance learning and research by providing access to resources where students and academics can access high quality information easily. The UKZN Strategic Plan (UKZN, 2012) also encourages academics to increase their research productivity, and this further emphasizes the need for the libraries to provide the necessary e-resources for academics to produce research both locally and internationally.

The UKZN Strategic Plan (UKZN, 2012) presents the vision and mission of the University with seven goals and various strategies in place to achieve these goals. Specifically goal three "pre-eminence in research" can be aligned very closely with UKZN Libraries. This goal stands to "build a research ethos that acknowledges the responsibility of academics to nurture its postgraduate students, and to be a preeminent producer of new knowledge that is both local and global in context, and defines UKZN as the premier university of African scholarship" (UKZN, 2012: 12). In keeping with this goal, UKZN Libraries provides information resources and information literacy programmes to support teaching, learning and research on all campuses with the purpose of fulfilling the mission and goal of the university in enhancing research. This view is supported by Singh and Kaur (as cited in Abubakar: 2011) who stressed that giving support and providing access to knowledge and information is the main directive of academic libraries together with supporting the mission of their parent institutions which is teaching and research.

1.8 Libraries at Westville Campus, UKZN

UKZN encompasses five main campus libraries with 19 branch libraries. Together, the libraries contain more than 1.2 million volumes of books, journals, theses, reports, and e-journals that can be accessed through library subscriptions and open access articles (UKZN Library Review, 2013). In addition, there is an audio visual collection and access to an increasing number of e-resources including e-journals and e-books that can be accessed through the library e-resources page on the library's website. This study was undertaken at the Westville Campus which has one Main Library, situated away from the GSB&L and one branch library that operates from the GSB&L building (see description below). The Westville Campus is located within an environmental

conservancy approximately eight kilometres from the CBDs of Durban and Pinetown. It is also the Campus on which the Vice-Chancellor's office and the offices of executive management are situated. This campus currently offers programmes in Science, Law, Commerce and Management, and Health Sciences.

The two libraries based at the Westville Campus are the Westville Library and the GSB Library.

1.8.1 Westville Campus Library

The Main Library at Westville Campus provides users with access to computer facilities for research purposes via the library's public access computers and the multiple LANs on campus. The library also offers off-campus access to resources which allow users to access e-resources outside the University, as well as a "Research Commons". The Research Commons is a designated space available via access control to all masters, doctoral and post-doctoral students as well as academics. This facility provides a relaxed, peaceful atmosphere with access to e-resources, research methodology books and a comfortable lounge area to increase library support for researchers at UKZN.

1.8.2 GSB Library

The GSB Library is ideally situated in the building housing the School of GSB&L and provides students and staff with access to books, journals and all the major electronic databases and search engines. This branch library has one staff member and is open on Mondays to Fridays from 11h00 to 21h00 and Saturdays from 08h00 to 17h00.

1.9 The Graduate School of Business and Leadership (GSB&L)

The GSB&L provides management of education and training to business as well as the public sectors. In terms of its development,

> The GSB&L first opened its doors to students in 1974 at the then University of Durban Westville. In 2004 the Business School merged with the University of Natal Business School. The GSB&L offers various programmes both on a full-time as well as on a part-time basis. The curriculum blends classroom theory instruction with practical applications allowing students to go through experiential learning projects. Evening lectures are held from Mondays to Thursdays, from 17:30 to 19:30 (UKZN, 2014).

The GSB&L aims to educate, cultivate and develop future business leaders with a vision of being the premier School of African Business Scholarship and Leadership Development. The school's motto is to, "educate managers and business leaders who make a difference in the world through our educational programmes, ideas produced and disseminated by our academic experts, and through our industry partners" (UKZN, 2014).

1.9.1   GSB&L disciplines

There are a number of academic programmes offered at the GSB. These include the following,

The (GSB&L offers three flagship programmes, namely, the Master of Business Administration (MBA) Degree, Master of Commerce in Leadership Studies Degree (MCom), and the Postgraduate Diploma in Leadership and Management (PGDLM). Other programmes include the Management Development Programme (MDP) and an array of executive programmes for companies. The disciplines of the GSB&L relate to Business, Entrepreneurship and Leadership. The School is served by 20 full-time academics and a host of practitioners who work in industry (UKZN, 2014).

1.9.2   Academics and postgraduate students of the GSB&L

The postgraduate students and academics at the GSB&L are the focus of this study. As has been noted above, most of the postgraduate students at GSB&L are also part-time evening class students attending lectures outside normal office hours. There are also 'block release' students who attend lectures for one week during the term. This method of part-time learning is a "viable option for those with commitments or conditions such as family or work, or who cannot participate easily for reasons including disability. The time and cost of commuting to and from campus are eliminated" (Bhatia and Kusumlata, 2013: 2). Hence there is the need to understand the use of the library e-resources by the postgraduate students who attend lectures regularly, and these 'block release students' in order to understand what expedites or hampers their access to the e-library services.

Postgraduate students at the GSB&L are mainly people who are already in employment and are either studying part-time to further their education and advance in their careers or for self-attainment. For the 'block release' students, this type of learning involves minimal physical contact between the lecturer and the student and therefore students rely heavily on the use of library e-resources to facilitate their learning. In some instances lecturers would refer students to specific scholarly articles. These can be easily accessed through the library's e-resources without

coming into the library. Part-time learning also allows students to access electronic learning material from their own locations which could be miles away from the library or university.

1.9.3 Qualifications offered and student enrolments at GSB&L

The following are qualifications that UKZN currently offers through GSB&L. Many of these degrees offered are challenging and require expertise and commitment to work independently, therefore it is important for the library to support students' learning by providing access to e-resources that will enhance their research. Table 1.2 below indicates their current enrolment figures for each degree for 2014. These figures have been obtained from the University's Division of Management Information (DMI, 2014).

Table 1.2: Qualifications offered and student enrolments at GSB&L – 2014

Qualification	Enrolment
Doctor of Business Administration	43
Doctor of Philosophy	25
Master of Business Administration	420
Master of Commerce	34
Master of Commerce in Leadership Studies	98
Postgraduate Diploma in Entrepreneurship	12
Postgraduate Diploma in Leadership and Management	43
Postgraduate Diploma in Management	36
TOTALS	711

1.9.3.1 Doctor of Business Administration (DBA)

Students have a choice to register for the Doctor of Business Administration degree either full-time or part-time.

> The Graduate School of Business & Leadership offers the Doctorate in Business Administration (DBA), a degree that combines academic rigor and managerial relevance. It is an intensive programme that is individual in nature and demands a great deal of time, initiative and discipline from every candidate (UKZN, 2014).

1.9.3.2 Doctor of Philosophy (DPHIL)

This degree is offered part-time or full-time to interested students from any disciplinary background but is suitable to students who are committed to,

> rigorous research in an applied context; high-intensity learning that stretches you intellectually and practically contributing to knowledge in the field of leadership and cognate areas in Africa and globally making a positive difference to organisations, communities or society (UKZN, 2014).

1.9.3.3 Master of Business Administration (MBA)

The Masters of Business Administration (MBA) has been designed to assist senior managers with knowledge and the necessary skills required for management. This degree offers different modes of learning such as part-time evening lectures as well as block release which involves lecturers during one full week of the semester.

> UKZN lecturers facilitate the learning process by supplementing formal lectures with critical discussions; group presentations; and case study analysis. Where applicable, lectures are supported with technology based exercises and Internet research (UKZN, 2014).

1.9.3.4 Master of Commerce in Leadership (M.Com)

One of the popular academic programmes offered by The Graduate School of Business and Leadership (GSB&L) is a Master of Commerce (Leadership Studies) degree. Students have an option of registering for a full research or follow the course work route "which consists of four one week intensive modular sessions in the first year and a further 2 sessions in their second year." (UKZN, 2014).

1.9.3.5 Postgraduate Diploma in Entrepreneurship

The Postgraduate Diploma in Entrepreneurship is another popular programme offered on a part-time bases, with lectures that are conducted from Monday to Thursday, from 17h30 to 19h30.

> Entrepreneurship plays an important role in transforming individuals, communities and nations. Hence the Graduate School of Business and Leadership (GSB&L) at the University of KwaZulu-Natal (UKZN) has developed and now offers a Postgraduate Diploma in Entrepreneurship which has the potential for such transformation (UKZN, 2014).

1.9.3.6 Postgraduate Diploma in Leadership & Management (PGDLM)

This programme will suit individuals who are already in leadership and management roles, as well as those who may require such skills for their positions. Many of these students will need to demonstrate basic research skills by engaging in a pre-admission assessment, prior to acceptance into the programme (UKZN, 2014).

1.10   Access to resources in the digital environment

While the GSB Library is a specialised modern library, the Five Laws of Library Science are still relevant to the modern library and more particularly in the GSB Library. While these laws were first published over 80 years ago, McMenemy (2007: 97) states that they are still relevant in many areas of modern library and information work today and asserts that "it would be remiss not to focus on the five laws that have inspired our profession." Table 1.3 below indicates Ranganathan's five laws in terms of the 20th century which is still applicable and resonates to Libraries of the 21st century.

1.10.1 Five Laws of Library Science

The importance of Ranganathan's teaching and five laws of library science have been followed by libraries and information professionals for many years (Ranganathan, 1963). With the changes in the digital information world, Cloonan and Dove (2005) indicated that it is appropriate and worthy to reconsider Ranganathan's five laws: (1) Books are for use; (2) Every reader, his book; (3) Every book, its reader; (4) Save the time of the reader and (5) A library is a growing organism.

The authors developed a table with the five laws and what these five laws would mean in today's digital environment (Cloonan and Dove, 2005). The comparison is seen below in Table 1.3.

Table 1.3: Imperatives motivated by the 5 laws: then and now

The Law	In Ranganathan's Day	In Today's World
"● Books are for use	Put books in circulation-not just on the shelf	Make sure online resources are available where and when they're needed
● Every reader, his book	Break down barriers to the principle of education (and books) for all	Eliminate the obstacles that prevent users from making effective use of e-resources
● Every book, its reader	Open the stacks; provide a well-cross-referenced catalogue	Integrate e-resources into virtual learning environments and other web pages of the institution
● Save the time of the reader	Create effective catalogue for speeding the readers' search for particular books	Provide meta searching capabilities so that users can search entire sets of e-resources. And link resolvers so that readers get access to the best source
● A library is a growing organism	See libraries as part of the larger community	Offer 24/7 anytime, anywhere, access to libraries; the Information Commons; the invisible Web"

Sun and Yuan (2012: 14) also rephrased the same Five Laws of Library Science that can be applied to managing digital information systems of the 21st century:

"(1) Digital resources are for use.

(2) Every user seeks digital resources.

(3) Every digital resource needs its user.

(4) Save the time of the user.

(5) Digital library is a growing organism worldwide."

Moody (1999) put forward a new basic law, "Every Reader His or Her Access" that is of importance in the electronic environment. Digital libraries are about making library resources accessible even without users having to come to the library. Every user should be able to access any e-resource at any time and from anywhere without any difficulties. This law is also applicable to part-time students who attend lecturers outside the normal hours. As indicated by Clooney & Dove (2005), in today's world this law also indicates that online resources should be available whenever needed, libraries should eradicate barriers that prevent effective use of e-resources and integrate e-resources into virtual learning environments. With some academic libraries there are users who do not have access to e-resources and this could be due to the digital divide that still exists where networks are not accessible or they are faced with other barriers such as logging in, password requirements and difficulties when accessing e-resources. Clooney & Dove (2005: 60) affirm that "until they [the barriers] are eliminated, Ranganathan's every reader, his book and "every book, its reader' will remain unrealised."

1.11   Delimitation and limitations

This research was confined to academics and postgraduate students in the GSB&L on the Westville Campus of the University of KwaZulu-Natal. The research targeted both the full-time and part-time academic and postgraduate students registered with the GSB&L. The major limitation of the study was that the academic population was small consisting of only 20 academics and this made the analysis restrictive. Most postgraduate students study on a part-time basis, which made access to the students difficult. Due to the length and detail of questionnaires, some respondents failed to answer some open questions. Every effort was made to ensure an adequate response rate (see Chapter Three).

1.12 Definitions of important terms relevant to the study

The definitions of the significant terms uses in the study are listed below:

1.12.1 Academic library

"An academic library is a library that is attached to a higher education institution which serves two complementary purposes to support the school's curriculum and to support the research of the university faculty and students" (Curzon and Quiñónez-Skinner, 2009). In terms of the present study, the academic library has multiple roles in providing and facilitating use of information resources to both students and academics.

1.12.2 Digital libraries

Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities (Digital Library Federation, 1998: 1).

In this study "digital libraries" refer to an environment that is conducive to access to digital information. The word "digital libraries" is used interchangeably with "virtual" and "electronic" libraries. An electronic library is not only a digitized collection with information management tools, it is also a series of activities that include collections, services, and people in support of the full life cycle of creation, dissemination, use, and preservation of data, information, and knowledge (Saeed, 2006).

1.12.3 E-resources

"E-resources refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. They may either be accessed remotely via the Internet or locally" (Johnson, Evensen, Gelfand, Lammers, Sipe and Zilper, 2012). The term "e-resources" is also used interchangeably with "digital resources" and such resources in this study encompass e-journals, e-books, online databases, e-theses/e-dissertations and online public access catalogues (OPACs).

1.12.4 Use

Merriam-Webster Online Dictionary (2006) defines use as the "act or practice of employing something." However, this study will use this term "use" in terms of gathering information from

e-resources for the purpose of fulfilling an information need. Therefore, a more appropriate description would be "the act of entering a library and engaging in activities for the purpose of locating and obtaining literature" (Aitchison, 1998: 7).

1.12.5 Postgraduate students
These are students who already have an undergraduate degree, studying a postgraduate qualification which in terms of this study may be a Postgraduate Diploma, Honours, Masters or Doctoral qualification.

1.12.6 Academics
Merriam-Webster Online Dictionary (2006) simply defines an "academic" as "a person who is a teacher in a college or university." In the present study, "academics" refer to teaching staff associated with the institution of higher learning, namely UKZN. These include lecturers and professors involved in teaching various modules to students.

1.12.7 Information seeking behaviour
Feather and Sturges (2003) define "information seeking behaviour" as the process of actions and the interactions that people are involved in when searching for information of any kind. In this study, this will be viewed as the steps or actions taken by postgraduate students and academics in attempts to resolve information needs.

1.13   Theoretical framework
Theoretical frameworks can be seen as different ways in which research can be conducted. As Cresswell and Clark (2011: 10) point out "The theoretical perspective will provide a lens through which the entire study might be viewed." The theoretical framework is underpinned by Kuhlthau's model of the Information Search Process (ISP).

There has been many conceptual models used in information seeking and retrieval (IS&R) research. The most common models include those of Wilson (1981); Ellis, Cox and Hall (1993); Kuhlthau (1994) and Spink (1997). Kuhlthau's model of the information search process (ISP) will be largely used as the conceptual framework for this study. This ISP model has been used by many researchers (for example, Hadebe, 2010; Idoniboye-Obu 2013) and applies to library users. This approach is "a holistic learning process encompassing the affective experience of students as well as their intellect" (Kuhlthau, 1989).

The ISP model is preferred because it identifies six stages of thoughts, feelings and actions which are applicable to the information seeking process of academics and postgraduate students when conducting research.

The six different stages are depicted in Figure 1.1 below and indicate feelings, thoughts and actions when conducting research.

Model of the Information Search Process

Tasks	Initiation	Selection	Exploration	Formulation	Collection	Presentation
Feelings (affective)	uncertainly	optimism	confusion frustration doubt	clarity	sense of direction/ confidence	satisfaction or disappointment
Thoughts (cognitive)	vague--------------------------------→focused					
				increased interest		
Actions (physical)	seeking relevant information-------------------------→seeking pertinent information					
	exploring			documenting		

(Kuhlthau, 2004, p. 82.)

Figure 1.1: Kuhlthau's model of the information seeking process (Kuhlthau, 2004: 82)

Academics and postgraduate students will arguably be applying Kuhlthau's stages when they conduct their research via e-resources and this model will form the conceptual framework for this study. While all stages are important, the fifth stage was considered the most important stage and was selected for the conceptual framework for this study. During this stage

> the type of information sought shifts from that which is relevant to the general topic, to that which is pertinent to the focus and the task of collecting information must be approached systematically where students can learn methods of searching a library collection to gather information on their focus from a variety of sources. (Kuhlthau, 1994: 104).

The six stages of Kuhlthau's ISP model are as follows:

1.13.1 Stage 1 : Task initiation

This is the initial stage where the user first recognises and acknowledges the information required for their research by identifying and clarifying what is expected of them for their research or work. This is regarded as the information-seeking behaviour that arises as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services which result in success or failure to find relevant information (Wilson, 1999: 251). This stage brings about feelings of uncertainty as users are not sure on how to address their problem. Users will recognise the need to access e-resources at this stage and may seek information on what information may be needed.

1.13.2 Stage 2: Topic selection

Students may often select a topic before collecting information on the topic and later realise that this area has been researched previously or may not be worth investigation due to the limited resources. This stage is important to identify a topic and decide on the method to search. Students will have to ascertain and select what topic is to be researched and the approach that will be used, for example whether they need search OPAC, e-journals or other e-resources for further information. They will have to decide on different strategies to resolve their research problem with reasons for their type of strategy or resource. Defining a search strategy includes what limitations one has imposed on the review in terms of material and dates of publications. The UKZN e-resources can then be searched using the correct terminology. The library's web pages will recommend relevant resources for each subject.

1.13.3 Stage 3: Pre-focus exploration

At this stage users will delve into information on the topic in an attempt to gain focus on the research. This can be regarded as the most difficult stage for many users and they experience confusion when faced with a variety of electronic information on their topic and they become somewhat confused by the inconsistency and incompatibility they may encounter. For example, they may use Google to search for articles and may not find scholarly academic articles and may become confused with different viewpoints. This is an important stage that is based on the premise of the study as they need to access different kinds of information for different stages of their research. For example, students get frustrated in the exploration stage of inquiry and need assistance to take

intervals to read and guidance in making sense of information (Kuhlthau, 2010). This guidance can come from librarians who advise users on the use of e-resources.

1.13.4 Stage 4: Focus formulation

At this stage a clear focus is formed based on the various electronic information sources the users encounter in their search process. It is also an important stage as this stage builds their confidence and helps them to go forward to the next stage (Idoniboye-Obu, 2013). "For many masters students this may be the turning point in their research, feelings of uncertainty diminish and confidence increases" (Hadebe, 2010: 13). They often expect to be able to easily collect information and complete their task. This basic view of the research process sets up stumbling blocks, particularly in the exploration and formulation stages.

1.13.5 Stage 5: Information collection

This is the most important stage for postgraduate students and academics when using e-resources and the conceptual framework will be embedded in this stage. During this stage, academics and postgraduate students may conduct comprehensive searches and retrieve their information from e-resources. Interaction takes place between the user and the information retrieval system. This is where students use different methods to search for variety of sources by utilizing the library e-resources (Kuhlthau 1994: 104).

1.13.6 Stage 6: Search closure

According to Kuhlthau (2004) after completion of the six stages, the search process is over and it is an important time for students to assess their use of time and reflect on the sources obtained during their search process: "The reflection of students about what had taken place during the process and their expectations of the next time they encounter a similar task revealed their sense of process" (Kuhlthau 2004: 50). This ISP model could be an indication of how students and academics assess the research process when accessing multiple e-resources and the problems they may have encountered during the process. It also indicates their awareness of the various e-resources and whether a feeling of satisfaction is accomplished or not.

1.14   Research design and methodology

According to Leedy (1993: 125) it is important that the researcher has "some idea of the manner in which the data will be secured and how they will be interpreted so that the principal problem under research will be resolved." Therefore, in an attempt to answer the research questions this study reviewed the relevant literature relating to the use of e-resources by academics and postgraduate students. The research design used was the survey and self-administered questionnaires comprised the data collection technique. Both qualitative and quantitative data was obtained through the use of open and closed questions respectively. The population for this study comprised of the 20 academics and the 710 postgraduate students at the GSB&L. All 20 academics were included and a stratified random sampling method was used to determine the sample of students and to ensure that all categories of students were represented. Qualitative data obtained from the questionnaires was quantified together with the quantitative data from the closed questions and Statistical Package for the Social Sciences (SPSS) was used to analyse data. The methodology is discussed in detail in Chapter Three.

1.15   Outline of the remainder of study

Chapter Two: Literature review

In this chapter the researcher firstly defines literature review with clarification on e-libraries and e-resources. The chapter then presents a discussion on e-resources, the role of academic libraries and the convergence of academic libraries. The discussion also includes the advantages and disadvantages of digital libraries and the role of e-libraries in the global environment.

Chapter Three: Research methodology

This chapter describes the methodology adopted to investigate the use of e-resources and includes the research design, data collection instruments and procedures, sampling techniques and methods of data analysis. Although no interviews were conducted due to the large sample size, the questionnaire consisted of both open and closed questions resulting in both qualitative and quantitative data.

Chapter Four: Research results

This chapter presents the findings obtained from the analysis of the questionnaires. The findings are presented in the form of tables and diagrams. This chapter also contains all inferential statistics the cross tabulations and Chi-square tests that was analysed on SPSS.

Chapter Five: Discussion of findings

Chapter Five discusses the findings, in relation to the literature reviewed. This chapter also indicates whether or not the findings successfully addressed the research questions.

Chapter Six: Summary, recommendations and conclusion

This final chapter concludes the thesis and provides a summary of the study, the conclusions arrived at, and the recommendations which emerge from the conclusions. The chapter ends with suggestions for further research.

Chapter Six is followed by a list of works cited and appendices.

1.16   Summary

This chapter introduced the study. The chapter outlines the research problem, the problem statement, and the purpose of the study was discussed. This was followed by an introduction of the key research questions and the rationale for the study. The background to the study was then provided indicating the role of the library in terms of the University's vision and mission statements. Background information to GSB&L included the various disciples, the academics and postgraduate students enrolled at GSB&L. Five rules of library science that applied to digital libraries were discussed followed by the delimitations of the study. A definition of the relevant terms used in the study was given. The theoretical framework was discussed, followed by the methodology used for the study. The last section of this chapter provided an outline of the remainder of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter is a review of literature related to the use of electronic resources (e-resources) in academic libraries. The relevant studies mentioned below will be used to address the research problem of this study, help justify the topic and provide an account of what other researchers have published on the topic. Bless, Higson-Smith and Sithole (2013) maintain that a literature review involves a search and study of current writings on the problem under investigation. Jesson, Matheson and Lacey (2011: 2) define a literature review in its simplest form as "a written appraisal of what is already known" or published and gives the reader an understanding of what is already known on the research topic.

The literature presented below is categorized by themes and focusses on the role of academic libraries, the convergence of academic libraries, e-libraries, distant learning system, variables affecting utilization of e-resources, research productivity of academics, e-resources as a tool for teaching and learning, and information seeking behavior and needs of postgraduate students. This chapter thus looks at various studies that may replicate, add to or extend on previous studies conducted on e-resources.

2.2. Educational sector library background

The educational sector has witnessed a new paradigm which has influenced and changed the way in which students and researchers utilize e-resources. This sweeping change from print format to electronic has remodeled traditional libraries into digital libraries and providing seamless access to online information. In view of this development, Gash (2000: 49) defines online information retrieval as a "method of retrieving information from large computer-mounted databases." This process takes place during an interface between a computer and the researcher. It involves the modern connection or subscriptions of a library system to the internet and database sources such as Google Scholar, ProQuest, Science Direct, EbscoHost, e-books, LibGuides and ResearchSpace, among others, to access information.

Although a significant amount of literature has been developed on the shift from print to e-resources (for example, Agaba, Kigongo-Bukenya and Nyumba, 2004; Bar-Ilan and Fink, 2005),

other studies have reported that e-resources will not replace the traditional print format (Raza and Upadhyay, 2006; Kaur and Verma, 2009; Kacherki and Thombare, 2010). Understanding user preferences, user characteristics and user attitudes have been found to be important for determining preferences for print or e-resources (Tenopir, King and Bush, 2003; Borrego, Anglada, Barrios and Comellas, 2007).

Local South African studies have mainly focused on the application of the electronic resource to postgraduate students (Hadebe, 2010; Soyizwapi, 2005; Idoniboye-Obu, 2013). Although literature on e-resources usage by academics includes global studies (Dulle, Mulimil, Matovelo and Lwehabura, 2002; Satpathy and Rout, 2010; Omotayo, 2010; Kalbande, 2013), there has been limited studies with a South African perspective on the use of e-resources by academics (Nkosi, Leach and Hoskins, 2011; Mgobozi and Ocholla, 2002).

While previous research has been conducted on the use of e-resources, very few studies have focused on postgraduate students and specifically on part-time students in the Graduate School of Business and Leadership (GSB&L), UKZN. Most of these students attend lectures and visit the library outside normal working hours, and very little is known about their usage of e-resources and what influences their choice of format when utilizing library resources. Furthermore, while previous studies have included electronic databases, many studies did not include the use of e-books. Looking specifically at the UKZN, while studies have been conducted on postgraduate students at UKZN, there has been no specific study undertaken on the postgraduate students and academics at the GSB&L which was the focus of this study.

While many studies focus on student preference for electronic format or print format resources, many researchers argue that this change from traditional print to digital electronic signifies that both students and staff must use these resources for better quality, proficient and effective research (Agba et al., 2004; Majid and Abazova, 1999).

2.3. The role of academic libraries

The role of an academic library involves research, teaching and critical thinking, with the purpose of cultivating lifelong learners, both students and academic researchers. However, technological developments have changed that way in which research is undertaken, changed the role of academic libraries, and called for a paradigm shift of information services. Academic libraries are now faced with the challenge of meeting and satisfying the teaching, research and information needs of users by providing users with easy access to library resources. It is for this reason that Harle (2010) emphasizes an absolute need for the publicity of resources, awareness of resources and developing of skills. In addition, Todd (1999: 4-6) points out that in order to empower learning with the use of technology, libraries need to be a proactive part of the learning process that allows "students to access and interact effectively with information in its many forms and formats—real and virtual—and use it responsibly and purposefully."

2.4 Convergence of academic libraries

While traditional libraries premises large collection of print books, this has changed in recent times to seamless access to electronic resources. In doing so (Earnshaw and Vince, 2007: 130) states that "over the last decade libraries had to radically re-invent themselves with burgeoning of electronic information."

2.4.1 Traditional libraries

Traditionally, libraries housed physical collections of printed books, journals, magazines, dissertations, reference material and other sources of recorded information. Previously, students and academics visited libraries to browse the shelves, to borrow or renew books and access other print resources confined within the library building. However, with the progressive development of technology since Gutenberg's printing press and the altering needs of library patrons, the traditional role of the library has now changed. The traditional library that used to be a place to house print books, journals and magazines has shifted into a place where e-books, e-journals, e-zines and digital information can be accessed remotely.

However, libraries today still continue to purchase print books and journals (some due to the high costs of e-resources) and still provide a walk-in-service to users who still prefer the traditional method of coming in physically to look through the library shelves to find the information which they are looking for.

2.4.2 Electronic libraries

The dream of the virtual library comes forward now not because it promises an exciting future, but because it promises a future that will be just like the past, only better and faster (O'Donnell, 2000).

The phrase "digital library" is used synonymously with terms such as "electronic library" or "virtual- library" and is regarded as an accumulation of digital documents.

Smith (2002) defines a digital library

as an organized and focused collection of digital objects, including text, images, video and audio, with the methods of access and retrieval and for the selection, creation, organization, maintenance and sharing of collection.

As Ogunsola (2011: 3) has rightly put it,

A virtual or digital library can therefore be defined as a collection of library resources in electronic/digital format at various locations, which can be accessed and used with great ease using computer information technology for the purpose of teaching, study, research, learning, leisure, and decision-making.

Unlike libraries that occupy buildings accessible only to those who walk through their doors, digital libraries reside on inter-networked data storage and computing systems that can be accessed by people located anywhere in the world (Uzuegbu and McAlbert, 2012 :3).

This allows users to access all library resources hosted in that digital format from any location. Electronic libraries (e-libraries) hold digital library materials such as e-books, e-journals, e-theses, virtual maps, e-manuscripts and other library resources. These resources have been digitized and put into categories and can be accessed easily via a network which allows users to access resources outside the library. It enhances students' and academics' work including conducting research, producing articles, finding information for teaching and learning effectively and skillfully. It is thus not surprising that, "there is a growing need and worldwide trend to collect, organize, manage, protect and distribute information in digital form" (Hulser, 1997: 7).

When deciding whether or not to build an e-library, there are numerous factors that need to be taken into consideration. Rahiman, Fazlur and Tamizhchelvan (2011) emphasized the importance

of developing digital libraries, a finding that is similar across other studies. Kumar's (2012) survey conducted on the growth and development of Architectural Engineering College Libraries in Haryana, India concluded that there is an urgent need to build library collections, to provide quality of services to users, and to create digital libraries.

According to Gorton (2007) one of the significant benefit of digital libraries is that information is now held in several formats which are also more commonly accepted in a virtual environment than within a traditional environment. Some of the resulting benefits of digital libraries include "access to intellectual content not easily obtainable previously and an ability to create content and distribute it to many people or have it accessed by many people at the same time." (Hulser, 1997: 14). Another important advantage of digital libraries is the importance of safeguarding libraries as stated by Rao (2004) that it is easier to safeguard digital collections from harm, destruction, loss or catastrophe. Other researchers have carried out various studies on the significance of using e-resources or e-libraries, for example, Cochenour and Moothart (2003); Rao (2004); Thong, Hong and Tam (2004); Chowdhury (2002); Arms (2000); Sharifabadi (2006); Trivedi (2010); Chore and Salwe (2010); Erdamar and Demirel (2013).

2.4.2.1 Advantages of e-libraries

The advantages of e-libraries as a means of easily and speedily attaining books, records and concepts of various resources are now broadly accepted. E-libraries have a number of advantages over printed resources. Trivedi (2010) lists the advantages of a digital library as follows:

- Nearly unlimited storage space at a much lower cost.
- Re-allocate funds from some staff, collection maintenance, and additional books.
- No physical boundary.
- Round the clock availability.
- Multiple access.
- Enhanced information retrieval.
- Preservation for some print material.
- Added value.
- Universal accessibility.

There is no physical limit: One of the advantages of an e-library is that users do not have to physically go the library, and users can access the library information provided that they have an internet connection. The physical boundaries of data have thus been eliminated (Trivedi, 2010)

and there is immediate access to e-resources all the time. The e-library thus facilitates what is referred to as "just-in-time learning", as it is readily available twenty four hours a day, every day of the week.

Multiple route accessibility: This means that the same journal article, e-book or e- resource can be accessed and used concurrently by a number of users globally. The information is updated immediately for users, and is capable of responding to their immediate needs. Learning is made easy as resources are provided at short notice with up-to-date worldwide information.

Information retrieval: The user is able to expedite any search and retrieve information that is needed for personal or academic use more quickly. "Their sources can be searched more efficiently than those in physical libraries, and the information they contain can be updated more frequently" (Gunn, 2002: 29). Previously information retrieval was a task that only professional librarians performed. However with digital resources, users are now trained to conduct information retrieval without the assistance of a librarian. In addition, an e-library has user friendly interfaces and gives "clickable" access to various resources. Many icons displayed on a library's webpage provide direct links to information from the host library as well as specific libraries around the world, allowing retrieval of electronic information through a single search.

Preservation and conservation: An exact copy of the original journal kept in the e-library can be made available any number of times without degradation of quality. More so, the "originality" remains forever, as continuous accessibility does not deter the face value of the documents irrespective of its frequent usage.

Space: Libraries are constantly faced with the problem of limited and diminishing physical space to hold large volumes of their print collections which invariably increase in size every year. E-resources can be a solution to this space problem. Digital collections are now reducing the need for more shelf space and raise questions on the movement of outdated print materials in storage facilities (Shaddy, 2012).

Networking: Any e-library has the advantage of linking to resources held by other e-libraries. The most important benefit of networking with e-libraries is resource-sharing which allows access to the resources of thousands of libraries worldwide via the Online Computer Library Center (OCLC). This is done seamlessly on a world base integrated system that connects users to the

resources of more than 10 000 libraries globally. This networking facilitates the sharing of data and resources that can save users time and money.

Cost: Another motivating force behind digital libraries is the cost of academic information (Rao, 2004). There has been an overflow of scholarly information and the need for resources such as journal articles has increased the budget cost for libraries. As a result, libraries are forced to look at cancellation of certain journals. However, with digitization, sharing of e-resources has been done through the efforts of the formation of Consortia, for example, South African National Library and Information Consortium (SANLIC) that allows access to shared records and helps in cutting down costs for most academic digital libraries. While digitization may initially have a high cost, studies have revealed that after implementation the cost of maintaining e-resources will be less than that of traditional libraries. Traditional libraries spend a large portion of their budgets on books purchases, technical staff for book processing and rental for the use of large buildings to house the print resources. E-libraries can omit these costs, ensuring that the maintenance cost is much lower than that of traditional libraries.

Accessible for the disabled: The e-library offers easy access for physically challenged users who experience difficulty in accessing library resources. "Through the use of audio and video, virtual libraries can also make resources available to users who are visually impaired, and virtual libraries can make these resources available in their homes" (Gunn, 2002: 30). In countries like United States of America, the Americans with Disabilities Act (ADA) mandates that library programmes and services must be accessible to people with disabilities (Goh, Sepoetro, Ramakhrisnan, Theng, Puspitasari and Lim, 2007). Within South Africa as well, there has been mandates from different government bodies and organisations to facilitate the needs of physically challenged students. For example, the South African Public Library and Information Services Bill of 2012 states that libraries need to provide equitable access to services and to provide facilities and measures to allow access to people with disabilities. Mandates such as these underpin the significance of the e-library in terms of access for the disabled and apply equally to the academic library context.

Teaching tool for information literacy: According to the American Library Association (1989), "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (Kodani, 2012). Oakleaf and Owen (as cited Kodani, 2012: 2) advised that information literacy is an essential component of a successful academic career. Therefore students who lack information literacy

skills may experience some hindrance when trying to complete work which requires research (Kodani, 2012). E-resources allow users to search for material by search teams such as author, subject, title, keyword that are available via a drop down menu. This allows students to navigate easily and to find resources speedily. However, with regards to the use of e-resources in digital libraries, as stated by Rao (2004) librarians may have to teach and re-skill users in searching for information from various e-resources.

2.4.2.2 Disadvantages of e-libraries

Notwithstanding the innumerable advantages associated with e-libraries, there are some disadvantages or concerns that need attention and consideration when creating an e-library. (Bar-Ilan, Peritz and Wolman, 2003); (Sathe, Grady and Giuse, 2002) and Costa (1999) enumerate these disadvantages to include slowness of access, insufficient coverage of data as well as difficulties with reading texts on the computer screen. Results of a study by Babu, Sarada and Ramaiah (2010) indicate the specific problems users experienced in using a digital library. The results revealed that 52% of users experience slow internet access, 11.5% found difficulty in finding relevant information, 17% experience information overload and 30.5% found that it took a long time to download information. Jadhav (2011: 18) states that while new technology with e-libraries has brought many advantages, it also has some of the following disadvantages:

Trivedi (2010) lists the advantages of a digital library as follows:
- Costly affair.
- Dominance of data creators and publishers.
- Technology obsolescence (hardware and software).
- Trained manpower.
- User education and training.

Limited by copyright law: A major challenge faced by digital libraries is that of compliance with copyright and intellectual property issues (Bhattacharya, 2004). As stated by Rao (2004: 1), "copyright, licensing and other legal issues become very crucial while creating digital libraries." Other researchers also confirm that copyright law and licensing arrangements may pose a challenge and prevent libraries from preserving digital resources over a period of time (Muir, 2003). In addition with digitization, the works of one author can be freely transferred to others without the permission of the author and this can be regarded as a violation of the copyright law. While libraries pay publishers a license fee for e-resources, these fees can amount to extremely

high cost for digital libraries. The critical issue that digital libraries face is the struggle to legally provide access to e-resources, such as e-books (Taylor, 2009). Digital libraries are sometimes faced with the problem of restricting the use of e-resources for example with e-books. This is due to licenses that may limit the number of people allowed to access the resource and sometimes require further payment depending on the number of users accessing the material. With e-books, libraries are sometimes faced with the restriction of allowing only one or two copies at a time for each license.

Requires connectivity: One of the main disadvantages of e-libraries is that various technological infrastructures are not part of the library network often resulting in connectivity problems. Users access library resources from different locations using various wireless connectivity and mobile devices. Libraries therefore do not have control over their network-based services. This can result in connectivity problems and often disadvantage users (Bertot, 2004). At times users may constantly experience difficulties with connectivity and internet accessibility due to bandwidth problems. This could be due to multimedia products linking with structured text, sound, graphics, pictures, video clips, and similar material that requires intensive use of bandwidth. More importantly, as asserted by Bhattacharya (2004), connectivity is also hampered due to users experiencing unreliable power supplies for long periods due to power outages. This is currently a problem that many African countries are faced with.

Skilled information professionals are required: While e-libraries offer many advantages over printed material, it also requires the need for skilled librarians. Maintaining a digital library requires skilled manpower for retrieval, organizing and delivering the information to the users on their desktops (Rao, 2004). It also requires the knowledge of librarians with advanced searching skills to guide users in their selection, evaluation and use of electronic resources. Arms (as cited in Chowdhury, 2002: 261) in trying to look at the need for reference librarians in digital libraries remarked that while computers can do the job of a reference librarian, the skills of librarians may be essential for complex information searches. Hence it is important for digital libraries not only to have e-resources but to have skilled librarians to assist in the maintenance of the digital library. As rightfully stated by Byrne (2003: 5) "all the equipment, connectivity and software in the world are useless without the skills to use them." Digital libraries are also faced with the challenge of recruiting librarians with information technology knowledge to manage the digitized resources and maintain the e-library websites.

Increased number of resources challenges student selection: Gunn (2002: 34) states that, "When libraries purchase online databases, collections are no longer tailored to a particular community of learners." This can pose a challenge for users to scan the large volume of databases and identify the database to suit their specific need. For example a management student may look at the OVID database instead of ProQuest database for articles resulting in little or no relevant articles. An increased need for instruction in use and evaluation of resources is needed, as students face difficulty in selecting quality material from the ever increasing number of e-resources. Due to the fact that digital libraries use the internet and other networks, users are often faced with substantial amount of information that may be "junk" or unnecessary thus wasting their valuable time (Bhattacharya, 2004).

Cost and sustainability issues: According to Chan, Kirsop and Arunachalam (2005: 1), "the science base in the developing world cannot be strengthened without access to the global library of research information. Currently, this is nearly impossible due to the high costs of journal subscriptions." Many library users want free resources and enjoy the free privileges that they are entitled to as library users. However, most digital libraries experience problems with cost and sustainability when trying to provide high quality and credible e-resources (Ross and Hedstrom, 2005).

Ondari-Okemwa (2007) states that either the internet connections are too costly for academic institutions to maintain, or the electrical supply is unreliable. As a result, limited higher education institutions in the Sub-Saharan African region offer users free and unlimited access to the internet. The author states further that while a number of journals are now available electronically allowing scholars from Sub–Saharan Africa to submit their manuscripts electronically as well as access other scholars' research electronically, many scholars in Sub–Saharan Africa do not have access to the internet, hence they cannot access resources electronically. This could imply that users from Sub–Saharan Africa as well as digital libraries that experience budget cuts may experience difficulties in research and may contribute less to knowledge production. Westra (in Mutula, 2004: 283) points out that low funding to libraries impacts poorly on the development of digital library and information services. Libraries in Sub-Saharan Africa to a large extent rely on grants from governments and are often faced with repeated budgets cuts (Mutula, 2004). Digital libraries are faced with higher price increase in resources (such as e-journals) than those of print resources and thus are faced with added financial costs (Bhattacharya, 2004).

Preservation: In addition to current digital information, it is imperative for digital libraries to maintain historical information. However, "digital preservation adds a new set of challenges for libraries and archives to the existing task of preserving a legacy of materials in traditional formats" (Hedstrom, 1997: 190). Digital libraries experience challenges in preserving historical information mainly due to the huge costs involved in preservation as pointed out by Bhattacharya (2004). Another problem is that of the lack of technology to be able to access data which is stored is in unsupported formats, for example, a floppy and stiffy disk. Maintaining subscriptions is obviously crucial irrespective of the format (print or digital). Another problem with certain electronic journal subscriptions is that if the online subscription is cancelled, the digital library may lack these resources in the future (Bhattacharya, 2004).

Lack of training: With changes in technologies, new e-databases as well as new methods of searching and referencing, it is important for library staff to be given proper training to work optimally in the electronic environment. Bhattacharya (2004: 167) points out that "without upgrading their skills periodically, library professionals are not able to adopt new technology, such as digital technology, in libraries." Therefore managing a digital library can be a challenge if the skills of library professionals are not updated. The need for students and academics to be trained and upgraded with the necessary skills when using digital resources is important for the success of digital libraries. Many studies conducted on the use of e-resources have recommended that libraries should provide proper training on the use of online information sources (Mahajan, 2006; Turan and Bayram, 2013).

A study by Turan and Bayram (2013) was conducted at Ankara Univeristy to reveal the purpose of use, usage frequency and use tools for the digital library by students. Findings of the study demonstrate that although students had positive views about the use of the internet for education purposes, they needed more information about digital library resources such as databases. The researchers suggested that orientation for digital library was needed at Ankara University to mainstream the use of the library services and networked resources among the students. This recent study indicated that despite the number of years that have elapsed since the introduction of e-resources, there is still a constant need for training. The findings of the study by Turan and Bayram (2013) are similar to other studies conducted in different countries on the use of internet and digital libraries (Babu, Sarada and Ramaiah, 2010; Thanuskodi and Ravi, 2011; Ani, 2013; Badu and Markwei, 2005; Edem and Ofre, 2010). Even though the users understand the

importance of electronic resources and digital libraries, staff and students required training for the effective and optimal utilization of electronic information sources.

2.4.3 The role of the e-library in the global environment

As indicated by (Mullins, 2012: 124) "the focus of research libraries is changing to include digital resources, improving the information literacy level of patrons, and creating new partnerships on and off campus, among other things". Lewis (2007) refers to the e-library as a complete migration from a print to an electronic collection and the repositioning of library and information tools, resources, and expertise in using technology to maximise learning. Advances in the global environment, e-resources such as e-journals, e-books, e-databases, OPAC as well as the internet have transformed the e-library and made libraries undeniably significant in the information age by embracing technologies in the global environment.

A study by Hwang and Chang (2011) was conducted to explore the outcome of using online learning strategies in a setting that merges digital learning resources and real-world learning. A pretest and post-test was conducted on two groups of students to evaluate the learning effectiveness of the students. The ANOVA result indicates that the average learning achievement of the students who had access to online learning was significantly better than students who learned without access to online learning. Findings of this study showed that computer-assisted learning strategies enhanced the learning achievements of the students.

The following are some of the functions and role that e-libraries play in the development of the educational sector in the global environment:

Fast-tracks knowledge: With the rapid change in information technology, digital libraries can be regarded as important role players in knowledge creation. Tjiek (2006: 124) observed that the digitizing of documented indigenous knowledge "and putting it on a digital library has helped tremendously in adding 'appeal' to the resources." The author also added that digitized resources have more value than undigitized information and that digital libraries have also widened access to the digitized resources. In conducting a study on library active participants in the "knowledge society" (KS) and "information society" (IS) in Africa, Ocholla (2009) revealed that some African libraries, and South African libraries in particular, are actively part of the knowledge and information society. Sun and Yuan (2012) rightly states that digital libraries will allow any citizen to access a large amount of human knowledge from any location around the globe.

Improve library services: With the aid of e-libraries, librarians can do a better job and improve the quality of their services. Quality services underscore the importance of the role of the e-library in building the confidence of the users and producing well-rounded educated students. Casey and Savastinuk (2006) reveal that libraries are changing to ensure an efficient way of service delivery in order to achieve greater returns.

> Researchers who have to go to libraries with a countless number of walls inside to obtain the information they need are provide with the opportunity to access information in any format and from any place at any time via non-wall libraries (Yalman and Kutluca, 2012: 2227).

Improve students' performance: Wang (2003) expresses the view that e-learning allows for the learning environment to deviate from an environment where students are spoon-fed to a self-study and more independent approach that can quicken students' understanding. In addition to using resources, digital libraries also allow students to deposit their information, thus allowing students to be publishers as well as readers of digital libraries. Digital libraries provide effective teaching and learning by allowing sharing of expensive resources. "Some authors believe that students learn more and quicker when computers are used, and many of the 'generation Y' students prefer computer-aided learning packages compared to just using a textbook" (Zehry, Halder and Theodosiou, 2011: 3164). This enhancement in e-learning, according to Arms (2000) can be seen in innovations and current research available online and widely reported in papers that are published in journals and magazines globally.

Improve resources availability: An e-library provides a wider scope of global resources which the students can access effortlessly and allows students to utilize e-resources that have traditionally been inaccessible (Marchionini and Maurer, 1995). These improved resources have become essential tools for learning and research and "provide access to timely, high quality and relevant scientific information to scholars and researchers with a view to keep them abreast with new discoveries and developments" (Msagati, 2014: 2). While some higher education institutions still support a physical library, the networked environment has forced most academic libraries to use digital e-resources to provide enhanced library facilities and educational benefits to all library users. As pointed out by Ogunsola (2011) the function and importance of digital libraries are eroding the efficacy of traditional libraries.

The importance of digital libraries was realized as far back as 2001, when Wisner (2001: 68) argued that "our buildings will disappear gradually over the next 100 years, and the portable e-book, once perfected, will drive the nail into our collective coffins." Today more than 10 years later, users have global access to e-resources, and digital libraries "promise new societal benefits, especially for e-learning in digital or mobile times, starting with the elimination of the time and space constraints of traditional bricks-and-mortar libraries" (Sun and Yuan, 2012: 12).

2.5.   The e-library and the part-time learning system

Distance education or part-time learning can be regarded as one the most dramatic recent technological innovations shaping and transforming education (Simonson, Smaldino, Albright, Zvacek, 2011). O' Lawrence (2007) states that the growth in distance learning together with the electronic environment, has steered towards a growing interest in learning, allowing adult learners to quest their educational goals. More importantly, it has removed the distance barrier that exists between traditional libraries and students, allowing part-time students to engage resources online faster and more effectively. With the increase in part-time students, there emerges a need to assess and explore the use of e-resources by part-time students.

Distance learning is a widely accepted term used in the educational setting and is often identified as e-learning, part-time learning or virtual learning. Distance learning is

> a process of education which emphasises learning; it is an educational enterprise during which, a facilitator of learning who is usually separated from the learner by spatial or mental distance, gathers, collates and presents information in a learnable form to one or a group of learners who have accepted the responsibility to learn (Biao, 2012: 31).

As pointed out by Moore and Kearsley (1996: 2) in simpler terms "distance learning is a system of studying whereby lectures are offered online, via correspondence and more importantly without the student needing to attend university or any learning environment."

The focus group of this study comprises the postgraduate students and academics at the Graduate School of Business and Leadership (GSB&L). It is important to note that some academics are contract staff and most of the postgraduate students at GSB&L attend lectures outside normal hours. This method of distant learning is a "viable option for those with commitments or conditions such as family or work, or who cannot participate easily for reasons including disability. The time and cost of commuting to and from campus are eliminated" (Bhatia and

Kusumlata, 2013: 2). Hence the need to understand the use of the library e-resources by these students and academics in order to understand what expedites or hampers their access to the e-library.

2.5.1 Benefits of an e-library to distance learning

Previously part-time/ distant learners experienced many challenges when accessing library resources. However with the arrival of e-libraries these learners are now offered seamless access to a universe of electronic information. Some of the benefits that e-libraries offer to part-time/distant learners are listed below:

Facilitate immediacy via networking: As stated by Sharifabadi (2006: 393)

> A digital library can link e-learners to library catalogues, licensed journal databases, electronic book collections, selected internet resources, electronic course reserves, and tutorials, and to forums for communication and interaction with others.

This allows part-time students immediate access to all e-resources anytime and anyplace, provided that there is access to a computer and internet connection.

Accessibility to e-resources: With academics, tutoring can be done at any time and from any location. Online e-resources with hyperlinked materials can be updated and uploaded, allowing students to access resources immediately (Sharifabadi, 2006). Online learning systems can be used to assign appropriate materials for students that specifically suit their needs and their academic research, for example, UKZN Library created online access to "LibGuides" in July 2013. These online guides enable students to access information in a variety of formats such as databases, YouTube videos, referencing notes, e-books and other online resources. They also offer feedback options and can be accessed from anywhere. Librarians and academics are able to direct users to appropriate information based on their needs. The e-library software also allows simple and conducive methods of searching for full-text and browsing of databases (Witten, Bainbridge and Boddie, 2001).

Interactivity: With the advent of the internet and digital resources, access to library resources has become participatory and interactive (Akhras and Akhras: 2013). Distant learning is based on two way communication media that involve the internet and video that allows for interaction between the instructors and the students (Bates, 2005). There can be online group discussion of what they have been taught and reference to library materials can be sorted immediately. Budhu

and Coleman (2002) and Marshall (2005) believe that the e-library (digital library) allows people to interact and work together globally.

Convenient and faster: In today's fast-paced world, the unlimited data readily available tends to overwhelm people. Hence users of electronic information systems want to access their relevant information faster and more conveniently (Connaway, Dickey and Radford, 2011). The digital library enables part-time student to enjoy easy access to resources. As rightly stated by Bawden and Vilar (2006: 349) "Users believe that web search is fast and easy, providing immediate access to information and giving them what they want." The e-library allows for an easier and seamless learning process where resources such as scholarly articles can be uploaded and updated rapidly and accessed online. The lecturers can also direct learners to library links on e-books, e-journals and e-databases chosen as a reference for course materials which can be accessed anywhere and boost distance learning activities.

2.5.2   Research on part-time distance learning students and their use of libraries

Theakston (1999) conducted a case study of distance-learning MBA students within Durham Business School. This study was undertaken to investigate the information needs of these students and to establish how technology could assist them. The study highlighted a number of recurring concerns within the distance-learning sector. The findings of this study concluded that there was a gap in communication between the library staff and the relevant college or course organisers. This resulted in a lack of constructive user education and reciprocal privileges. The study highlighted a number of recurring concerns within the distance-learning sector who felt that they could not use the library properly and who were keen on accessing additional information electronically.

Liu and Yang (2004) conducted a study on distance education students of Texas A&M University at College Station. The objective of their study was to establish the factors that affected students' decisions when selecting information sources. A randomly selected sample size of 290 was drawn from a population of 540 distance-education graduate students. Results with the highest mean score (3.79) indicated that students wanted fast access to material from major information sources. This was followed by respondents who highly valued ''Easy access to system at home'' with a mean score of 3.71. These results demonstrate that distant learning students need access to resources off campus. One of the recommendations from this study was that since more distance-

education students depend on the internet for information, additional studies should be conducted to investigate usage patterns of distance-education students.

2.6   E-resources and academic libraries

The traditional role of the library that once served as a place to store books and journals physically has now vanished with the availability of remote access to electronic versions of library resources (Van Groenendaal, 1997). The internet together with new technologies has allowed libraries to electronically store resources which can be accessed via the library webpage. This allows users to retrieve and disseminate information anywhere, anytime thereby conveniently assisting students and academics alike in their research. Academic libraries generally carry a collection of books, journals and other reference materials both in print and electronic format. Looking specifically at electronic format, UKZN Library offers the following e-resources mentioned below.

2.6.1   OPAC

The UKZN Library has a web-based online public access catalogue (OPAC) referred to as "iLink". This catalogue specifies all the library resources available within the libraries comprising the UKZN library system and reflects their location on the shelves. UKZN's iLink provides a gateway to the resources held by 19 libraries that makes up UKZN Library. With the development in bibliographic standards and advances in technology, the traditional OPAC advanced to web-based OPACs which began to emerge in the late 1990s (Babu and O'Brien, 2000). The web-based catalogue has powerful search facilities that allow users to conduct a basic search, such as search for a specific title, author or subject. In addition an advanced search facility allows for a combined search with author and title or a keyword appearing anywhere within the record. Users are also allowed to use OPACs to access their library record by using the "My Library Record" tab. Users can use this tab to view the books they have borrowed or renew them online with much less effort. It is important to note that while this OPAC catalogue is only one of many online resources and discovery tools that covers a variety of information resources, it is still regarded as a core information service and the only tool for retrieving and using library book collections (Antelman, Lynema and Pace, 2013).

2.6.2　e-Databases

The electronic databases (e-databases) allow library users to consult various information sources without spending hours browsing the shelves. The e-databases can be accessed from a local or a remote computer by users registered with the university via user identification. Users have the options to search databases for journal articles and citations by using the subject list or the alphabetical list of databases. As indicated by Toteng (2010: 28), "Boolean logic is critical in the use of keywords in most databases." Boolean search terms includes the use of "and", "or" and "not" and these terms help to narrow or broaden a search. Abstracts and full-text articles can be accessed, downloaded, printed, saved or emailed. Examples of such databases include Academic source complete, JSTOR, SA ePublications, SAGE, EbscoHost, Science Direct, Proquest, Medline, Marketline and various others. (A full list of the available databases is contained in Question 12 of the questionnaire – see Appendix 3).

2.6.3　e-Journals

While some people refer to e-journals as online or paperless journals, Rao (2000: 8) defines e-journals as "those journals which are available in electronic media; some may be available on CD-ROM; a few may be available only online; some may be available both in electronic media and in print". "Electronic journals are simply serial publications in which the end products are made available in digital format and whose contents may or may not be peer-reviewed" (Raza and Upadhyay, 2006: 170). UKZN Library have access to over 68 116 e-journal titles. Libraries pay subscriptions in order to provide access to academic journal literature and this literature has to be accessed via the library's website. These e-journals can be searched by title of journal, category or citation linker. Due to the fact that a significant amount of journal literature is not freely available via search facilities such as Google, e-journals play a significant role in accessing scholarly information. Multiple journals are often grouped together in a database and many databases are subject specific or multidisciplinary. It is possible to search for a single journal across a collection of journals in a single database and across multiple databases.

2.6.3.1 Advantages and disadvantages of e-journals

Many studies conducted have also examined factors that may be considered as advantages or disadvantages of e-journals. A study by Rusch-Feja and Siebeky (1999) carried out research at the Max Plank Society in Germany. Results of this study revealed that there was a high acceptance of e-journals and users indicated a sense of unwillingness to return to print versions only. The study also considered the advantages of e-journals which included factors such as currency, additional searching features, accessing information with ease and up-to-date information. The disadvantages indicated problems in reading from the computers, networks problems, long term access of resources, network dependency, difficulty in reading from monitors and others.

Pažur and Konjević (2002) studied the use and acceptance of e-journals and looked at what participants at Rudjer Boskovic Institute considered as advantages and disadvantages of e-journals. While the results of this study concurred with Rusch-Feja and Siebeky (1999) in revealing a high acceptance of e-journals, the respondents in this study differed in what they considered as advantages and disadvantages. Some of their advantages included "the possibility to link directly to the references in the article", "the possibility of zooming the text on the screen", and "the possibility of using the journals that the library does not subscribe in print.?" Most respondents indicated that the main disadvantage was slow downloading of e-resources. These two studies alone indicated that there are various factors that users consider as advantages of e-journals. In spite of limitations, e-journals are favored by users around the globe (Oyedapo and Ojo, 2013).

Many studies conducted have shown that progressive use of e-resources such as e-journals has significantly influenced research while in other studies, it appeared that inadequate usage of journals resulted in poor productivity levels in terms of research and postgraduate activity. A study on the use of e-journals by academics, post-doctoral students and scholarly researchers was conducted by Deshpande and Pathak (2008) in India. The purpose of this study was to understand factors that influence the success of e-journals. The findings revealed that progressive usage of e-journals advanced innovations in the practice of science. Thus, e-journals benefit libraries immensely with regards to flexibility and timely delivery of information (Deshpande and Pathak, 2008; Schulz, 2001; Voorbij and Ongering, 2006).

2.6.4 Electronic theses and dissertations

Previously access to knowledge contained within theses and dissertations (TDs) was only available in print bound formats, which was a lengthy and sometimes an expensive process (Evans and Mersham, 2006). Many academic libraries also housed this information as reference material and users were unable to access these TDs outside the library. However, the emergence of electronic publishing has led to the initiation of institutional repositories or what some academic libraries refer to as "ResearchSpace". TDs occupy a significant space in research and globally they assist many researchers and graduate students in expressing their own research interests (Ezema and Ugwu, 2013). Evans and Mersham (2006) rightly mention that this allows for a greater electronic dissemination of postgraduate academic TDs which can be electronically accessed by international researchers across the globe. Fox (as cited in Evans and Mersham, 2006: 3-4) states that access to electronic TDs can be a viable option for those in developing countries who unable to purchases of TDs or wait for expensive delivery through inter library loans. According to Ezema and Ugwu (2013) African research outputs lack wider visibility and readership globally and this is due to limited access to theses and dissertations generated by African universities. The lack of access to African research findings has been underscored by Chan et al. (as cited in Ezema and Ugwu, 2013: 495)

> in their argument that it has been difficult to increase the visibility of research from less developed countries because publications in mainstream journals face the problem of recorded prejudice against submissions from scientists in developing countries.

Thanuskodi and Ravi's (2011) study that revealed many respondents have not used online theses and dissertations, is a contrast to the study by Evans and Mersham (2006) that showed 73% of participants found obtaining research material online more efficient than paper format and 87% agreed that adding TDs online would increase accessibility of research.

UKZN Libraries are making a difference by participating in this global trend for electronic TDs and have recently created a new electronic concept called "ResearchSpace". ResearchSpace is a digital library or institutional repository for theses and dissertations produced by UKZN. All UKZN theses and dissertations (including some research papers) can be searched electronically via communities to browse it collections, by issue date, author, title and subject and can be downloaded, printed or saved. UKZN's ResearchSpace currently has approximately 601 theses and dissertations within the sub-communities of GSB&L that can be accessed online.

2.6.5 E-books

Merriam-Webster Online Dictionary (2006) defines an e-book as "a book composed in or converted to digital format for display on a computer screen or handheld device". E-books helps to move the library into the new century of digital library 2.0 and virtual library capability, cheaper, space saving, offers continuous 24/7 access and availability, remote access, full-text search capability, as well as copying and pasting (Zinn and Langdown, 2011: 105).

Due to the enduring significance of textbooks to learning in higher education institutions, Armstrong, Lonsdale and Nicholas (2006) state that e-books are probably more significant for users than e-journals. It is probably for this reason that "libraries of all types and sizes are increasingly adding electronic book titles to their collections" (Frederiksen, Cummings, Cummings and Carroll, 2011: 118).

However, a recent study undertaken in South Africa indicates that "while e-journals have successfully been integrated into academic library collections, the same cannot be said about e-books" (Kahn and Underwood, 2013: 10). Perhaps the reasons for this could be related to the drawbacks of e-books such as the need for electronic equipment, lack of internet reliability, navigation implications, life span in terms of digital storage, lack of training in use of e-books, compatibility of software as well as the initial cost involved in e-books, as pointed out in other studies on e-books usage (Zinn and Langdown, 2011; Bennett & Landoni, 2005).

UKZN currently has approximately 6 500 e-books that are available to library users via the library e-resources. While some users may be aware of e-journals and e-databases, the question that needs to be answered is whether users at GSB&L are aware of e-books available via the library's e-resources.

The traditional library as a place that physically stores books is changing, and this means that libraries and librarians need to step out of their traditional roles and commit to improving the developments of new technologies (Kahn and Underwood, 2013). The traditional librarian initially aimed to have an excellent collection of books on shelves that users could browse through and access physically. This however, has changed with technology and therefore attitudes of librarians need to change as well. "Librarians will cease to worry about the size of their physical collection and the proportion of print books to e-books. They will find ways to ensure they have a measure of control over e-book titles."(Kahn and Underwood, 2013: 11).

Zinn and Langdown (2011) conducted a study to investigate the use of e-books amongst academic librarians. A web-based questionnaire was sent to all librarians at South African universities who subscribe to the Library and Information Association of South Africa (LIASA). Findings of this study indicate that 48% of respondents were using e-books more than 20% of the time in their referrals and reference queries. While this study indicated a gradual adoption of e-books by librarians, it was stated the libraries have the responsibility of providing quality information and resources to their clients. The results of this study found that e-books have had an impact on reading behaviour; purchasing behaviour; information use behaviour and collection development. The survey conducted by Shelburne (2009) in collaboration with Springer to assess the awareness of and attitudes to e-books, showed that the recognition and approval of e-books has increased, ensuring that e-books become a significant part of library services.

2.6.5.1 Benefits of e-books

The main advantage of e-books for users is that they can be accessed twenty four hours a day with facilities such as reading, copying, pasting, highlighting and searching for information. E-books also offer benefits to librarians such as multiple users accessing the book concurrently and that these books arrive on the e-shelf without the delays in processing or cataloguing. E-books also afford various multimedia effects, such as "written text, oral reading, oral discourse, animations" (Korat and Shamir, 2007: 24).

2.6.5.2 Drawbacks of e-books

While e-books offer many advantages, they also pose as few challenges. One of the biggest drawbacks is that if there is a power failure or the user's laptop battery runs flat, the user cannot access or read an e-book. With the budget constraints that most libraries are faced with, one of the reasons for not acquiring e-books is the initial high cost. Users also experience problems in navigating the pages and experience readability problems. The study by Zinn and Langdown (2011: 104), stated that the major problems identified with e-books are

> the cost of the equipment to read e-book formats; the cost of the e-books, especially if the subscription purchasing model is used; the lack of reliability of the internet; and the lack of training in the use of e-books.

2.7. Users of e-resources

Electronic resources are made available by the library to academics, students, and members of the community. In this study, the GSB&L community comprised of academics and postgraduate students who have access to the library e-resources.

2.7.1 Postgraduate students

Information is crucial for the success of any student or academic when it comes to teaching and learning. When students first enter university, they have to go through various orientation programmes to assist them in using the library resources. However, postgraduate students and academics are often not given any library instruction as it is assumed that since they are postgraduates they should know how to use the library resources. Rempel and Davidson (2008: 2) support this and argue that "library-based instructional services for graduate students have received limited attention to date. Faculty advisors assume that either their graduate students arrive at graduate school competent in research skills, or that these students should discover how to carry out research through a process of self-discovery." While these users are graduates who have spent a lengthy time at university, the truth is that many are still faced with knowledge gaps and needs which need to be addressed.

A study by Liao, Finn and Lu (2007) supports this by stating that although postgraduate students are able to conduct research, knowledge gaps still exist for other services such as searching the database, interlibrary loans and other library information services. Therefore it is critical for even postgraduate students to go through formal training on using library e-resources. Postgraduate students need current and multiple entry routes to e-resources so that they can explore and download articles. While some may be familiar with accessing materials, there are many who are unaware of the resources such as e-journals, e-books and e-theses that are available via the library webpage. Many postgraduate students struggle to spend sufficient time on a computer and lack opportunities to familiarise themselves with and explore online resources (Harle, 2010).

Although several studies have been undertaken at UKZN on the use of electronic databases by students (Jagarnath 2004; Soyizwapi 2005; Mawindo 2005; Hadebe and Hoskins 2010), no studies have been conducted at the GSB&L , UKZN. Other studies conducted at international universities on the use of electronic resources by students include Crawford and Daye (2000); Dadzie (2005); Okello-Obura and Magara (2008); Lamothe (2012); and Faizul and Naushad (2012).

A study carried out by Soyizwapi (2005) on the use of electronic databases by postgraduate students in the Faculty of Science and Agriculture at the UKZN, Pietermaritzburg Campus, found that 83% of the students used the electronic databases. Some of the problems in using electronic databases identified by students in this study indicated password problems when accessing databases; slow internet; insufficient bandwidth and limited off-campus access. With regards to the use of electronic databases, 66.7% of respondents indicated that ease of use, availability of full-text (66.7%) and emailing, saving and printing (64.8%) as the advantages of electronic databases. Some of the recommendations of this study to improve the use of online databases included a need for more training of students and to allow better access to students by limiting the need for password access to some databases.

Another study on the use of electronic databases was conducted by Hadebe and Hoskins (2010) to investigate the utilisation of electronic databases by Master's students in the Faculty of Humanities, Development and Social Sciences at the UKZN, Pietermaritzburg campus. The population comprised 205 registered master's students and a questionnaire consisting of both closed and open questions was sent to all 205 students via e-mail with a response rate of 68% being achieved. The study found that a large majority of the students, namely 113 (81.3%) used electronic databases. While the results of this study concurred with that of Soyizwapi (2005) in that more than 80% of postgraduate student used electronic databases, the study differed in terms of what students considered as the main benefit of using electronic databases. In Hadebe and Hoskins'(2010) study the majority of students considered current information to be the main benefit whereas in Soyizwapi's (2005) study the majority of the students found ease of use of the databases as the main benefit.

Lamothe (2012) analysed factors influencing the use of e-journals at the J.N. Desmarais Library of Laurentian University. The study was conducted over a period of 11 years, from 2000 to 2010 with an objective of identifying the awareness and purpose of e-journals. Results among the student population revealed that Doctoral students had the strongest linear relationship to the use of the e-journal resources. The findings indicated it may be sensible for the library to consult not only its faculty members, but also its graduate students when looking for advice on collection building. This shows that postgraduate students represent a significant part of the academic library's e-resource services.

A survey research conducted by Faizul and Naushad (2012) was undertaken among IIT Delhi and Delhi University users to assess e-journal use. The survey was conducted through a structured questionnaire and administered to 300 postgraduate and doctoral students from different disciplines of IIT Delhi and Delhi University libraries. Results indicated that majority of the users were aware of e-journals and they were utilizing them to collect relevant material for their study and research purposes. Further, the study indicated that the main aim for consulting e-journals was to update their knowledge, publish research papers, access information for research, publishing research, assignments and seminars presentations. Despite using e-resources, users also indicated problems with slow downloading, lack of training and limited access to computers while using e-journals.

2.7.2 Academics

Awareness and use of e-resources by academics allows them identify and use appropriate resources in the form of new issues of journals, databases and books for teaching and research purposes. Access to e-resources allows for innovative teaching, advancement in research and growth in establishing new fields of inquiry (Nkosi, Leach and Hoskins, 2011). Limited access to e-resources can be a serious hindrance to academic work especially in terms of research and publishing articles. Encouraging students on the importance of e-resources could also depend on the extent to which lecturers use e-resources. It is also important for academics to be efficient and competent in accessing e-resources in order to help improve their productivity and to extend their knowledge to their students. Nkosi, Leach and Hoskins (2011: 57) point out that "if academic staff do not have such library service knowledge" this would mean that "the chances are that students are not going to be referred or encouraged to use the library." Similarly, Majid and Abazova (1999) highlighted that by promoting the use of e-resources to academics could possibly indirectly encourage student to utilize e-resources.

Voorbij and Ongering (2006) employed a mixed method (questionnaire and interview) to examine the use of e-journals among academics and researchers in The Netherlands. The study explored users' experience with e-journals, frequency of use, perceived advantages and disadvantages, benefits and effects of e-journals on their research. The study divulged that more than 75% of scientists and researchers had substantial experience with using these resources. They found that e-journals curtailed the time needed for the searching of literature and this facilitated in research innovation and also inspired and stimulated interdisciplinary research. Studies by Mannan and Ahmad (2009) established that most of the researchers in India used e-journals for research

purposes. Similarly Dilek-Kayaoglu (2008) assessed the use of e-journals at Istanbul University and the study showed that more than half the respondents (67.5%) had accessed e-journals for research and 16.9% for teaching purposes. These studies verify older findings of Zhang (1999), where he established that users usually utilized e-journals for research as well as academic purposes.

2.7.2.1 Research productivity of academics

In most academic institutions the productivity of academics is measured by their research output, presentation of papers, supervision of postgraduate students and by the number of papers they publish (Agyeman and Kisiedu, 2006; Dulle et al., 2002; Okafor, 2011). According to Dulle et al. (2002) with regard to productivity in research, it is important for researchers to have a relevant research system that provides effective research resources. This is where the importance of academic libraries is enriched by providing high quality electronic articles to assist researchers in improving their research output and productivity. Hetreck (2002) pointed out for research and academic purposes, most users relied on e-abstracting and e-indexing databases.

A study by Okafor (2011) was carried out to compare the research output of academics from six universities in Nigeria using stratified random sampling. The population consisted of 291 academic staff. Although results of the study revealed that there was no significant difference between mean productivity of academics from different universities, there was significant difference between mean productivity of articles published in international journals. One of the recommendations of this study was for researchers to be provided with conducive working environments together with the necessary equipment and resources equipped by the libraries to access to e-resources. Libraries need to provide seamless access to resources to assist in increasing the research output of academics, the university and the nation. As pointed out by Okafor (2011: 2) "the issue of research output is of benefit to every nation. This is due to the fact that the wealth and economic progress of the nation depends on the extent of research carried out in that country."

Omeluzor, Madukoma, Bamidele and Ogbuiyi (2012) examined the use of e-resources as well as the research output by academic staff in private universities in Ogun state, Nigeria. The objective of their study was to discuss the level of awareness and usage of e-resources by academics when conducting research. A purposive sampling method was used to investigate respondents and the instrument used for data collection consisted of a structured questionnaire. The study showed that the need to access electronic information resources in the universities was very vital as this

enhanced breakthrough in research findings. The authors suggested that universities must allocate certain percentage of their annual budget to provide access to electronic information resources as research outputs of the academics greatly depend on available and accessible information at their disposal.

A recent study by Chauhan and Mahajan (2014) examined usage patterns of e-resources provided by the UGC-Infonet Digital Library Consortium in the social sciences faculties for 50 universities in India. The study found that more than 98% of social sciences faculty members were involved in writing articles or papers and 62.8% preferred the use of electronic information when writing. While most faculty members preferred accessing articles electronically, one fourth of them still chose print resources for writing articles. This indicates that traditional journals are still used as a medium of publication. Further results indicated that one third of faculty members do not attend oorientation programs on the use of e-resources but strongly agreed that they would like to attend such programmes once or twice per year. "The study strongly suggests that university librarians must keep social science faculty members up to date about the various e-resources available in their respective libraries. The librarians and library staff should focus on user orientation and training or awareness on the effective use of e-resources and their implications" (Chauhan and Mahajan, 2014: 364).

Looking at studies carried out in Africa, Mgobozi and Ocholla (2002) undertook a study to investigate the relationship between academic staff, their research publications and the usage of e-journals at the University of Zululand and University of Natal. According to the study, when asked to respond if there was correlation between use of e-journals and research publications, "some 29% indicated a correlation whereas 13% indicated no correlation" and others were "undecided" (Mgobozi and Ocholla, 2002). These results indicated that there was no correlation between research publication and use of e-journals. However, despite the low percentage some of the respondents indicated that "electronic journals disseminate information as they are published" and "they are up-to-date" and "electronic journals facilitate the research process and learning process" (Mgobozi and Ocholla, 2002: 87).

A contradicting research finding was that in a study by Ehikhamenor (2003). The study was conducted in Nigerian universities to investigate the impact of internet resources on scientific research at Nigerian universities. Although this study was on internet sources, it also included e-journals, web-based resources and bibliographic databases and was therefore included as part of this literature review. This research was to ascertain if internet resources had a positive influence on the productivity of academics in ten Nigerian universities. Interestingly, while the review of literature in his study indicated that use of e-journals positively affected productivity, the findings of the study differed in that it revealed that 89.3% of the respondents strongly disagreed that the use of internet resources facilitates higher productivity.

2.7.2.2 E-resources as a tool for teaching and learning

The proliferation of e-resources has impacted on education and libraries need to play a critical role in promoting and assisting academics in utilizing library e-resources. Studies below have indicated that use of e-resources leads to innovative teaching.

A study on the use of e-resources at C.V. Raman College of Engineering, Bhuvaneswar by Satpathy and Rout (2010) clearly indicates that faculty members needed to be given library orientation and training programmes on the usability of e-resources on a regular basis. This study was conducted with participation from 150 faculty members with a return rate of 80%. The study highlighted the problems that faculty members encountered when using e-resources and established whether faculty members were using e-resources. Results showed that academics were using e-resources to keep abreast of current development and advancement of information. Further results showed that 40% were of the opinion that the main purpose of using e-resources was for teaching, followed closely by research work and the writing of academic papers for publication.

A similar study was recently conducted by Kalbande, Shinde and Ingle (2013), where the same result was achieved with 45.95% of academics indicating the main purpose for use of e-resources was "teaching". When investigating the reasons for dissatisfaction on available resources, Satpathy and Rout's study indicated that 50% of respondents stated that the main reason for dissatisfaction was non-availability of e-resources. Kalbande, Shinde and Ingle (2013) differed in their results in that analysis revealed that 51.85% of respondents indicated their reason for dissatisfaction was lack of "infrastructure."

While studies by Satpathy and Rout (2010) and Kalbande, Shinde and Ingle (2013) were carried out at different geographic locations, what was important to note was that both studies indicated the critical role of the library on the use of e-resources by academic staff. Both studies suggested that faculty members need to use e-resources on a regular basis; that the library should create more awareness on e-resources and arrange various orientation and training programmes for faculty members for the optimum use of available e-resources.

A local study by Ocholla (1999) was conducted at the University of Zululand. This survey was on information seeking and the communication behaviour of academics from six faculties at the University. With regards to pattern for seeking information, this study showed that the academics in all categories used more or less similar patterns when seeking information. Similar to Satpathy and Rout (2010) and Kalbande, Shinde and Ingle (2013) this study also indicated that the main purpose for e-resources usage was "teaching". The results again showed that teaching was the biggest priority for academics with a high percentage of 92.3% indicating that their priority for using e-resources was for teaching purposes.

A finding and conclusion of a study conducted by Nksoi, Leach and Hoskins (2011) on the knowledge and utilization of library resources by academics staff at the University of KwaZulu-Natal, Pietermaritzburg (UKZN) campus revealed that some academic staff had not received formal library training and it was suggested that academic staff undergo formal library instruction and that communication between librarians and academics be improved.

The findings from the above studies confirm that academics depend on the use of e-resources for teaching and learning. Current awareness of available e-resources is important and academic libraries need to assist by focusing more in-depth attention on the access to e-resources by academics and provide them with the necessary skills and training to utilize e-resources.

2.8   Variables affecting utilization of e-resources

The following are some variables that affect utilization of e-resources. Some studies have indicated that variables such as awareness, demographics and computer literacy have been found to relate with the use of e-resources.

2.8.1   Awareness

"Although electronic resources are available in many universities, they are often underutilised by staff and students" (Harle, 2009: 16). The author states that academics and students are often unaware of the e-resources available to them, not sure of their value or simply cannot find their way in accessing the resources provided for use. According to Punchihewa and Jayasuriya (as cited in Toteng, 2010: 27) users do not utilize all the e-resources available to them and tend to limit themselves to the databases with which they are familiar. This indicates that users lack awareness of other e-resources than those they use regularly (Toteng, 2010).

Oyedapo and Ojo (2013) in a descriptive study on the impact of e-resources observed low usage of e-resources at Obafemi Awolowo University, Ile-Ife, Nigeria. A structured questionnaire was used to survey the opinions of postgraduate students who used the library regularly. Of the 100 questionnaires, 83 were completed and returned giving a response rate of 83%. One of the recommendations was that the library should organize teaching of information literacy skills through user education programmes to make students aware of e-resources so that they could maximize the use of the e-resources available.

A study by Mishra, Singh and Mishra (2014) was conducted to investigate the level of awareness and utilization of electronic journals or e-journals among research scholars of Banasthali Vidyapith (BV) in India. One hundred and fifty questionnaires were distributed and ninety six questionnaires were returned to the authors. Results showed that 35.42% of research scholars were made aware of e-journals by library professionals, followed by 34.38% who were made aware by the university faculty. A major finding indicated that students were almost equally aware of the e-journals by university faculty members and library professionals. However the authors recommended that awareness should be created to use e-journals to fulfill information needs and that user awareness programmes should be arranged in every department.

A recent study by Pandurangaswamy and Kishore (2013) focused on the use of e-resources by first and second year students of the Institute for Financial Management and Research (IFMR), Chennai. The study highlighted the use of e-resources by postgraduate students and identified which electronic information resources were more useful to the students. One of the objectives of the study was to determine their awareness of e-resources available in the IFMR Library. All respondents (100%) replied positively and the study concluded that all respondents were of the opinion that they were aware about the availability of e-resources in IFMR library.

A quantitative study by Borrego et al. (2007) on the use of print and electronic journals was conducted with academics from universities that are part of the Consortium of Academic Libraries of Catalonia (CBUC). Questionnaires were distributed to a population of 14 855 researchers. A total of 2 682 replies were received, representing a response rate of 18.05%. The major finding of this study revealed that more than 95% of the respondents were aware of e-journals. However the results also revealed that only 52% of the respondents predominantly used e-journals. One limitation from this study was the low return rate of 18.05% and this could possibly affect the representativeness of the results to the population. While high percentages of studies have indicated the use e-resources, studies have also reported that the infrequent use of e-journals could be due to the lack of awareness of e-resources.

In an examination of the use of library services at Washington State University Libraries, Bancroft, Croft, Speth and Phillips (1998) conducted a study with over 2 000 graduate students and academics. When asked about their use of online full text journals over 70% of respondents opted for the "never used/no opinion." However, almost half the respondents indicated they appreciated the fact that in future they could download full text articles. This indicates that most respondents were not aware of the facility of downloading full text articles. It needs to be borne in mind however that this study was conducted over 15 years ago when e-resources were arguably in their infancy and awareness and use was still growing.

Atilgan and Bayram's (2006) study investigated the use of e-databases at Ankara University. This study was undertaken to establish if users were aware of e-resources such as journals and to see how often these resources were retrieved. Further, this study evaluated the choice of databases preferred by each faculty. Questionnaires were sent to 3 800 researchers at the University, with a return rate of 1 996 (53%). Findings of this study revealed that 86.5% of the respondents were aware of the e-resources that existed in Ankara University Library and 88% of the faculty staff

were using e-resources. These figures indicate that there was a high awareness level and usage of e-resources at Ankara University. With regards to preference for specific databases, Elton B. Stevens Co. (EBSCO), Web of Science and Science Direct were the most preferred databases.

Shuling (2007) analysed the utilization of e-resources in Shaanxi University of Science and Technology in China. The sample consisted of 909 respondents of all types of library users. The study found that nearly most respondents knew a little about e-resources. Almost 50% of the respondents used print and e-resources. This finding is similar to the studies by Tenner and Yang (2000), Tomney and Burton (1998), and Bar-Ilan, Peritz and Wolman (2003) which revealed utilization of e-journals stretched from 28% to 48.9% of respondents. However, while Omotayo (2010) was also in agreement that a major issue that inhibited users was awareness of electronic information resources, he argued that when looking at developing countries in this regard, e-journals have in fact become prevalent amongst academics and that awareness is not always an indication for proof of use. However, most studies have indicated that awareness of e-resources is critical in the utilization of e-resources. As rightly put forward by Pandurangaswamy and Kishore (2013: 1)

> The awareness of electronic resources gives the breadth of vision; awareness of technology gives the power to manifest the vision; and awareness of needs gives the insight to use professional skills and talents to a greater effect.

2.8.2   Demographics

Age and gender are variables which have been found to correlate with the use of e-resources. In an attempt to evaluate the frequency usage of print format and electronic format journals, Bar-Ilan and Fink (2005) conducted a study at the Hebrew University of Jerusalem and the participants included 238 doctoral students and 161 faculty members. The study also highlighted the shift in behavior patterns and user opinion towards these formats. A majority of the findings revealed that notwithstanding the age or academic status of respondents, 80.9% of the respondents utilized electronic journals regularly. Further results showed that when both formats were accessible, respondents preferred the electronic format over the printed format. The authors also established that the trend of cancellation of print format journals was not only entirely due to finance but also due to the fact that both young and older users, irrespective of their age, preferred the electronic format over print format. Similar results were found in the study by Borrego et al. (2007) indicating that regardless of the age, discipline and academic ranking of the respondents, 76% still favoured the electronic format over the printed format.

On the contrary, a study by Majid and Abazova (1999) was conducted at the International Islamic University in Malaysia and looked at variables such as gender, age and educational background and how these variables impacted on the use of electronic information sources. From a population of 360 academics, stratified random sampling was used to draw a sample and questionnaires were sent to 180 participants. According to their findings, variables such as age, gender and computer skills impacted on the use of e-resources. Statistics from their study revealed that 68.4% of academics under the age of 30 used e-resources, while 37.5% from the over 50 years age group used e-resources less frequently. This clearly indicates that age is a variable which has been found to correlate with computers and use of e-resources. However, Ani (2013) noted that the influence of demographic variables on e-resource usage was not significant. His study conducted at the Universities of Calabar and Ibadan investigated the effect of accessibility and utilization of e-resources by academic staff on productivity. A sample size of 586 was drawn from a population of 2 035 academic staff. The findings of the study noted that the influence of demographic variables (discipline, gender, age, education and professional rank) on accessibility and utilization of e-resources was not significant at the surveyed universities. The studies by Bar-Ilan and Fink's (2005) and Borrego et al. (2007) confirmed this finding.

2.8.3 Computer literacy

Information and Communication Technology (ICT) facilities as well as efficient information technology (IT) skills of academics and postgraduate students are paramount when utilizing electronic databases. Majid and Abazova (1999) explored the use of electronic information resources in terms of computer literacy among academic staff of the International Islamic University, Malaysia. Nearly all respondents considered themselves to have good or very good computer skills. In their study detailed statistics revealed that academics with good computing skills use e-resources more often. This indicates that a direct correlation exists amongst computer literacy and use of e-resources. However, the study by Tadsad and Shreedhar (2006) revealed that very few respondents (4.1%) considered themselves as "experts" while the majority (85%) classified themselves as "average" in term of their ability to use computers.

On the contrary to the study by Majid and Abazova (1999), Ansari and Zuberi (2010) carried out a study on the e-resources usage among academics at the University of Karachi using a questionnaire survey methodology. The objectives of their study were to discover the available facilities for using e-resources. Stratified random sampling was used to select participants and the

study revealed that while some departments had equipped computer labs, other departments lacked computers. Some academics were also given computers that could be used in their individual offices. Just on 93% of the departments within the university had access to the internet. Despite having the resources and sufficient computer skills, it was found that a majority of the academics (78.5%) had limited knowledge of e-resources. The authors concluded that although e-resources provided recent and up-to-date information, the main reasons for not using e-resources included lack of knowledge and facilities. Hence one of the recommendations was that library should provide awareness and training on the use of e- resources. However, this study omitted using the demographic variable age to establish if it could have impacted on the use of e-resources, unlike other studies by Ani (2013), Bar-Ilan and Fink (2005) and Borrego et al. (2007) which have been reported on above and which found that age did impact on the use of e-resources. An important note in the study by Omeluzor et al. (2012: 8) conveyed that "academic staffs are advised to acquire computer skills, learn and relearn to navigate and utilize the vast available electronic information resources on the internet to achieve better research output."

2.9   Preference of electronic over print

Kaur (2012) conducted a study in India to find answers to important research questions which included examining academics' attitudes concerning use of e-journals. The methodology included a structured interview and the data was collected between June 2009 and August 2010 from five different universities. Results indicated 26.0% of respondents preferred print format, 7.9% preferred electronic format and 66.1% of the respondents indicated a preference for both print and electronic format. The reasons for their choice of print format in order of priority were 'physical comfort' (86.5%), 'portability' (75.3%) and 'ability to underline' (65.5%). The top three features that can be seen as reasons for preference of electronic over print in order of preference were 'faster access' (83.8%), 'available from desktop' (80.8%) and 'convenience' (73.8%). This study was in furtherance of the view of Wright, Tseng, and Kolodner (2001) who indicated that 74% of the respondents preferred print journals due to 'convenient readability' and 'portability'. Many other studies have cited the main reasons for preferring print over electronic journals as being easier to read format, of better graphic quality and easier to browse (Sathe, Grady and Giuse, 2002).

Further, Kaur (2012) also listed the difficulties encountered in retrieving e-journals such as 'access difficulties', 'discomfort of reading from computer screen' and 'lack of IT knowledge/skill'. Suggestions from this study included the use of library orientation and awareness programmes to educate faculty staff on the importance and availability of e-resources.

Some studies have indicated that while e-resources are used, they will not substitute the print format. This was evident in a study by Raza and Upadhyay's (2006) conducted in India at Aligarh Muslim University. The authors measured the usage of e-journals amongst 72 researchers at the University. Findings included that researchers were in fact well aware of e-journals; respondents used e-journals to update their knowledge as well as for research purposes; many utilized both electronic and print format and a large number of respondents indicated that lack of training and downloading on the internet were some of the problems faced when trying to access electronic journals. Despite the positive results an important conclusion worth noting is that the authors stated that e-journals will not substitute print format but rather supplement print as another process of communication. The study of Kaur and Verma (2009), Kacherki and Thombare (2010) corresponds with this and shows that over 70% of respondents in each of the studies enjoyed "both electronic and print media". However, in Dilek-Kayaoglu's (2008) study over 90% of respondents indicated that if print and e-journals were equally available, they would choose to use e-journals. In addition, their findings showed most users were happy with moving from print format to electronic journals. A large majority of respondents (72.5%) also indicated their support for the shift from print format to electronic format journals. This result conforms with literature that electronic journals appeal to users who have recognized their advantages over their print format counterparts.

While library buildings may still be regarded as an important place for students or researchers in an academic environment, e-libraries now use virtual space to provide access to resources that are easily accessible to users. Therefore, the new application of technology to learning in the 21st century has gained wider application and acceptability for easy information dissemination to better enable the growth of the educational sector and research productivity in particular.

2.10 Summary

In this chapter, the researcher firstly defined what a literature review is, and this was followed by an attempt to demystify e-libraries and e-resources. Before understanding the use and value of e-resources, it is important to understand the role of academic libraries from traditional to electronic into a hybrid environment. Digital libraries are characterised by electronic resources and therefore this chapter included the advantages and disadvantages of digital libraries and the role of these libraries in the global environment. Since this study was conducted on the GSB&L which consists mainly of part-time students, e-libraries and distant learning was discussed. There was no literature on the use of e-resources by part-time students within the South African context. Besides the availability of these resources and their benefits to students and academics, variables and barriers that affect the use of e-resources were identified. E-books are one of the latest e-resources that libraries are increasingly adding to their collection, therefore literature on the benefits and drawbacks of e-books was reviewed.

The literature review has clearly indicated that postgraduate students and academic depend on library e-resources to meet their research, teaching and academic needs. While some studies have revealed that library users are aware of e-resources this is not always the case and recommendations for further training and marketing of the library's e-resources to users have been made. Based on the review of the literature relevant to the purpose of this study, e-resources are arguably the best means globally for academics and students to acquire new information. While e-resources have numerous advantages associated with their use, there are problems and these problems, amongst other factors have ensured the continued use of print resources by some academics and students.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   Introduction

Bless, Higson-Smith and Sithole (2013: 1) state that "in order for society to progress, new knowledge about the world must constantly be generated" and this encompasses developing questions and seeking answers to have a better understanding about ourselves and our environment. This chapter describes the research methodology and design used in this study to find answers, to gain a better understanding and to obtain new knowledge with reference to the research problem.

Sekaran and Bougie (2010) define research as a systematic and organised effort to examine a specific problem that requires a solution. This specific research problem could refer to the matter that points to and permits the study (Creswell, 2014). In doing research, a series of steps are designed and followed. Research for this study therefore incorporates the process of examining the purpose of the study, the research approach used to undertake the study, the main form of research strategy, type of research design used to conduct the study, the population and sampling procedure employed, the various methods of collecting the data focussing on the instrument used, the data analysis methods, and finally the validity and reliability of the study.

3.2   Purpose of the study

There has been a behavioral shift in the needs of postgraduate students and academics from traditional print-based resources to resources in digital format (e-resources) and libraries will need to deliver services to meet the needs of these groups of users. The main purpose of this study was to conduct exploratory research on the awareness and the extent of e-resources usage by postgraduate students and academics in the GSB&L. The study sought to establish which e-resources are used and to establish the problems encountered while using these e-resources. The specific research questions asked are outlined at 1.5 in Chapter One. The research questions were incorporated into the questionnaire, under specific sections. The two sets of questionnaires, one directed at the postgraduate students and the second at the academics, were thereafter administered to the two user groups.

3.3   Research approaches

A research approach has been defined as a systematical method and plan of action used to undertake a study and is concerned with the research process in totality (Wilson, 2010). Two broad approaches to research have been put forward, namely inductive and deductive paradigms. The inductive approach is categorized as a process that builds theory, making observations about certain phenomenon and searching to form generalizations about the phenomenon being studied (Hyde, 2000). As stated by Wilson (2010) this approach involves collecting data and analyzing the data upon which a theory is then conceptualized. The author further states that the deductive approach encompasses the use of an existing theory as opposed the creation a new theory. This study followed the deductive paradigm.

3.4   Research strategies

There are two main forms of research strategy – qualitative and quantitative (Wilson, 2010). There is also a third which is becoming increasingly popular, namely mixed methods research, which resides in the middle of this continuum as it incorporates features of both the qualitative and quantitative approaches (Creswell, 2014: 3). The three forms of research strategies are briefly discussed below:

3.4.1   Qualitative

A qualitative approach is a subjective process that is concerned with subjects, procedures and meanings that are not experimentally measured by quantity or frequency (Denzin and Lincoln, 2000; Wilson, 2010: 13). This approach is used to find answers about phenomena which involves exploring, describing and understanding the human experience of the participants. "The researchers are interested in how people experience themselves, their relationships and their world" (Bless, Higson-Smith and Sithole 2013: 339). It involves finding out not only what happens but seeks to understand the reason/s why it happens in order to obtain a better understanding of the phenomena. The qualitative approach is used to gain insights about the experiences of participants and in this study, open questions were used to gain knowledge on the major challenges and personal experiences of academics and postgraduates when using e-resources. This helped the researcher gain a better understanding of the views and challenges academics and postgraduates have and experience when using these resources.

3.4.2 Quantitative

A quantitative strategy, is an objective process that is concerned with the measurement and synthesis of relationships between variables (Denzin and Lincoln, 2000; Wilson, 2010: 13). According to Hyde (2000), quantitative studies often draw large and representative samples, and from the results generalizations may be applied. This approach involves the use of numbers and statistics and the researcher has to remain objective. In this regard, descriptive studies are synonymous with the quantitative approach, where data is represented in the form of frequencies, means or standard deviations (Sekaran and Bougie, 2010: 107). According to Blumberg, Cooper and Schindler (2005: 165), the use of quantitative methods produces quantitative data that is centered on participants' responses. These responses are coded, categorized and condensed to numbers in order for the data to be arranged for statistical analysis.

The present study used the quantitative approach which included a semi-structured or closed questionnaire. In addition, it also included the use of descriptive and inferential statistics to analyse the data obtained from the study. The reason for using this approach was dictated by the nature of the study. Thus in line with this approach, a semi-structured questionnaire made up of open and closed questions was considered the most appropriate for this study. The close questions consisted of yes/no, multiple choice and Likert scale format. As Bless, Higson-Smith and Sithole (2013) point out these types of questions allow the participants to answer precisely and without difficulty. Open questions, on the other hand, allowed participants the freedom and flexibility to provide their responses in any way they liked. For example, in the questionnaire respondents were asked to indicate their major challenges experienced when using e-resources. The use of a few open questions, while acknowledged to be more difficult to code and time-consuming for respondents to think and to complete (Maree, 2007), allowed the researcher to get honest and detailed answers from respondents. The researcher also concentrated on showing the frequencies and percentages of responses from a statistical point of view, this included the use of cross-tabulation and Chi-square statistics.

3.4.3 Mixed methods

Mixed methods research is regarded as the third major approach that involves collecting both qualitative and quantitative data in a single study, thereby integrating the two forms of data. This method is usually used to strengthen both qualitative and quantitative research. The main focus, or belief, of this form of inquiry is that combining both qualitative and quantitative approaches offers a more comprehensive understanding of a research problem than either of the two

approaches would be able to do alone (Creswell, 2014: 3). The present study however, could be described as largely quantitative (see above and below) with a qualitative dimension being added through the use of some open questions. Quantitative and qualitative research are compared next.

3.4.4 Quantitative versus qualitative research

Quantitative research observes the amounts (or quantities) of one or more variables of interest. In contrast, qualitative research looks at characteristics (or qualities), that may not be totally reduced to numerical values (Leedy and Ormrod, 2013: 95). Both methods adopt very different approaches in terms of collecting data, analyzing data and establishing the relationship between variables. The ultimate goal of quantitative research is to find as small a set of variables which explains as much as possible. The broader rational thinking which informs this approach is that in order to know something, one must ascertain general sets of relationships which are robust across as many instances or cases as possible - generalisation is the goal (Miller and Brewer 2003: 193). Qualitative research, on the other hand, involves experience with the participant, and according to Creswell (2014: 4) it "explores and understands how individuals or groups ascribe to a social or human problem".

Bless, Higson-Smith and Sithole (2013: 58) realize that there are advantages and disadvantages of quantitative and quantitative methods. However the authors suggest that the correct research strategy is carefully selected by a skilled social researcher in the light of the particular problem. Keeping in mind the research problem of this study and the large population, the present study employed a quantitative research strategy as it established a sample given a specific population and further examined the sample's perceptions and attitudes by means of a survey. Equally important in terms of the quantitative approach, the vast majority of the questions posed were closed.

3.5 Research design

A research design is a blueprint or plan indicating the method by which research will be conducted (Welman, Kruger and Mitchell, 2005). As pointed out by Creswell (2014: 12), "research designs are types of inquiry within qualitative, quantitative and mixed methods approaches that provide specific direction for procedures in a research design." "Studies may be either exploratory, descriptive, or causal in nature" (Sekaran and Bougie 2013: 96). An exploratory research design involves undertaking a study on a topic or phenomena that is new or unknown, and is usually undertaken when there is very little or no information on the topic or the phenomena. A

descriptive research design, on the other hand, entails a study aimed at describing relevant characteristics of a subject or phenomenon (Sekaran, 2010: 96). A causal study, as indicated by Sekaran and Bougie (2013), is a scientific approach that tests whether one variable can effect change in another. The current study focused on a descriptive research design by conducting a field survey to allow the researcher to learn about the large population by studying a sample of the population.

Maylor and Blackmon (2005) have described a survey as a research plan to collect data from a wide variety of respondents by asking them to answer a given set of questions. The authors further stated that when using a survey research design, the most apposite data collection tool to employ is a questionnaire. In this study a questionnaire-survey based method was used to mainly obtain quantitative data. Participants were asked questions regarding their use of e-resources. This method was considered appropriate for this study as it examined the demographics, background information, awareness and usage of e-resources by the respondents. The field survey was conducted between August 2014 and November 2014. Details concerning data collection are described later, below.

3.5.1 Population and sampling

The population in a study consists of a group of people from whom the researcher wants to draw conclusions (Babbie, 2013: 119). In this study, the population consisted of all academics and postgraduate students in the GSB&L. While the best research strategy is to examine every person in the group, the challenge faced is that data cannot always be collected from every person in the population group if the group is a large one. Therefore, researchers depend on getting information from a subset or portion of the population and to make generalizations based on their findings. This subset of the population selected to participate in the study is called the sample. The sample chosen from the population must be representative, that is, be able to reflect views of the population at large so as to enable generalization of the results Bryman and Bell (as cited in Maylor and Blackmon, 2005).

There are two types of sampling, namely probability sampling and non-probability sampling. Probability sampling, which is also referred to as random sampling, is when people are selected by "chance' or 'probability' or by random selection. People have a known or equal probability of being included in the sample and the results obtained from the sample can be generalized to the population. Probability sampling techniques according to Sekaran and Bougie (2013) and Maylor and Blackmon (2005) include cluster sampling, stratified sampling, simple random sampling and systematic sampling.

Non-probability sampling, also referred to as non-random sampling, is when the probability of including each person as part of sample is unknown and the researcher purposefully (by choice) selects people to form the sample for the study. Some of the techniques used in non-probability sampling include snowball sampling, quota sampling, convenience sampling and purposive sampling. It should be noted that the above non-probability sampling techniques lack the ability to draw samples that would enable general conclusions to be made about the population, in comparison to probability sampling techniques (Maylor and Blackmon, 2005).

In this study, in light of the advantages of sampling, namely the reduced time and financial costs of gathering data, a probability sampling technique was employed to determine the sample. In particular, stratified random sampling was applied, allowing the population to be stratified according to the different groups called "strata". As suggested by Creswell (2014: 158), it is important to use stratification before selecting a sample to ensure that there is a true representation of the population. Stratified sampling in this study ensured that all categories of students were involved in the sampling process.

3.5.2 Population and sample size

In this study the population comprised of 20 academics and 700 postgraduate students at the GSB&L. Given the small number of academics, no sampling was done and the researcher included all 20 academics in the study. With regard to the postgraduate students, stratification was done with doctoral, masters and postgraduate diploma students comprising the three strata. The questionnaire was then administered randomly to the postgraduate student population according to each strata identified. After studying various literature, the researcher used a formula published by Krejcie and Morgan (1970: 608) to determine the sample size for this study. According to the table, a population of 700 indicated a sample size of 248.

With this in mind, a sample of 250 postgraduate students was proportionally selected from the different student strata as indicated in Table 3.1 below.

Table 3.1: Study population (SP) and sample size (SS)

Population group	SP	SS
Academics	20	20
Doctoral students	65	25
Masters students	544	190
Postgraduate diploma student	91	35
TOTALS	**720**	**270**

3.6   Research instrument

The most commonly used methods to collect data include interviews, observations and questionnaires (Sekaran and Bougie, 2013: 160). "Personally administering questionnaires is best suited when data is collected from subjects that are located in close proximity to one another and groups of respondents can be conveniently assembled" (Sekaran and Bougie, 2013: 161).   An electronic questionnaire document is advantageous when the sample group is geographically dispersed or when it is expensive to conduct individual interviews. In this study, the researcher employed a self-administered questionnaire and electronic questionnaires as the instruments to collect data.

3.6.1 Questionnaire design

Sekaran and Bougie (2013: 147) define a questionnaire as "a preformulated written set of questions to which respondents record their answers usually within rather closely defined alternatives." The questionnaire used in this study contained items that were adapted from prior studies done after exploring the literature on e-resources usage. As such, the primary data collection tool was standardised, having scales that have previously elicited "internal reliability, convergent and discriminant validity" (Koenig-Lewis, Palmer and Moll, 2010: 418).

As indicated by Raju (2005), the use of questionnaires can be economical, with savings in terms of both cost and time. It is an organized and precise instrument used to collect data from a potentially large number of respondents (Deng, 2010). Kothari (2008) states that questionnaires can either be structured or unstructured. A structured questionnaire is one in which all the questions and answers are stipulated in the form of a single or multiple responses. Respondents' own words are kept to the minimum. A structured questionnaire helps the respondents to complete the instrument quicker, thus leading to a higher response rate. It also makes it easier for the researcher to code the answers for analysis.

In contrast, an unstructured questionnaire allows respondents to openly give their honest answers in their own words thereby expressing and revealing their thinking processes (Maree, 2007: 161). While this may lead to a lower response rate and requires more time to code the answers, they offer an advantage of providing rich insight.

In the study, two different sets of questionnaires were administered, one to academics and the other to postgraduate students. These questionnaires were the main means of obtaining their respective views on e-resources. The questionnaires contained both structured (closed) and unstructured (open) questions with more of the former, as noted above, being used. These two types of questions are further elaborated on later in the chapter.

The advantages and disadvantages of each type of question are depicted in Table 3.2 below.

Table 3.2 Advantages and disadvantages of open and closed questions

Advantages	Disadvantages
Open questions	
Freedom and spontaneity of the answers	Time consuming
Opportunity to probe	In interviews costly of interview time
Useful for testing of hypotheses about ideas or awareness	Demand more effort from respondents
Closed questions	
Require little time	Loss of spontaneous response
No extended writing	Bias in answer categories
Low cost	Sometimes too crude
Easy to process	May irritate respondents
Make group comparison easy	
Useful for testing specific hypotheses	

Oppenheim (as cited by Gray, 2014: 365)

As noted above, open questions result in more qualitative data but are more time-consuming for the respondent to complete and more difficult for the researcher to analyse. However, combining both types of questions in the questionnaires gives a holistic view of the research area and as reiterated by (Behr, 1988) this enriched the data collected and the subsequent findings. The researcher decided to administer the questionnaires via electronic mail and this decision was centered on the fact that it was the best method to collect data from the large population, including other benefits as previously indicated by Raju (2005). At the GSB&L, most postgraduate students are part-time and do not attend lecturers every day hence the problem of contacting them personally was a challenge and would be too time consuming. Therefore the use of an "electronic questionnaire" was considered the most suitable for the participants of this study. In addition, the use of electronic questionnaires afforded participants the opportunity to complete the questionnaire at their own convenience. The questions and responses therein, were pre-coded by assigning numbers to the participants' responses so as to facilitate data input once the survey had been completed (Sekaran and Bougie, 2013). Ethical clearance from the study was provided by

the Research Ethics Committee of the University of KwaZulu-Natal. Research participants were assured of the confidentiality of their identity and responses as reflected in completed questionnaires (see Appendix 1). Furthermore, a covering letter indicating the study's purpose was provided to each respondent. Respondents were further informed both verbally and in writing that their participation in the study was voluntary and respondents could withdraw their participation at any point.

As mentioned above, two sets of questionnaires were administered, one to academics (see Appendix 3) and the other to postgraduate students (see Appendix 4). Both questionnaires comprised of three sections as outlined below:

- Section I sought to obtain the profile of the respondents as required for statistical purposes and to establish the effect of variables such as age, ranking, gender on the use of e-resources.
- Section II gathered data regarding the use of the library.
- Section III set out to establish information regarding e-resources usage.

3.7 Pretest

Pretesting involves the testing of the research instrument before the main study to observe any incongruities that may occur (Welman, Kruger and Mitchell, 2005). This allows the researcher to alter questions or to rectify any inadequacies that may appear in the questionnaire before it is administered to the respondents of the study. Sekaran and Bougie (2013: 158) affirmed that "when a questionnaire is used in a survey, it is important to pretest the instrument to ensure that the questions are understood by the respondents." This testing can be done on a small number of respondents before administering the instrument to the larger population. According to Blair, Czaja, and Blair (2014: 35), pretest results may be used to improve the survey design and implementation plans. Hence, a pretest was conducted to allow the researcher to establish, amongst other things, whether all questions in the questionnaire were understood and that the answers provided reflected this.

It also helped the researcher to ensure that the questions were relevant and effective. For this study, the researcher pretested the academic questionnaire on two academics from the College of Law and Management Studies. The postgraduate student questionnaire was pretested on five

postgraduate students also from the College of Law and Management Studies at UKZN. It was evident from the feedback received (further discussed under 3.9 below) that the pretest respondents had no problems in answering the questions asked. This resulted in minor changes being made to both academic and postgraduate student questionnaire thus allowing for the final questionnaires to be distributed to the respondents.

3.8 Validity and reliability

"Reliability and validity, specifically as far as the research instruments are concerned, are crucial aspects in quantitative research" (Maree, 2007: 80). Hence, it is important for the researcher to ensure that the instrument used to collect data is both reliable and valid (Hadebe, 2010).

3.8.1 Validity

Validity is about accuracy and trustworthiness of instruments, data as well as findings in research (Bernard, 2013: 45). For research methodology to have any integrity, there is a need for the data quality to have the following features or characteristics, namely validity and reliability. Two forms of validity are important for any research design and instrument, namely internal or construct validity and external validity. Construct validity is particularly important in a quantitative study and is concerned with whether the research instrument is able to gauge or measure the theories as reflected in the tests (Sekaran and Bougie, 2013; Wilson 2010). External validity, according to Bless, Higson-Smith and Sithole (2013: 157), is concerned with the question, "to what extent do the results in this study apply to the population being studied and to contexts different to those of this specific study?" The authors state further that "external validity looks at the extent to which the results of the study can be generalized."

Pretesting a research instrument is one of the main methods of ensuring validity. This study used the pretesting phase as an instrument for validation. The instruments used in the present study, as noted above, were pretested on a group of five postgraduate students and two academics. This was undertaken to ensure the validity of the questions by examining the responses received from the respondents who undertook the pretest. To ensure and increase the trustworthiness of the instrument, the researcher used respondent validation as a tool (Bless, Higson-Smith and Sithole, 2013). In this regard, the researcher made personal telephone calls to one academic and two postgraduate students who completed the pretest and asked them for feedback on topics such as the clarity of the questions, if they experienced any problems in understanding and completing the questionnaire and the time it took to complete the questionnaire. As they all indicated they

understood the questionnaire well, the researcher was satisfied and deemed it appropriate to proceed with the distribution of the questionnaires.

In terms of external validity as noted above, it could be reasoned that the results can be generalized to other academics and more specifically to other part-time postgraduate students in other colleges at the University of KwaZulu-Natal using UKZN Library e-resources.

3.8.2   Reliability

Bless, Higson-Smith and Sithole (2013: 222) define reliability as consistency of measures and in most cases, this reliability of measure is the degree to which that instrument produces the same results for recurrent trials. For research to be considered reliable, it must establish that once the instrument is administered to a group of respondents who are similar, in a similar context, then similar results will be obtained. Gibbs (as cited in Creswell, 2014: 201) indicates that "the researcher's approach is consistent across different researcher's and different projects." In the present study, it is possible that the results may have a similar outcome, once the survey is replicated but without actually repeating the study, there is no way of knowing this with any certainty.

3.9   Data collection procedure

After the pretest, the email addresses of the participants were obtained from the GSB&L Administrator. In order to draw the sample size, the researcher applied the stratified random sampling process to the three strata identified above. Stratified random sampling ensured that each strata were represented in the sample size. With master students, random sampling commenced with the 6th respondents from the list of masters students and every 6th respondent thereafter was selected. Both doctoral and postgraduate students' strata were much smaller than master students and random sampling therefore commenced with the first 3rd respondent and every 3rd respondent thereafter was selected. With a small population of only 20, all the academics were surveyed and administered with a questionnaire.

Prior to sending out the questionnaires, a letter was sent to the Head of GSB&L outlining the reason for the study and seeking permission to administer the questionnaires to academics and postgraduate students at GSB&L. Permission was granted and an e-mail explaining the purpose of the study and the questionnaires was sent to all the academics on 29 August 2014 by the researcher.   Respondents were informed about their rights as participants of the study and that

their responses were to be kept confidential. A subsequent reminder email was sent on 26 September to all the participating academics. At their request, the researcher also personally hand delivered some questionnaires to academics at GSB&L. This helped account for the high response rate from the academics.

The questionnaires were emailed to each of the selected postgraduate students on 05 September 2014. As with the academics, students were informed about their rights as participants and that their responses were to be kept confidential. Students were given two weeks in which to complete and return the questionnaire. However, once this period had lapsed only five questionnaires had been returned. This poor response prompted the researcher to change the methodology of administering the questionnaire. The questionnaire together with a covering letter was emailed to the School Administrators with a suggestion to have these questionnaires placed on Moodle for students to access and complete. Moodle is an on-line learning management system for UKZN students and staff. With the co-operation and assistance of the administrators, the postgraduate student questionnaire was placed on Moodle on 30 September 2014. Respondents were given two weeks in which to complete and return the questionnaires. After posting the questionnaire on Moodle, the administrator also informed the students about accessing the questionnaire.

Some respondents indicated their preference for a print copy of the questionnaire. The researcher agreed to this request, and subsequently distributed print copies of the questionnaire to some of the respondents allowing the respondents a further week to complete. The handing out of print copies was done with the assistance of a reliable doctoral student during a two day research workshop for postgraduate students which took place in October 2014. Completed questionnaires were either emailed back to the researcher or, where they were personally administered in hard copy, were either returned immediately or handed in, at a later date, to one of the administrators. On 15 October 2014, it was decided that no more responses would be received and the questionnaire was removed from Moodle.

The two questionnaires were administered for the study, namely the academic and the postgraduate student questionnaire. Questionnaires were administered to all 20 academics and the response rate was positive with 80 percent. Whereas with the postgraduate students a total of 250 questionnaires were administered to the sample population and a response rate of 56% was received. In this regard, Babbie and Mouton (2001: 261) recommends that a response rate of 50% is adequate for analysis and reporting, a response rate of 60% is good while a response rate of

70% is very good. Out of the 270 questionnaires (both academics and postgraduate students) in total distributed, 160 were returned, yielding a total response rate of 59.3%. Although slightly lower than a response rate of 60%, given Babbie and Mouton's views concerning response rates above, this was still a good response rate to work with. In addition, this study used online survey questionnaire and in this regard as pointed out by Nulty (2008: 302) "in general, online surveys are much less likely to achieve response rates as high as surveys administered on paper—despite the use of various practices to lift them."

3.10   Data analysis

Analysis of data is one of the most important processes in research. According to Cooper and Schindler (2008), data analysis encompasses the reduction of data collected and compiling it into a convenient size to develop summaries and search for patterns within the data by employing statistical measures. Upon completion of the field survey, completed questionnaires were captured in Statistical Package for the Social Sciences (SPSS) Version 22, a statistical software package that allows data to be manipulated for sufficient analysis.

3.10.1 Descriptive statistics

Descriptive statistics are statistics that illustrate the phenomena of interest. In this study, the researcher used descriptive statistics to analyse the data providing both valuable information and representation of the data collected, making it possible to easily and easily identify a pattern within the data (Jackson, 2011). The data analyzed was presented in the form of cross tabulations and appropriate charts highlighting the important areas of the study. Collected data was processed, checked and evaluated for consistency and relevance. Qualitative data obtained from the questionnaires was quantified together with the quantitative data from the closed questions and entered into SPSS which helped analyse the data. For the closed questions while the open questions were analysed using multiple response analysis which is commonly used for the analysis of open questions, as described by Coakes (2013: 184). The responses were transcribed and coded into themes or units of meaning in order to enrich the quantitative data. As this study was largely quantitative, data was represented in the form of charts and tables. The inferential statistical tests that were part of the data analysis included Chi-square tests and cross tabulations.

3.10.1.1 Frequencies

According to Sekaran and Bougie (2013: 283), frequencies refers to "the number of times various subcategories of a certain phenomenon occur, from which the percentage and the cumulative percentage of their occurrence can be easily calculated." This is usually displayed graphically in the form of pie charts, bar charts and histograms or in tabular format. In this study, frequencies and percentages were used for each dimension in the questionnaire to determine access to, usage of, and preferences for e-resources and to describe the composition of the sample in terms of each biographical variable and its categories.

3.10.2 Inferential statistics

Inferential statistics are concerned with interpretations that can be made about the population on the basis of the corresponding indices acquired from samples drawn randomly from the populations (Welman, Kruger and Mitchell, 2005: 236). According to Beins and McCarthy (2012: 151) inferential statistics are about using a sample to calculate the likelihood of an event and to generalize that likelihood to the larger population. This study employed inferential statistics to look at generalization or patterns that might exist among academics and postgraduate students when using e-resources.

The data analyzed for the inferential study was completed using the SPSS (which is designed to do statistical data analysis) including descriptive statistics such as plots, frequencies, charts and lists as well as complex and high-tech inferential statistics (Sekaran and Bougie, 2010). Through inferential research, the researcher wanted to investigate the relationship between variables such as gender, age, highest qualification, professional rank, years of teaching experience, level of education, year of study, nature of study, computer literacy and the use of e-resources. Cross tabulations and Chi-square tests were used to determine if any pattern or relationship existed between the variables. These were also used to indicate the similarities or differences between academics and postgraduate students from the GSB&L in terms of their awareness and usage of e-resources. The correlation tests are detailed below:

3.10.2.1 Correlation

Correlation determines the relationship between any two variables employed in the study. Correlation coefficient is a parametric test "measuring the strength of association of bivariate data" (Wilson, 2010: 243). This correlation test gives an indication of the "direction, strength and

significance of the bivariate relationship among variables" (Sekaran and Bougie, 2013: 289). Correlation tests whether there is a relationship between two variables using Pearson product-moment correlation coefficient. In this study, Pearson product-moment correlation coefficient was used to determine whether there were significant inter-correlations amongst the dimensions of e-resources and the users' awareness, skills, and usage.

3.10.2.2 Cross tabulation and Chi-square

Cross tabulation, which is also referred to as a contingency table, has a table of rows (horizontal from left to right) and columns (vertical from top to bottom), each representing a variable and its level (Welman, Kruger, Mitchell , 2005: 2005). Therefore, cross–tabulation is used as a statistical tool to analyse categorical data. The categorical data or variables are basically data collected during the research process, which are then separated into different categories that are mutually exclusive from one another. The value of cross tabulation is to show the relationship between two different variables and how they are related to each other. In this study, cross-tabulation was used to show the relationship between various variables, and some of these include gender and the use of e-resources, levels of qualification versus use of e-resources, use of e-resources versus part-time/contract and permanent staff, nature of employment versus awareness of relevant online databases, rank versus accessibility and whether use of e-resources impacts positively on research productivity.

In research it is important to establish if a relationship exists between two nominal variables or whether they are independent (Sekaran and Bougie, 2013). This can be statistically confirmed by use of Chi-square test "which indicates whether or not the observed pattern is due to chance" (Sekaran and Bougie, 2013: 289). This statistical significance was developed by Karl Pearson. Pearson's Chi-square test allows for the testing of the independence of two categorical variables. This statistic is then compared to a Chi-square distribution with known degrees of freedom in order to arrive at the p-value. In this study the Chi-square test was used to show the significance of the different variables. These include gender and the use of e-resources, levels of qualification versus use of e-resources, use of e-resources versus part-time/contract and permanent staff, nature of employment versus awareness of relevant online databases, and rank versus accessibility, and use of e-resources impacts positively on research productivity.

3.11   Summary

Chapter Three discussed the research methodology used in conducting the study. The research design selected was explained and a justification of its use for this specific study was offered. A discussion of the sampling strategy used in the study was presented, detailing the factors that were considered in selecting the sampling method in relation to the population under study and the sample size drawn from it. The population of the study was stated as postgraduate students and academics at the GSB&L. An online questionnaire was used as the data collection method. Details in relation to how the questionnaire was designed, administered and how data collected was captured and analyzed were provided. Also presented were details regarding data quality control in the form of pretesting and validity. Inferential statistics was explained and although these statistical tests were not the main thrust of the current research they did, however, highlight the main statistical insights into the study.

CHAPTER 4

PRESENTATION OF RESULTS

4.1   Introduction

This chapter present the results obtained from the questionnaire survey completed by a sample population of the academics and postgraduate students of the GSB&L, UKZN. Two hundred and seventy questionnaires were sent to academics and postgraduate students with 156 being completed, a return rate of 57.8%. This percentage and all subsequent percentages in this chapter have been rounded off to one decimal place. As discussed in the preceding chapter, the data collected was analysed using SPSS.

The results of the survey will be presented in three parts. In the first section (Part A) results pertaining to the academics will be given. This will be followed by a second part (Part B) in which the results from the questionnaire directed at the postgraduate students will be presented. The final part (Part C) will provide the results derived from the statistical tools used to analyse the influence of variables on e-resources. The first two parts will be further divided into three sections. The first section will present profile information of the respondents, the second will cover the results concerning use of the library, while the third section, the main thrust of the study, will comprise the results pertaining to the use of e-resources. As noted findings relating to the academics are presented first. The headings used will follow the sections outlined above.

Part A

4.2   Results of the survey pertaining to academics

Results for each question in the academic questionnaire are presented below. The questionnaire was split into three sections. The first section sought to gather the demographics of the respondents. Of the 20 questionnaires distributed to the academics, 16 were returned, giving a response rate of 80%.

4.2.1   Section I: Demographics

This section of the questionnaire was designed to gain background information of the respondents. Questions 1 to 7 determined the gender, age, highest qualification, professional rank, main area of focus, type of employment and teaching experience of academics. The profile f the respondents was essential to determine the correlation between these variables and the use of e-resources.

4.2.1.1 Gender (Question 1)

Respondents were required to indicate their gender. This question was to provide a better understanding of the respondents in the study. Results in Figure 4.1 below indicate that most of the respondents were male, 11 (68.7%) compared to five (31.3%) respondents who were female.
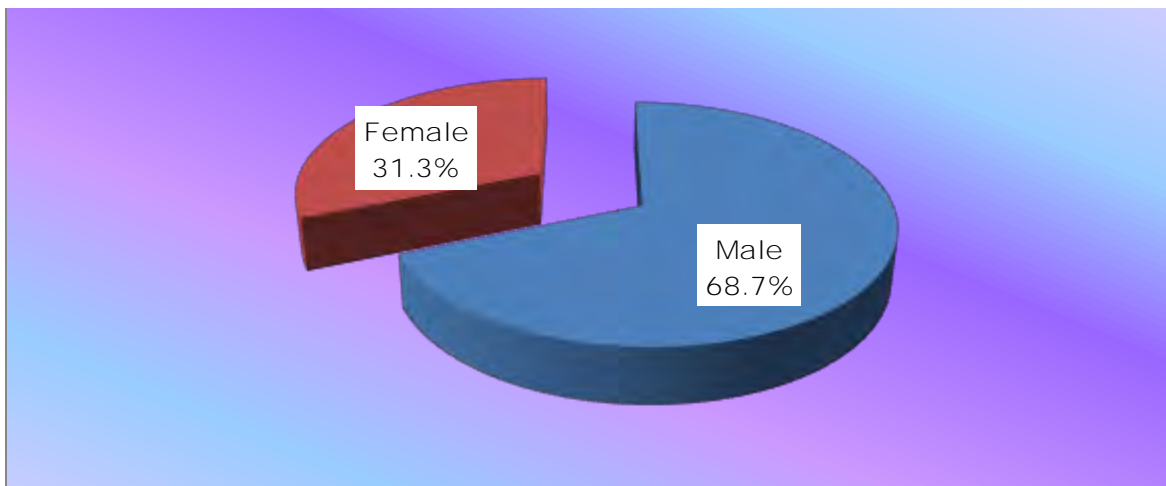
Figure 4.1: Gender distribution of academics (n: 16)

4.2.1.2 Age (Question 2)

Question 2 required respondents to indicate to which age category they belonged. It was important to establish the ages of the respondents in order to assess whatever the age group impacted on the use of e-resources. Figure 4.2 below indicates the ages of the respondents. Results show that the age category into which most respondents fell was between the ages of 30 and 49 years with 75% of respondents being in this category. A total of three (18.8%) respondents were between 20 to 29 years and only one (6.2%) respondent was over the age of 50.
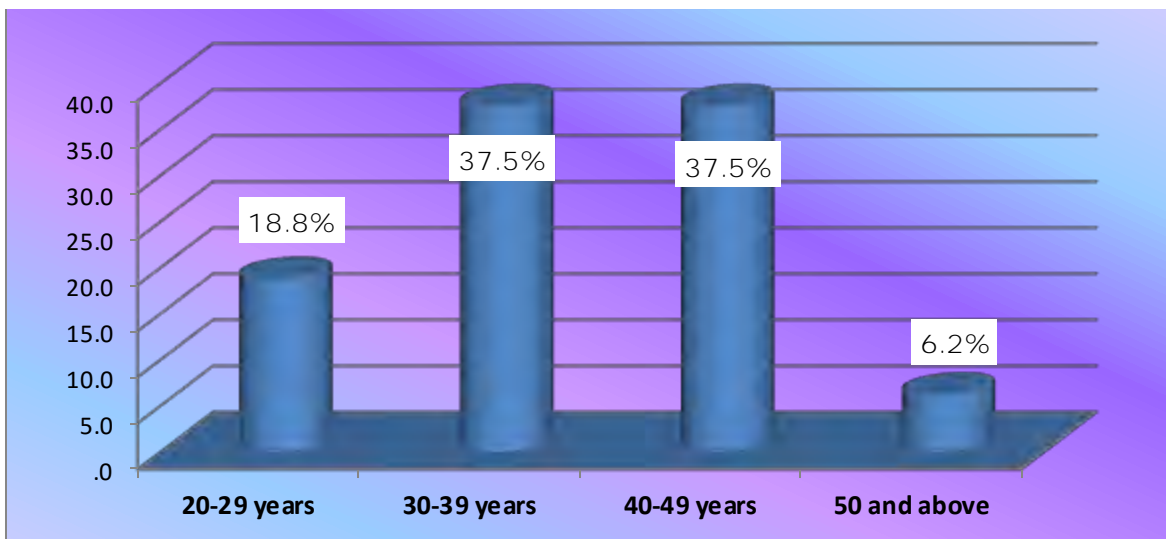
Figure 4.2: Age of respondents (n: 16)

4.2.1.3 Highest qualification (Question 3)

A majority (75%) of the academics held masters qualifications. The remaining 25% of respondents was split with 12.5% respondents holding doctorates and the same percentage holding post-doctorate degrees.
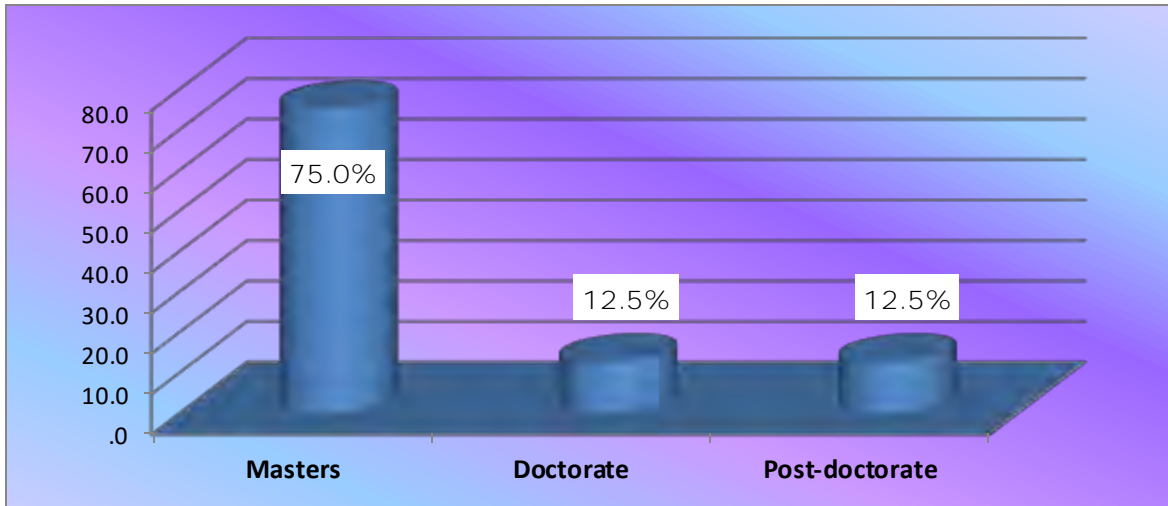
Figure 4.3: Qualifications (n: 16)

4.2.1.4 Professional rank (Question 4)

Figure 4.4 below shows the distribution of responses according to academic status. As can be seen, the majority (75%) of respondents were of junior lecturer rank. Interestingly, the lecturer rank was not represented at all.
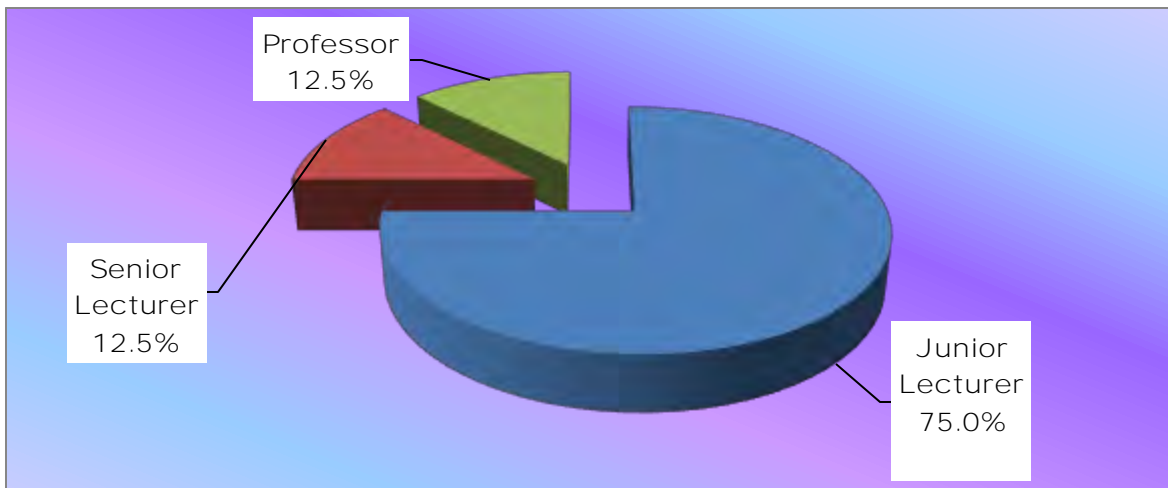
Figure 4.4: Professional rank (n: 16)

4.2.1.5 Main area of focus (Question 5)

More than half the respondents (56.2%) focussed on Business Management in terms of the subject areas taught. The subject areas with the least amount of focus were Local Economic Development and Entrepreneurship, each with two (12.5%) respondents. The results are illustrated in Figure 4.5.
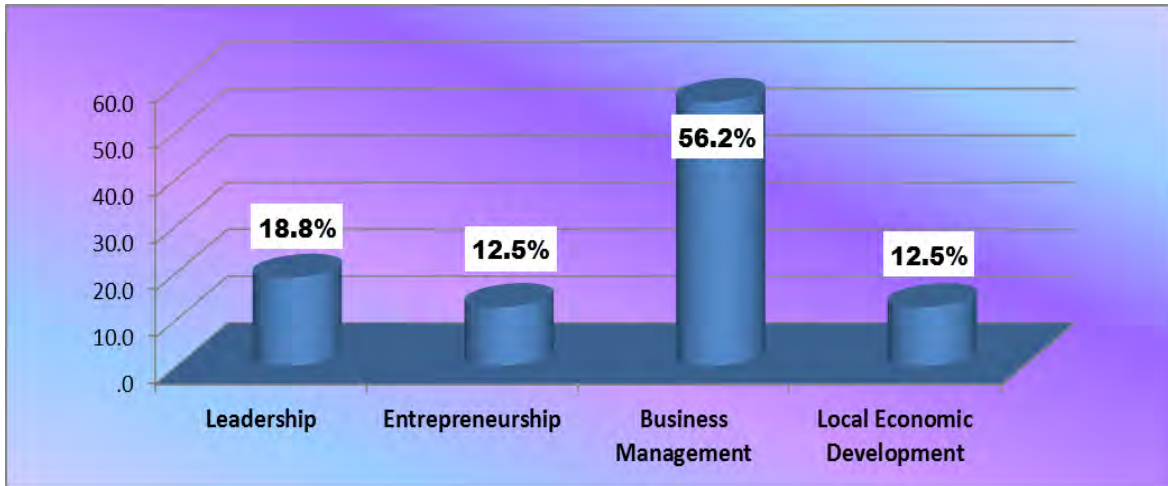
Figure 4.5: Area of focus (n: 16)

4.2.1.6 Academic tenure (Question 6)

As reflected in Figure 4.6 below, the vast majority of respondents (87.5%) were permanent staff and the remainder (12.5%) were employed on contract.
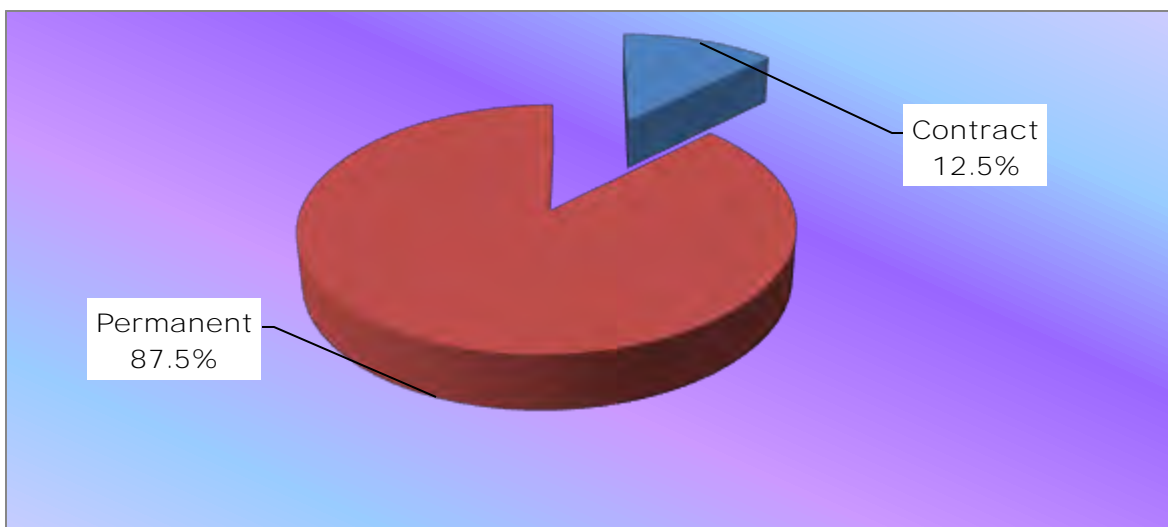
Figure 4.6: Academic tenure (n: 16)

4.2.1.7 Teaching experience (Question 7)

Question 7 asked respondents about their years of experience in teaching. Figure 4.7 below reflects that half (50%) of the respondents had been teaching for between six and 10 years and and a further quarter (25%) for more than 10 years.
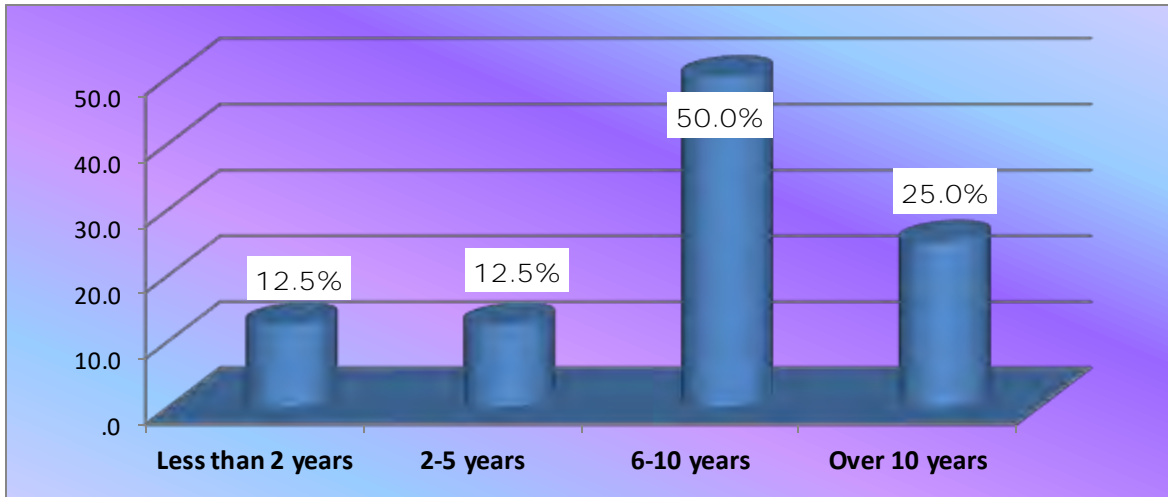
Figure 4.7: Teaching experience in years (n: 16)

4.2.2 Section II: Use of Library

This section set out to establish the general usage of the library. Questions 8a, 8b and 9 determined which library the respondents used and how often they visited the library.

4.2.2.1 GSB Library or Westville Main Library (Question 8a)

Respondents were asked which library they use, either the GSB Library or the Westville Main Library or both. Most respondents 14 (87.5%) indicated they use both libraries. Only one respondent (6.3%) indicated using the Westville Main Library only and one respondent (6.3%) did not answer this question.
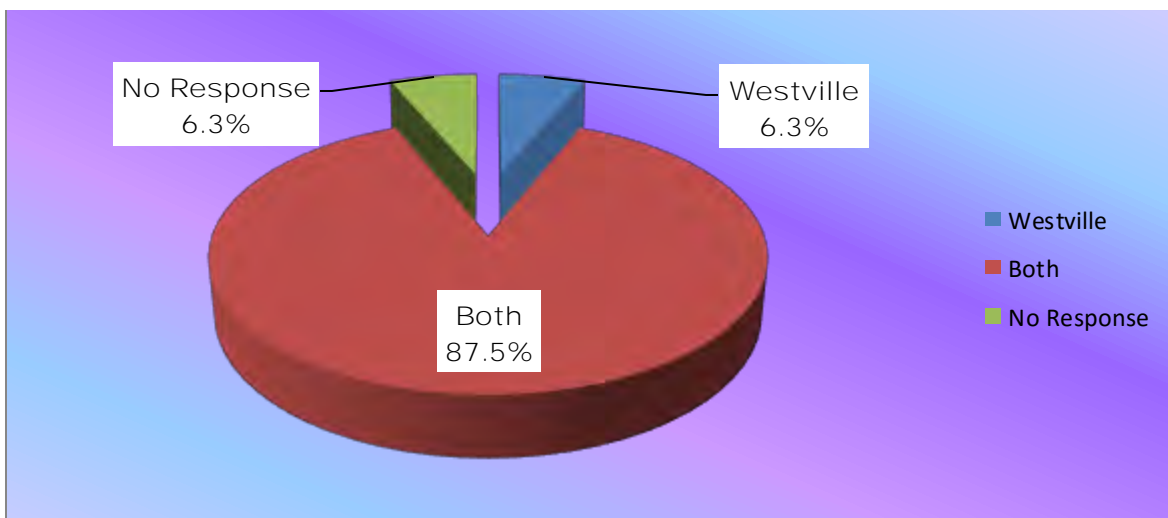
Figure 4.8: Library used (n: 16)

4.2.2.2 Library used more often (Question 8b)

Figure 4.9 below indicates which library was used more often. Of the 14 academics who indicated that they used both libraries, 13 (81.3%) academics used the Westville Main Library more often and only one academic used the GSB Library more often.
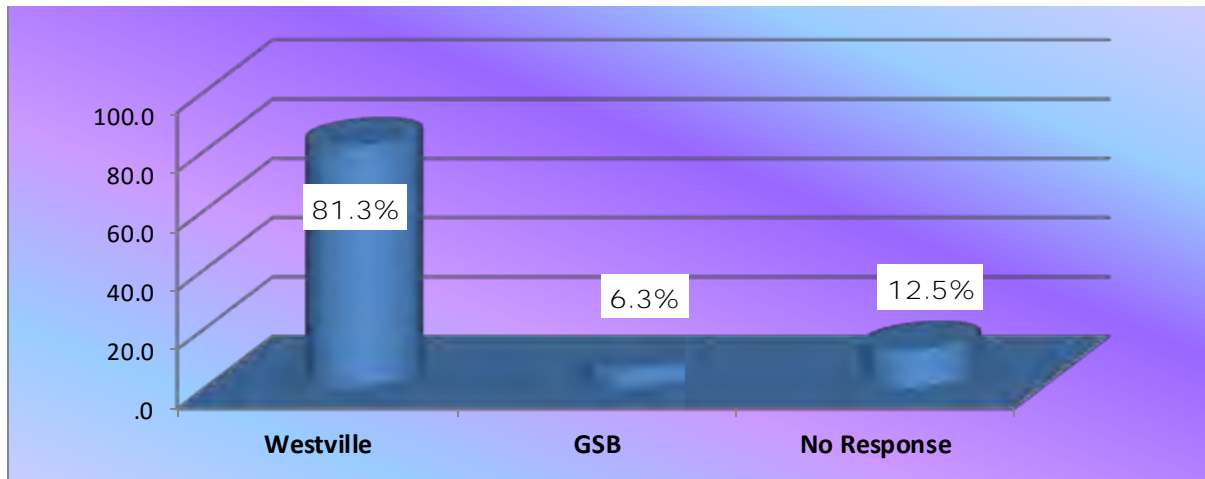
Figure 4.9: Library used more often (n: 14)

4.2.2.3 Frequency of physical visits to the library (Question 9)

Respondents were asked to specify how often they physically visited the library. The available options ranged from never to daily. While all respondents visited the library, 43.8% stated that they visited the library weekly. This was closely followed by 37.5% who indicated they visited the library fortnightly. Two respondents (12.5%) rarely used the library. Two respondents did not answer this question (12.5%). The results are indicated below in Figure 4.10.
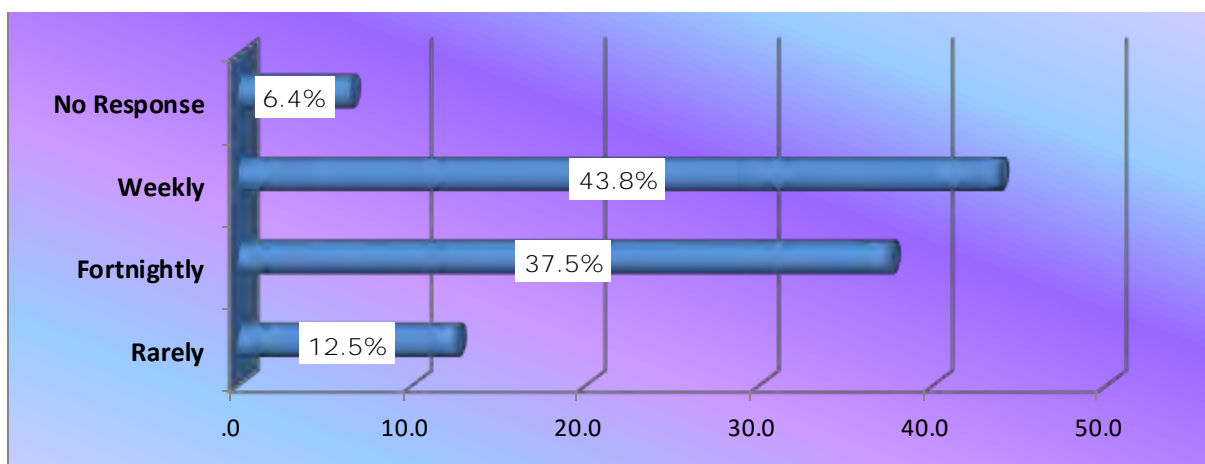
Figure 4.10: Frequency of physical visits to the library (n: 16)

4.2.3 Section III: Information regarding e-resources usage

This section relates specifically to the use of e-resources offered by the library. Questions 10 to 35 in the questionnaire elicited information pertaining to the usage of e-resources.

4.2.3.1 Use of e-resources (Question 10)

As indicated in Figure 4.11 below, the use of e-resources was high, with the vast majority (87.5%) of the respondents stating that they used the e-resources provided by the library. One respondent (6.3%) indicated they did not use e-resources and one respondent (6.4%) did not answer this question.
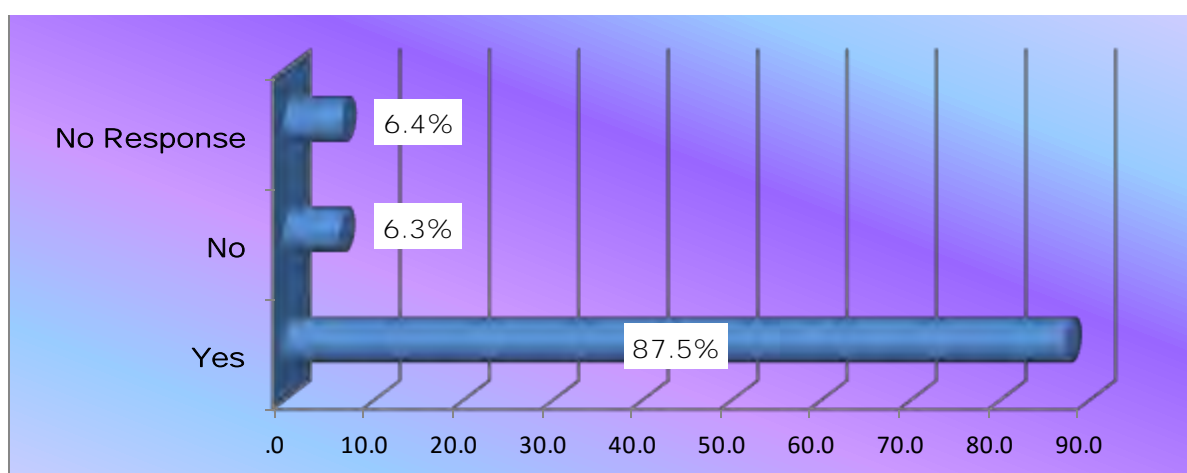
Figure 4.11: Use of e-resources (n: 16)

4.2.3.2 Reasons for not using e-resources (Question 11)

The one respondent who indicated "no" to the previous question was asked to select from a list of reasons for not using library e-resources. This respondent indicated that that the main reason for not using e-resources was "No access to computers."

4.2.3.3 Frequency of e-resources usage (Question 12)

Frequency of e-resources usage is an important measurement to establish which e-resources are mainly used. A list of e-resources was provided from which academics had to indicate which ones they used and the how often these were used. Table 4.1 below shows that the top three e-resources used daily was the Web e.g. Google Scholar (43.8%), Science Direct (18.8%) and EbscoHost (18.8%). The table also indicates that with use of e-resources on a weekly basis the results differed, with the top two e-resources being Emerald Insight (68.8%) and e-Journals (43.8%). The top two e-resources used monthly were Academic Search Complete (62.5%) followed by

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Business Source Complete (56.3%). LibGuides (68.8%) and Database for theses (62.5%) was used less than once a month. E-books was used monthly by six (37.5%) of the respondents.

Table 4.1: Frequency of e-resource usage (n: 16)

e-resource	Total	Daily Count	%	Weekly Count	%	Monthly Count	%	Less than once a month Count	%	No Response Count	%	Total %
Web e.g. Google Scholar	10	7	43.8	3	18.8					6	37.5	100
Science Direct	9	3	18.8	3	18.8	3	18.8			7	43.8	100
EbscoHost	6	3	18.8	3	18.8					10	62.5	100
e-Journals	9	2	12.5	7	43.8					7	43.8	100
SAGE Journals Online	5	1	6.3			2	12.5	2	12.5	11	68.8	100
Emerald Insight	13	1	6.3	11	68.8	1	6.3			3	18.7	100
Academic Search Complete	13	1	6.3	2	12.5	10	62.5			3	18.7	100
Academic Research Library	5	1	6.3	2	12.5	1	6.3	1	6.3	11	68.8	100
LibGuides	13	1	6.3			1	6.3	11	68.8	3	18.8	100
Database for theses	12	1	6.3			1	6.3	10	62.5	4	25.0	100
Web of Knowledge	3					1	6.3	2	12.5	13	81.2	100
Springer	3					1	6.3	2	12.5	13	81.2	100
SABINET	4			3	18.8			1	6.3	12	75.0	100
SA ePublications	4			1	6.3	1	6.3	2	12.5	12	75.0	100
ProQuest	7			3	18.8	3	18.8	1	6.3	9	56.2	100
McGregor BFA	7			3	18.8	4	25			9	56.2	100
Lexis Nexis Academic	3							3	18.8	13	81.2	100
JSTOR	4					1	6.3	3	18.8	12	75.0	100
Index to South African Periodicals	1					1	6.3			15	93.7	100
Global Marketing Information	5					1	6.3	4	25	11	68.8	100
Business Source Complete	13			4	25.0	9	56.3			3	18.7	100
Business Insight	5					3	18.8	2	12.5	11	68.8	100
Abi-Inform Global	4					1	6.3	3	18.8	12	75.0	100
e-Books	12			2	12.5	6	37.5	5	31.3	3	18.8	100
OPAC	12			2	12.5	5	31.3	5	31.3	4	25.0	100

4.2.3.4 Level of importance of each e-resource (Question 13)

This question assessed the level of importance which the respondents attached to various e-resources used. Respondents were asked to rate the e-resources as very important, important, not sure, less important and not important. Results show that 68.8% of respondents regarded EbscoHost as very important. Science Direct was rated as both very important by 62.5% and important by 6.3% of respondents respectively. Some of the e-resources that respondents identified as not important included LibGuides (31.3%) and Web of Knowledge (12.5%). Databases for theses was considered as less important by 43.8% of respondents. More than half (62.5%) of the academics were unsure about Emerald Insight. The response pattern is captured in Table 4.2 below.

Table 4.2: Level of importance of e-resources (n: 16)

E-resource	Total	Not Important		Less Important		Not Sure		Important		Very Important		No Response		Total%
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
EbscoHost	13			1	6.3			1	6.3	11	68.8	3	18.8	100
Science Direct	13			2	12.5			1	6.3	10	62.5	3	18.8	100
e-Journals	6									6	37.5	10	62.5	100
McGregor BFA	13							8	50.0	5	31.3	3	18.7	100
Business Source Complete	8			2	12.5			1	6.3	5	31.3	8	50.0	100
Web eg. Google Scholar	8	1	6.3					3	18.8	4	25.0	8	50.0	100
Academic Search Complete	13							10	62.5	3	18.8	3	18.8	100
ProQuest	9			1	6.3			6	37.5	2	12.5	7	43.7	100
Academic Research Library	13							11	68.8	2	12.5	3	18.8	100
Web of Knowledge	4	2	12.5					1	6.3	1	6.3	12	75.0	100
SAGE Journals Online	6			2	12.5			3	18.8	1	6.3	10	62.5	100
SABINET	6	1	6.3	2	12.5	1	6.3	1	6.3	1	6.3	10	62.5	100
SA ePublications	6			2	12.5			3	18.8	1	6.3	10	62.5	100
JSTOR	8	4	25	2	12.5			1	6.3	1	6.3	8	50.0	100
Global Marketing Information	6			1	6.3			1	6.3	1	6.3	13	81.2	100
Emerald Insight	13					10	62.5	2	12.5	1	6.3	3	18.8	100
LibGuides	7	5	31.3					1	6.3	1	6.3	9	56.2	100
Springer	4			3	18.8			1	6.3			12	75.0	100
Lexis Nexis Academic	4			2	12.5			2	12.5			12	75.0	100
Index to South African Periodicals	3	1	6.3					1	6.3			14	87.5	100
Business Insight	3	1	6.5					2	12.5			13	81.2	100
Abi-Inform Global	3	1	6.3					2	12.5			13	81.2	100
Database for theses	9	1	6.3	7	43.8			1	6.3			7	43.8	100
e-Books	7			3	18.8			4	25.0			9	56.2	100
OPAC	8	1	6.3	6	37.5			1	6.3			8	50.0	100

4.2.3.5 E-Resources used most frequently (Question 14)

From the list of e-resources given, academics were asked to rank the five most frequently used e-resources in order of use. Results below indicate that from the list of 25 resources provided, 15 were listed by respondents as being used frequently. Of those 15, EbscoHost was used most frequently by 43.8%. More than half the respondents (56.3%) indicated Science Direct as their second choice. The third choice was the Web. e.g. Google Scholar (56.3%). The least used e-resource was Business Source Complete (18.8%).

Table 4.3 : Most frequently used e-resources (n:16)

E-Resource	Total	Most Used		2nd Choice		3rd Choice		4th Choice		Least Used		No Response		Total%
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
EbscoHost	9	7	43.8			2	12.5					7	43.8	100
ProQuest	6	2	12.5			1	6.3	2	12.5	1	6.3	10	62.5	100
e-Journals	2	1	6.3							1	6.3	14	87.5	100
Emerald Insight	4	1	6.3	1	6.3			1	6.3	1	6.3	12	75.0	100
Business Source Complete	4	1	6.3							3	18.8	12	75.0	100
McGregor BFA	7	1	6.3	3	18.8			1	6.3	2	12.5	9	56.2	100
JSTOR	1							1	6.3			15	93.7	100
Web eg. Google Scholar	13					9	56.3	2	12.5	2	12.5	3	18.8	100
Science Direct	10			9	56.3			1	6.3			6	37.5	100
Academic Research Library	1									1	6.3	15	93.7	100
Academic Search Complete	2							1	6.3	1	6.3	14	87.5	100
Global Marketing Information	3							2	12.5	1	6.3	13	81.2	100
SAGE Journals Online	1									1	6.3	15	93.7	100
SA ePublications	1							1	6.3			15	93.7	100
SABINET	1									1	6.3	15	93.7	100

4.2.3.6 Benefits of using e-resources (Question 15)

Question 15 listed six possible benefits of using e-resources and academics were requested to rank their importance. Table 4.4 below shows respondents' replies with regards to the benefits of e-resources. A small majority of respondents, nine in total (56.3%), indicated that the most important benefit of using e-resources was "Easy/faster access". Under half, six in total (37.5%), of respondents were of the opinion that e-resources offered the benefit of "Emailing, saving and printing results". Interestingly, 37.5% of respondents considered "Access any time of day" as the least important benefit of e-resources.

Table 4.4: Benefits of using e-resources (n: 16)

Benefits	Benefits of using e-resources														Total%
	Most Important		2nd Choice		3rd Choice		4th Choice		5th Choice		Least Important		No Response		
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Easy / Faster access	9	56.3	3	18.8	1	6.3							3	18.8	100
Currency of information	3	18.8	2	12.5	1	6.3			7	43.8			3	18.8	100
Access any time of day	1	6.3	1	6.3	3	18.8	1	6.3	1	6.3	6	37.5	3	18.8	100
Can email, save, print results			6	37.5	1	6.3	1	6.3	3	18.8	2	12.5	3	18.8	100
Availability of full-text			1	6.3	2	12.5	9	56.3	1	6.3			3	18.8	100
Available from desktop					5	31.3	2	12.5	1	6.3	5	31.3	3	18.8	100

4.2.3.7 Main problems faced when using e-resources (Question 16)

This question sought to determine the main problems academics faced when using e-resources. Respondents were presented with a list of eight common problems faced while using e-resources and asked to rank which was the most serious (1) to the least serious (8). The results are reflected in Table 4.5 below. More than half the respondents (56.3%) indicated that "Slow internet connection" as the most serious problem, followed by "Logging in" as the second most serious problem (12.5%). Five (31.3%) respondents considered "Not sure which database to choose" as the least serious problem they faced when using e-resources.

While respondents listed their problems by indicating their most serious to least serious problem, it was interesting to note that most respondent experienced the following problems:

- Difficulties in searching (68.8%).
- Password requirements (62.5%).
- Library staff not always available to help (56.3%).
- Limited off campus access (56.3%).
- Slow internet connection (56.3%).

Table 4.5: Problems faced when using e-resources (n: 16)

Problems Faced	Most Serious		2nd Choice		3rd Choice		4th Choice		5th Choice		6th Choice		7th Choice		Least Serious		No Response		Total%
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	%
Slow internet connection	9	56.3			2	12.5	1	6.3							1	6.3	3	18.8	100
Logging in	2	12.5	3	18.8	8	50.0											3	18.8	100
Password requirements	1	6.3			1	6.3	10	62.5							1	6.3	3	18.8	100
Library staff not always available to help	1	6.3	1	6.3					1	6.3	9	56.3			1	6.3	3	18.8	100
Printing											2	12.5	7	43.8	4	25.0	3	18.8	100
Not sure which database to choose							1	6.3	1	6.3	1	6.3	5	31.3	5	31.3	3	18.8	100
Limited off-campus access			9	56.3	2	12.5	1	6.3							1	6.3	3	18.8	100
Difficulties in searching									11	68.8	1	6.3			1	6.3	3	18.8	100

4.2.3.8 Use of print resources (Question 17a)

This question was to establish whether academics still used print resources. Figure 4.12 shows that a substantial majority 13 (81.3%) of academics still use print resources. Three (18.8%) respondents chose not to answer this question.

Yes

1

.0   20.0   40.0   60.0   80.0   100.0
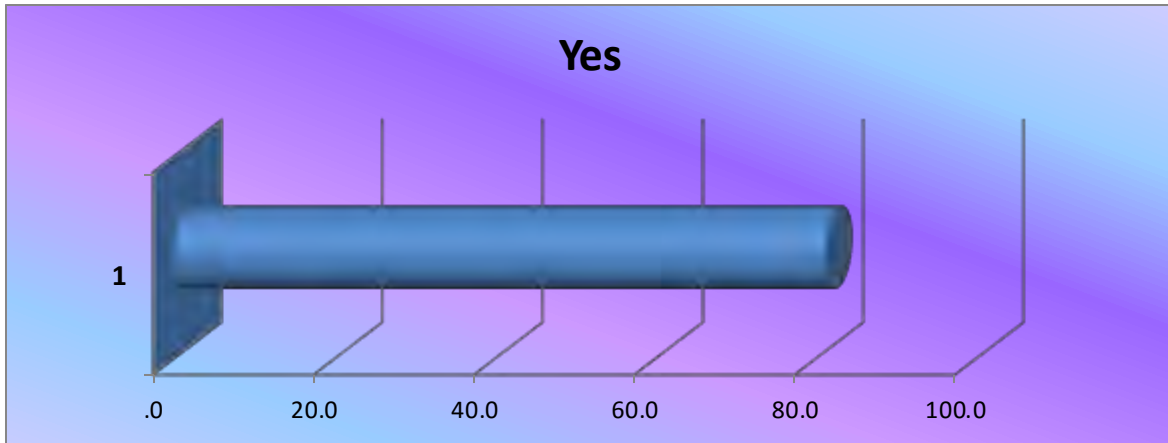
Figure 4.12: Use of print resources (n: 16)

4.2.3.9 Factors which motivate the choice of print format over electronic (Question 17b)

Respondents who still used print resources were asked to indicate factors which motivated their choice of print over electronic format. Of the 13 respondents who indicated that they still used print resources, 11 answered this question. The most important factor for choosing print over electronic, mentioned by 11 (84.6%) respondents, was that of "Familiarity with format." Four (30.8%) respondents indicated their 2nd choice for using print over electronic resources was the "Ability to underline and make notes". The least important factor for using print format indicated by 46.2% of respondents was "portability." The results are shown in Table 4.6 below.

Table 4.6: Factors to motivate choice of print format (n: 13)

Factors	Most Important		2nd Choice		3rd Choice		4th Choice		Least Important		No Response		Total%
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Familiarity with format	4	30.8	3	23.1	1	7.7	2	15.4	1	7.7	2	15.4	100
Ability to underline and make notes	3	23.1	4	30.8	3	23.1	1	7.7			2	15.4	100
Ability to browse	2	15.4	1	7.7	2	15.4	5	38.5	1	7.7	2	15.4	100
Physical comfort	2	15.4	2	15.4	3	23.1	1	7.7	3	23.1	2	15.4	100
Portability			1	7.7	2	15.4	2	15.4	6	46.2	2	15.4	100

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4.2.3.10 Preference of format for journal article reading (Question 18a)

Respondents were asked to indicate their format preference for reading journal articles. While 37.5% preferred the print format for reading journal articles, 18.8% of respondents preferred the electronic format. Results also indicated that 25% of respondents preferred both electronic and print and 18.8% chose not to answer this question.
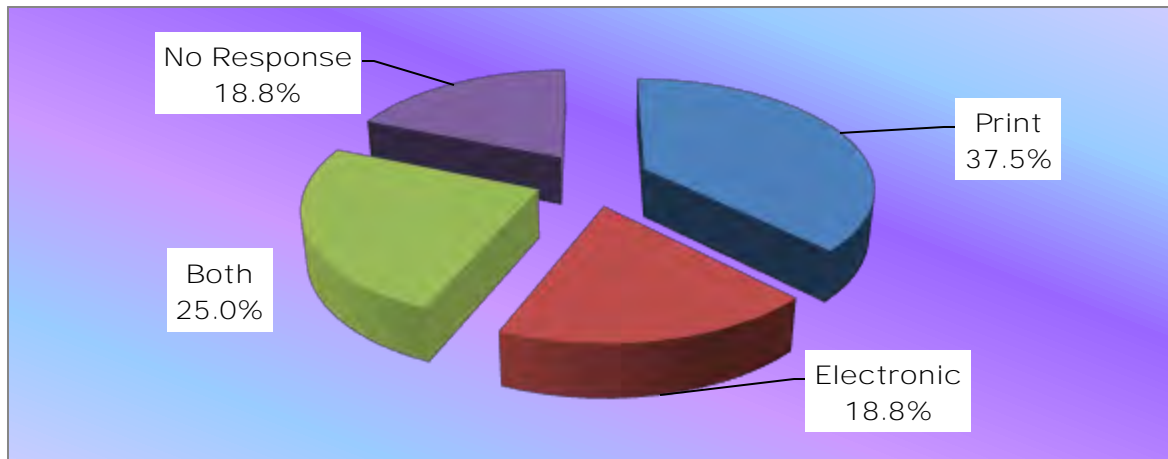
Figure 4.13: Preference of format for reading journal articles (n: 16)

4.2.3.11 Reasons for electronic, print or both formats (Question 18b)

This question was a follow-up from Question 18a and academics were asked to explain the reason/s for their preference of electronic, print or both formats. Thirteen respondents answered this question. Figure 4.13 above shows that 18.8% of respondents preferred using electronic and the following reasons were given:

- Can save and print only what I need, saves money, time and environment (three or 23.1%).

- It is convenient, and one can use multiple devices to read (two or 15.4%).

- Can sit day and half the night with e-resources (two or 15.4%).

- Fonts can be adjusted to suit reading conditions (one or 7.7%).

The preference for print format was indicated by 37.5% of respondents and their reasons included:

- Ability to underline and make notes (four or 30.8%).

- Easier to carry around and use (two or 15.4%).

- Less strain on the eyes when working long hours on the computer (two or 15.4%).

- Can print and read while waiting for meeting and taken home to work on (two or 15.4%).

- Can be referenced later without having to search through many locations (one or 7.7%).

- Problems with internet connectivity (one or 7.7%).

- Need time to look at tables, diagrams and computational data (one or 7.7%).

The two (25%) respondents who indicated they preferred both formats stated that their research required information in both print and electronic format.

4.2.3.12 Skills to access e-resources (Question 19a)

When asked if they had sufficient skills to access e-resources half (50%) of the respondents indicated that they did not have sufficient skills to access e-resources while 31.3% considered themselves as having sufficient skills. A total of three (18.8%) respondents did not answer this question. See Figure 4.14 below.
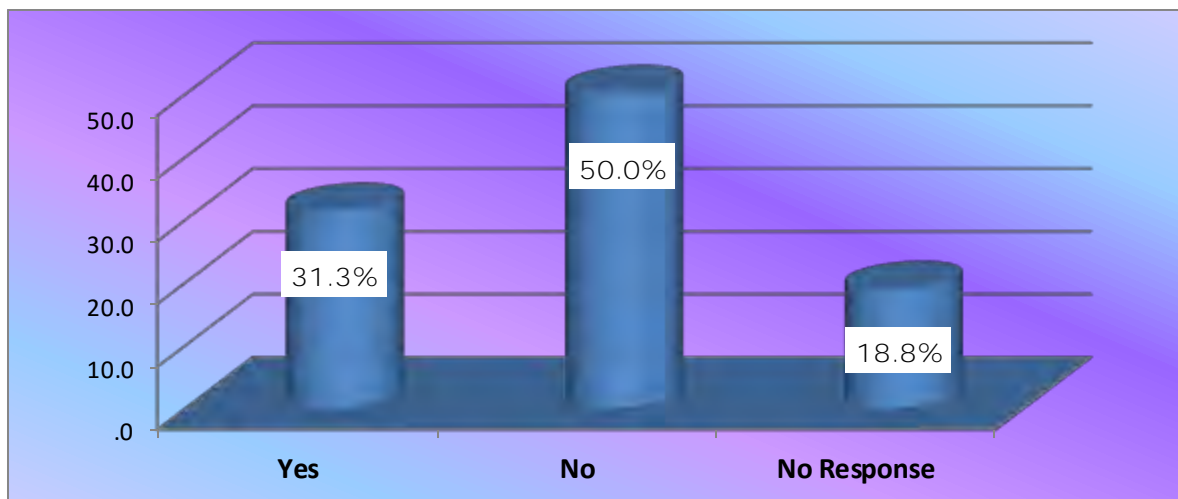
Figure 4.14: Sufficient skills to access e-resources (n: 16)

4.2.3.13 Difficulties experienced when accessing e-resources (Question 19b)

The eight respondents who indicated in the previous question that they did not have sufficient skills to access e-resources were asked to indicate the difficulties they experienced in accessing e-resources. Table 4.7 shows the difficulties that most respondents experienced. The most significant difficulty experienced by all eight (100%) respondents was "Developing a search strategy" and "Lack general computer skills." Other difficulties they experienced included "Using the software interface" (75%) and "Limiting search results" (62.5%).

Table 4.7: Difficulties when accessing e-resources (n: 8)

Difficulties	Count	No Response	Total%	
Developing a search strategy	8	0	100	
Lack general computer skills	8	0	100	
Using the software interface	6	2	100	
Limiting search results	5	3	100	

  *Multiple responses

4.2.3.14 Level of skill with accessing and using e-resources (Question 20)

This question was concerned with the level of respondents' skills when accessing e-resources. Respondents had to indicate their level of skill as beginner, intermediate or advanced. The results are summarised in Figure 4.15 below with 43.8% of respondents indicating their level of skill as intermediate.
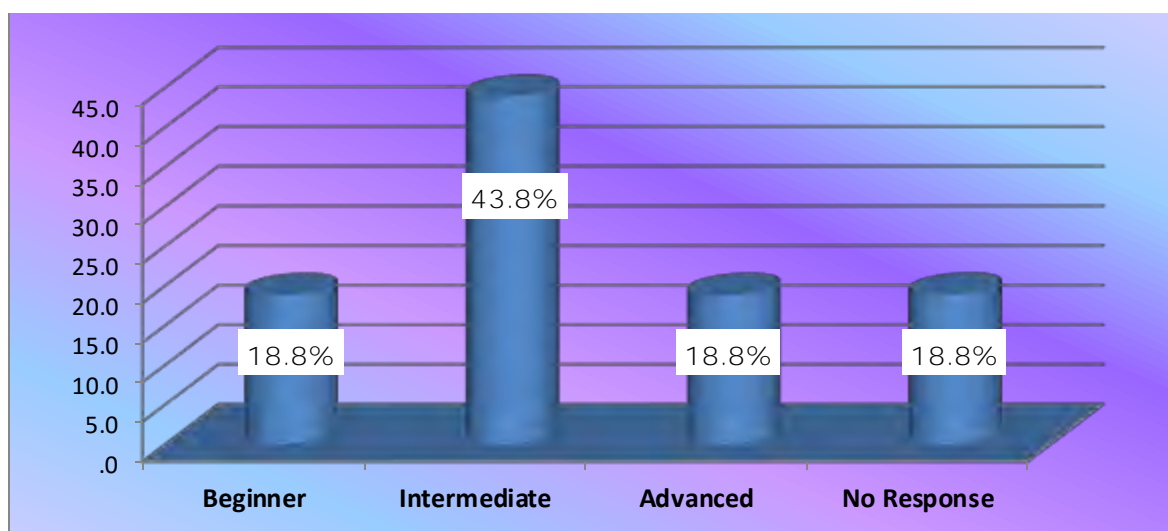
Figure 4.15: Level of skills with e-resources (n: 16)

4.2.3.15 Identification of relevant electronic articles (Question 21)

Respondents were asked how they identified relevant electronic articles. Of the options provided "Searching bibliographic databases" (75%) and "Relying on the library webpage or library staff" (62.5%) were the two most mentioned ways. Only two (12.5%) respondents indicated "Relying on alerting services".

Table 4.8: Identification of electronic articles (n: 16)

Ways of identifying articles	Count	%	No Response Count	%	Total%
Searching bibliographic databases	12	75.0	4	25.0	100
Relying on the library webpage or library staff	10	62.5	6	37.5	100
Following citations, bibliographic references	7	43.8	9	56.2	100
Browsing through recent issues	6	37.5	10	62.5	100
Relying on alerting services	2	12.5	14	87.5	100

*Multiple responses

4.2.3.16 Purpose/s for using e-resources (Question 22)

In Question 22, respondents were asked to indicate for what purpose/s they were using e-resources. Respondents were presented with a list of possible responses and they were allowed to tick more than one. Table 4.11 below reveals that the most indicated purposes were Research and Teaching, each mentioned by all 13 (81.3%) of the respondents. Current awareness was the least indicated purpose mentioned by thee (18.8%) of the respondents. Results are shown in 4.9 below.

Table 4.9: Purpose for using e-resources (n: 16)

Purpose for using e-resources	Count	%	No Response Count	No Response %	Total%
Research	13	81.3	3	18.8	100
Teaching	13	81.3	3	18.8	100
Consulting, advising others	8	50.0	8	50.0	100
Current awareness	3	18.8	13	81.2	100

*Multiple responses

4.2.3.17 Main or principle purpose for using e-resources (Question 23)

In Question 23, the respondents who ticked more than one response in the previous question, were asked to indicate their main or principal purpose for using e-resources. Twelve (85.7%) of the 14 respondents considered research as their main/principle purpose, one respondent indicated current awareness and one respondent indicated research and teaching as their main/principle purpose.

4.2.3.18 Reading of articles affecting the principal purpose of using e-resources (Question 24)

A large majority (75%) of participants stated that the reading of articles from e-resources "improves the result of their principal purpose". A percentage, namely 56.3%, indicated that it "leads to data sources" and the same percentage (56.3%) indicated that it "saves time on other resources". It was of interest to note that none of the respondents (0%) found that reading e-resources "narrows/broadens the focus of your principal purpose".

Table 4.10: Reading of articles from e-resources affect the principal purpose (n: 16)

Affect	Count	%	No Response Count	No Response %	Total%
Improves the result of the principal purpose	12	75.0	4	25.0	100
Leads to data sources	9	56.3	7	43.8	100
Saves time on other resources	9	56.3	7	43.8	100
Results in faster completion of your principal purpose	7	43.8	9	56.2	100
Inspires new thinking, ideas	6	37.5	10	62.5	100
Results in collaboration/joint research	4	25.0	12	75.0	100
Narrows/broadens the focus of your principal purpose			16	100	100

*Multiple responses received

4.2.3.19 How information about e-resources is found (Question 25)

Table 4.11 shows that the highest number of respondents (13 or 81.3%) found information about e-resources by accessing the library webpage. This was followed by 56.3% of academics who browsed the web to find information about e-resources; 50% who indicated that they relied on colleagues to find information on e-resources and 31.3% relying on library staff.

Table 4.11: Information about e-resources (n: 16)

How information is found	Count	%	No Response Count	No Response %	Total%
Library webpage	13	81.3	3	18.8	100
Browsing the WWW	9	56.3	7	43.8	100
Colleagues	8	50.0	8	50.0	100
Library staff	5	31.3	11	68.8	100
Mailshots from publishers	3	18.8	13	81.2	100
E-mail discussion lists			16	100.0	100

*Multiple responses received

4.2.3.20 E-book usage

Since UKZN Libraries has recently increased their e-book collections which can be accessed via the library webpage, it was important to identify whether respondents were accessing these resources and if so, why they were doing so. Questions 26a, 26b and 26c were designed to establish if academics accessed e-books and the reasons for doing or not doing so.

4.2.3.20.1 Accessing e-books (Question 26a)

The results below indicate that majority of academics (81.3%) accessed e-books. Three academics (18.7%) chose not to answer this question.
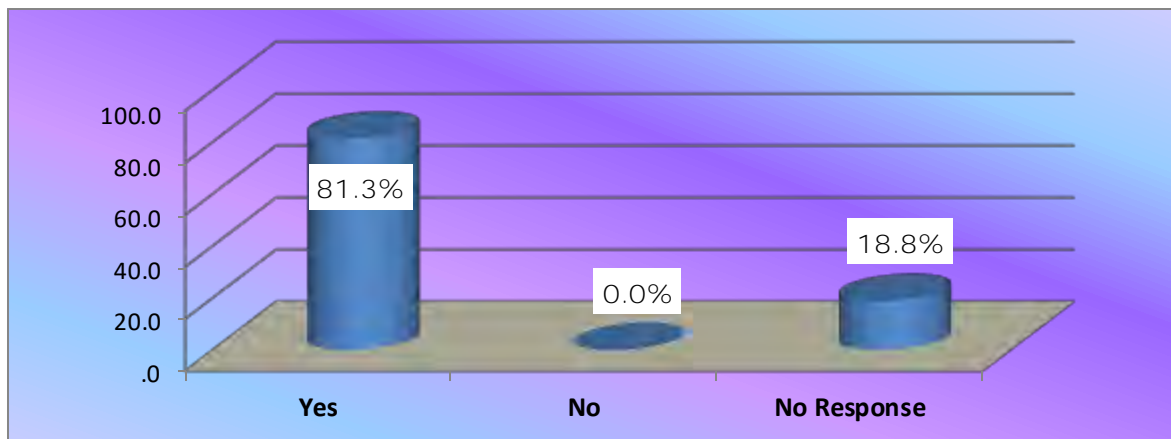
Figure 4.16: Access to e-books (n: 16)

4.2.3.20.2 Reasons for using e-books (Question 26b)

Respondents were provide with a list of reasons for using e-books and were asked to indicate which applied to them. Table 4.12 below reveals the responses. The reason most mentioned (13 or 81.3% of respondents) was being able to search for keywords in the e-book. Other reasons mentioned by more than half of the respondents were that "e-books are available around the clock" (62.5%) and "e-books offer timely access to new titles" (62.5%).

Table 4.12: Reasons for using e-books (n: 16)

REASONS	Yes		No		No Response		Total%
	Count	%	Count	%	Count	%	
e-books allow search possibilities eg. searching for keywords within the e-book	13	81.3			3	18.8	100
e-books are available around the clock	10	62.5	3	18.8	3	18.8	100
e-books offer timely access to new titles	10	62.5	3	18.8	3	18.8	100
e-books have helpful features such as searchable and allows easy navigation	6	37.5	7	43.8	3	18.8	100
e-books save space	1	6.3	12	75.0	3	18.8	100
Environmental advantages eg. e-books can reduce the consumption of paper and save trees			13	81.3	3	18.8	100

*Multiple responses received

4.2.3.20.3 Reasons for not using e-books (Question 26c)

No respondent indicated not using e-books hence there were no replies to this question.

4.2.3.21 Major challenges in the use of e-resources (Question 27)

Question 27, an open question, asked respondents what were the major challenges experienced in using e-resources. Thirteen responses were received and they can be categorized as follows:

- Accessing e-resources off campus (three or 23.1%).
- Interpreting or synthesizing large amounts of information (two or 15.4%).
- Internet browser slow (two or 15.4%).
- Accessing e-resources which the library does not subscribe to (one or 7.7%).
- Password problems (one or 7.7%).
- Library hours at GSB (one or 7.7%).
- Training is rarely held (one or 7.7%).
- Inability to download e-resources that the university does not subscribe to (one or 7.7%).
- E-Books are generally bought in packages and access to the latest education is not available (one or 7.7%).

4.2.3.22 Recommendations for improving the use of e-resources for teaching, learning and research (Question 28)

This open question asked academics for recommendations to improve the use of e-resources for teaching, learning and research. Out of 16 respondents, 13 (81.3%) respondents completed this question. The recommendations are as follows:

- Library needs to create awareness of all e-resources (two or 15.4%).
- Have an updated catalogue showing all e-books and e-resources purchased (two or 15.4%).
- Generally satisfied (one or 7.7%).
- Use Google Scholar - do not need to search specialised journals which can be extremely time consuming (one or 7.7%).
- Need more staff to serve academics and students to find journal articles (one or 7.7%).
- Internet connectivity should be improved (one or 7.7%).
- Off campus access should be improved (one or 7.7%).
- University should expand their subscriptions to new and relevant databases (one or 7.7%).
- Awareness to students during lectures (one or 7.7%).
- Library staff need to provide training (one or 7.7%).
- Information is always available and it is up to researchers' choices how to use resources required (one or 7.7%).

4.2.3.23 Extent of agreement with statements regarding the use of e-resources

Question 29 provided a series of Likert scales consisting of 10 statements which were designed to ascertain the respondents' views (whether they agreed or not) on the accessibility and utilization of e-resources. Table 4.15 below reflects that a majority of respondents (75%) strongly agreed with the statement that "I access and use online databases in my research." It was interesting to note that while 68.8% of respondents agreed that they access relevant e-resources on the internet daily, 37.5% disagreed that e-resources enable them to conduct research in a way that would not have been feasible in the print environment. The other categories and respondents views are illustrated in Table 4.13 below.

Table 4.13: Accessibility and utilization of e-resources (n: 16)

Accessibility and utilization of e-resources	Strongly disagree Count	%	Disagree Count	%	Agree Count	%	Strongly agree Count	%	Not applicable Count	%	No Response Count	%	Total%
I access and use online databases in my research					1	6.3	12	75.0	0	0.0	3	18.8	100
I recommend the use of e-resources to students					4	25.0	9	56.3	0	0.0	3	18.8	100
Access and use of e-resources impacts positively on my research productivity					4	25.0	9	56.3	0	0.0	3	18.8	100
Access and use of e-resources impacts positively on my teaching quality					6	37.5	7	43.8	0	0.0	3	18.8	100
I use more e-resources now that they are more generally available			1	6.3	6	37.5	6	37.5	0	0.0	3	18.8	100
E-resources enable me to conduct research in a way that would not have been feasible in the print environment	6	37.5			5	31.3	2	12.5	0	0.0	3	18.8	100
I access relevant e-resources on the internet daily			1	6.3	11	68.8	1	6.3	0	0.0	3	18.8	100
I prefer to access and use e-resources for my research rather than print material			2	13	10	62.5	1	6.3	0	0.0	3	18.8	100
I am aware of relevant online databases in my fields			5	31	7	43.8	1	6.3	0	0.0	3	18.8	100
If I have to choose between the electronic and printed version of an article, I would prefer the electronic			1	6.3	11	68.8	1	6.3	0	0.0	3	18.8	100

4.2.3.24 Importance of e-resources for teaching and/or research (Question 30)

Question 30 asked respondents how important the various e-resources were for their teaching and research. The results are reflected in Table 4.14 below. A majority of respondents (68.8%) regarded Google Scholar as a very important e-resource for teaching and/or research, followed by e-journals (31.3%). Most academics (75%) regarded LibGuides as unimportant.

Table 4.14: Importance of e-resources on teaching and/or research (n: 16)

E-RESOURCES	Unimportant		Uncertain		Important		Very Important		No Response		Total%
	Count	%	Count	%	Count	%	Count	%	Count	%	
Web for eg. Google Scholar			0	0.0	2	12.5	11	68.8	3	18.8	100
e-journals			0	0.0	8	50.0	5	31.3	3	18.8	100
Electronic database for theses	8	50.0	0	0.0	3	18.8	2	12.5	3	18.8	100
e-books	6	37.5	0	0.0	7	43.8			3	18.8	100
OPAC	10	62.5	0	0.0	3	18.8			3	18.8	100
LibGuides	12	75.0	0	0.0	1	6.3			3	18.8	100

4.2.3.25 Level of computer literacy (Question 31)

Participants were asked to rank their level of computer literacy on a Likert Scale, where one equalled "Very poor" and five equalled "Very good". Figure 4.17 below indicates that only two (12.5%) respondents considered their computer literacy as poor and three (18.8%) participants indicated their computer literacy as good. Six (37.5%) respondents described their level of computer literacy as average.
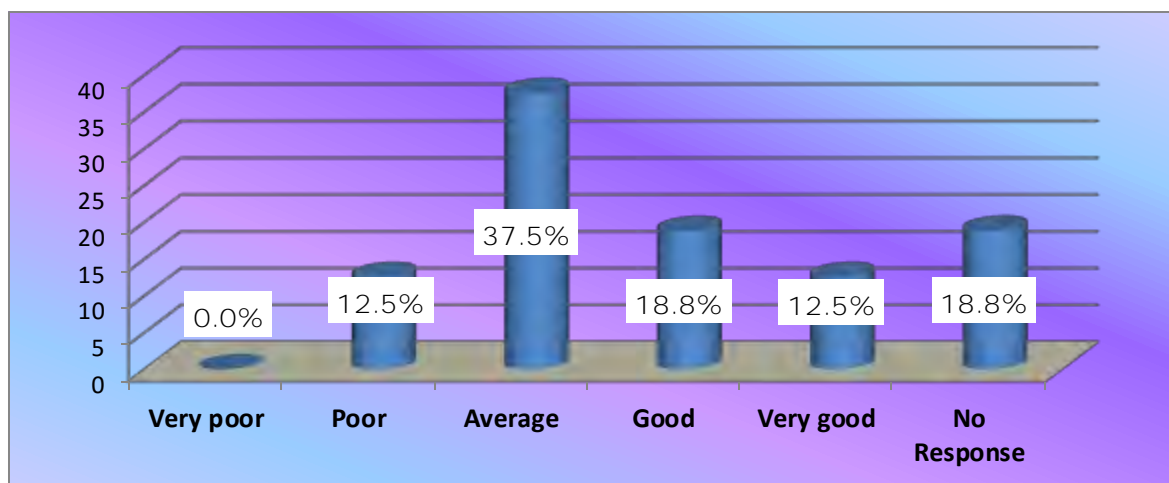
Figure 4.17: Level of computer literacy (n: 16)

4.2.3.26 Training on use of e-resources from the library (Question 32)

In order to establish if academics were trained on the use e-resources by library staff, respondents were asked if they ever received any training regarding e-resources from the library. Figure 4.18 below reflects the responses, showing that 56.3% of respondents indicated they did receive training, while 25% indicated they did not receive training.
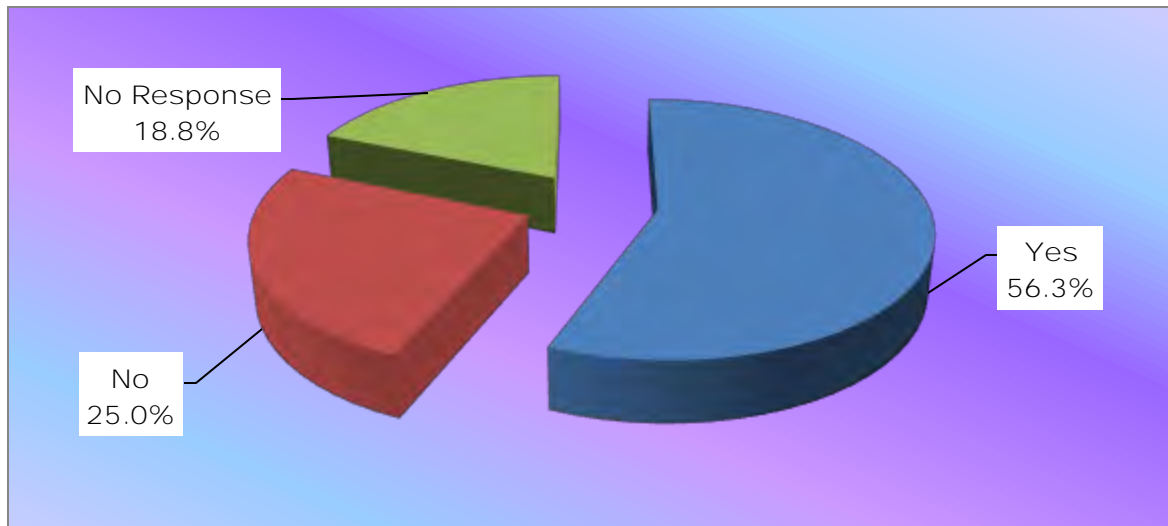
Figure 4.18: Training on e-resources (n: 16)

4.2.3.27 Evaluation of training received from the library (Question 33)

The researcher wanted to establish if the training offered by the library was effective and respondents were asked to evaluate the training they received from the library. The scale of measurement ranged from "Not satisfactory" to "Highly satisfactory". Of the nine respondents who received training from the library, five (31.3%) evaluated their training as "Less satisfactory", while the remaining four (25%) indicated their training was "Satisfactory". None of the respondents evaluated their training as "Highly satisfactory" (see Figure 4.19 below).
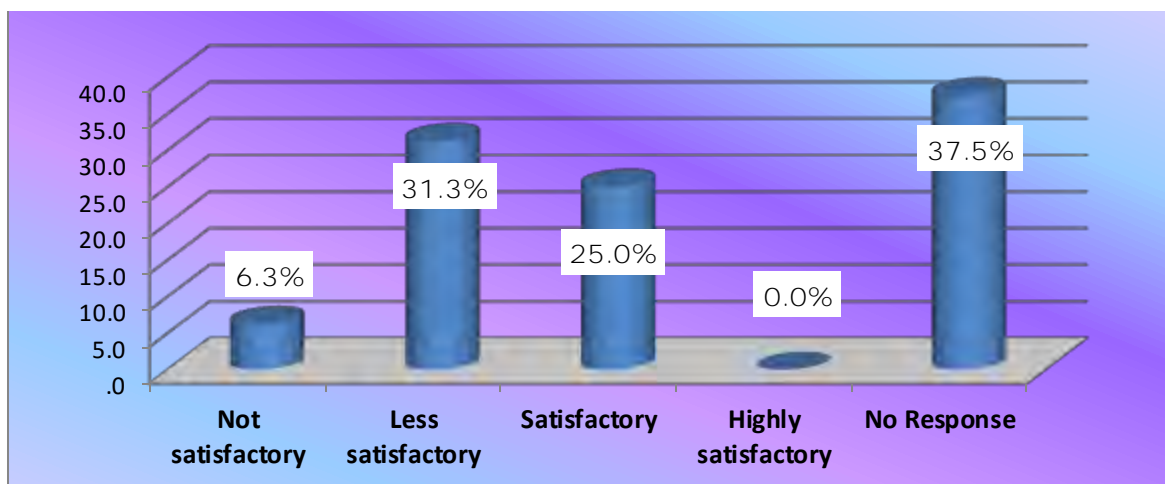
Figure 4.19: Evaluation of training (n: 16)

4.2.3.28 Elaboration on evaluation of training (Question 34)

The five respondents who evaluated their training as "Less satisfactory" were asked to elaborate on their evaluation. Three (3) respondents did so. One respondent commented: "Training is not advertised adequately and less contact with library staff at GSB". The second stated that "Training was once off – too many databases demonstrated at once" and the third respondent stated that "Training is scheduled without consultation and held during busy time."

4.2.3.29 Further comments concerning the use of e-resources (Question 35)

The final question of the questionnaire asked respondents if there was anything else that they would like to add concerning the use of e-resources. Eleven respondents did so and their responses are as follows:

- Feel intimidated by e-resources they do not use (one or 9.1%).
- After training session students are more competent and learn advantages of e-resources (one or 9.1%) .
- Students waste lecturers time asking questions about e-resources (one or 9.1%).
- Students do not attend training sessions (one or 9.1%).
- Library staff very helpful (one or 9.1%).
- Librarians to have monthly seminars (just 20 minutes to explain developments in e-resources) (one or 9.1%).

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- Library must provide more new computers (one or 9.1%).

- Training must be held regularly (one or 9.1%).

- Library needs to acquire databases such as Bloomberg and it needs to be accessible on all campuses (one or 9.1%).

- Lack of awareness of e-resources in subject areas (one or 9.1%).

- Need to know about all e-resources available through the library (one or 9.1%).

Part B

4.3 Results of the survey pertaining to postgraduate students

A separate questionnaire designed specifically for postgraduate students consisted of 31 questions and had three main sections. As with the questionnaire for the academics, the first section will present profile information of the respondents. The second section will cover the results concerning the use of the library and the final section contained information regarding the use of electronic resources. The findings pertaining to the postgraduate students are presented below under various headings following the broad sections outlined above. Of the 250 questionnaires distributed to the postgraduate students, 140 were returned, giving a response rate of 56%.

4.3.1 Section I: Demographics

This section of the questionnaire was designed to gain background information of the respondents. Questions 1 to 5 determined the gender, age, degree registered for, year of study and the nature of study of postgraduate students. The profile of the respondents was essential to determine the correlation between these variables and the use of e-resources.

4.3.1.1 Gender (Question 1)

There were more male postgraduate students, 82 (58.6%) than female postgraduate students, 58 (41.4%). This is depicted in Figure 4.20 below.

Figure 4.20: Gender distribution of postgraduate students (n: 140)
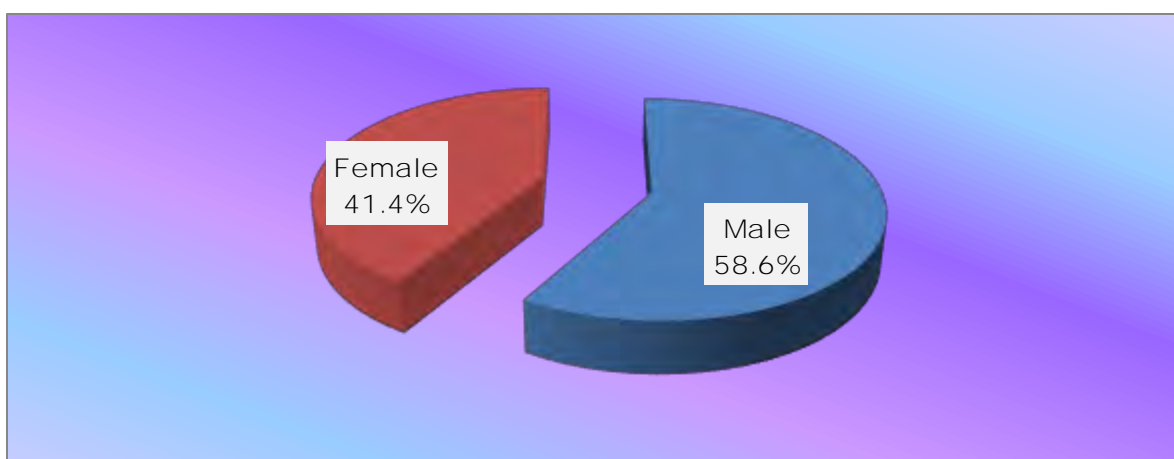
4.3.1.2 Age (Question 2)

The most common age category into which most respondents fell was between the ages of 26 and 30 years with 48 (34.3%) of respondents doing so. Thirty three (23.6%) respondents were above the age of 40 years and 12 (8.6%) respondents between 20 and 25 years.
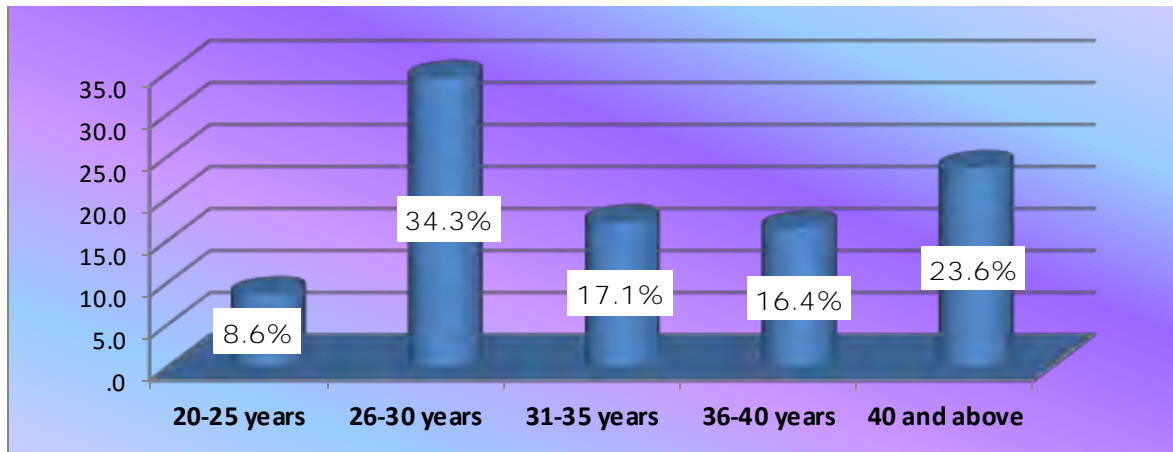
Figure 4.21: Age of respondents (n: 140)

4.3.1.3 Degree registered for (Question 3)

Masters students formed the majority of the postgraduate student respondents. Figure 4.22 indicates that the number of postgraduate students was 140 and more than half of them, 85 or (60.7%) were registered for a Masters, 20 (14.3%) Doctoral and 31 (22.1%) for Honours/Postgraduate diplomas. Four (2.9%) were registered for post-doctoral studies.
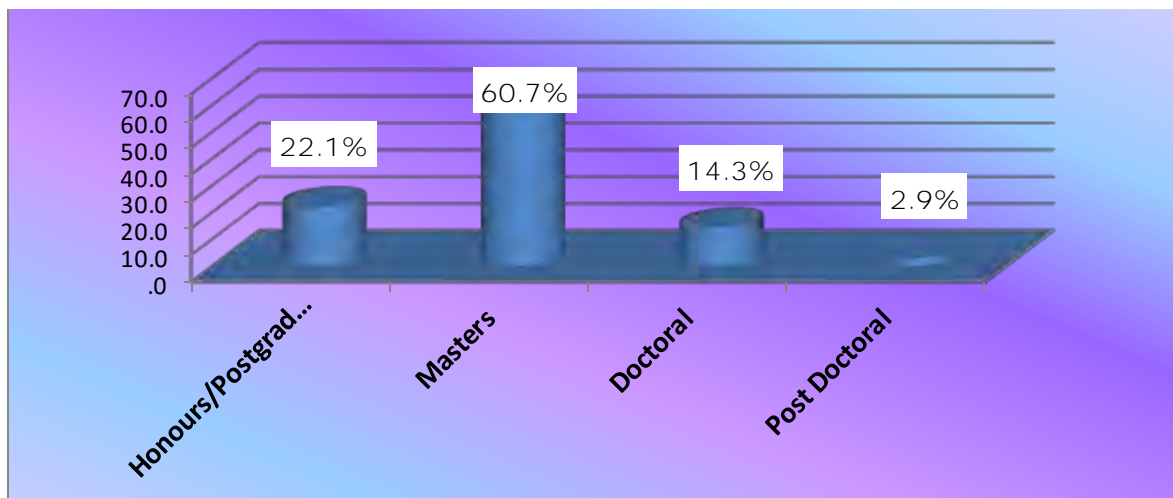
Figure 4.22: Degree registered for (n: 140)

4.3.1.4 Year of study (Question 4)

Figure 4.23 below shows the distribution of responses according to the year of study in their respective degrees/diplomas. As can be seen, a small majority of respondents (53.6%) were in their first year of study, (31.4%) in second year and (14.3%) in their third year of study.
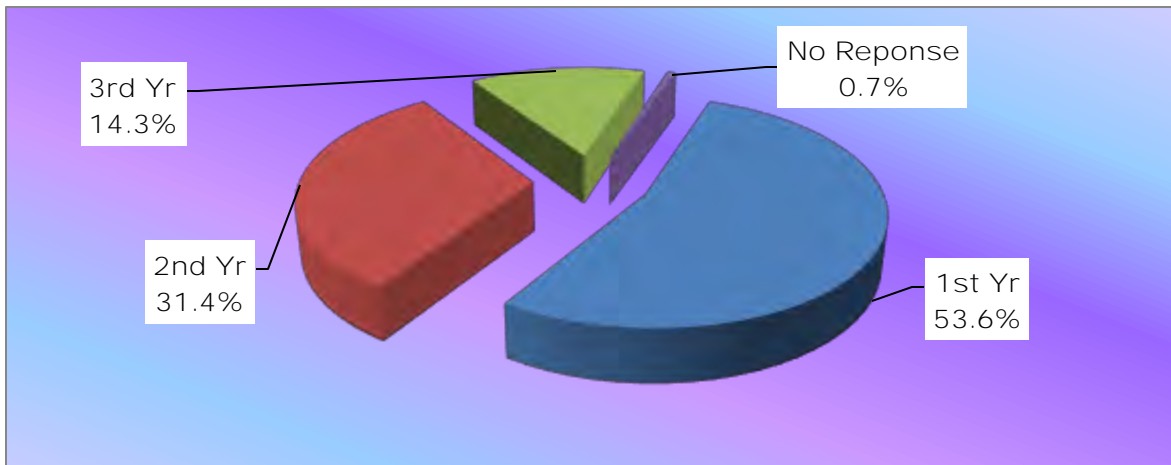
Figure 4.23: Year of study (n: 140)

4.3.1.5 Nature of study (Question 5)

There was a higher number of part-time than full-time students. Eight two (58.6%) respondents indicated they were part-time students and 58 (41.4%) were full-time students. The results are illustrated below in Figure 4.24.
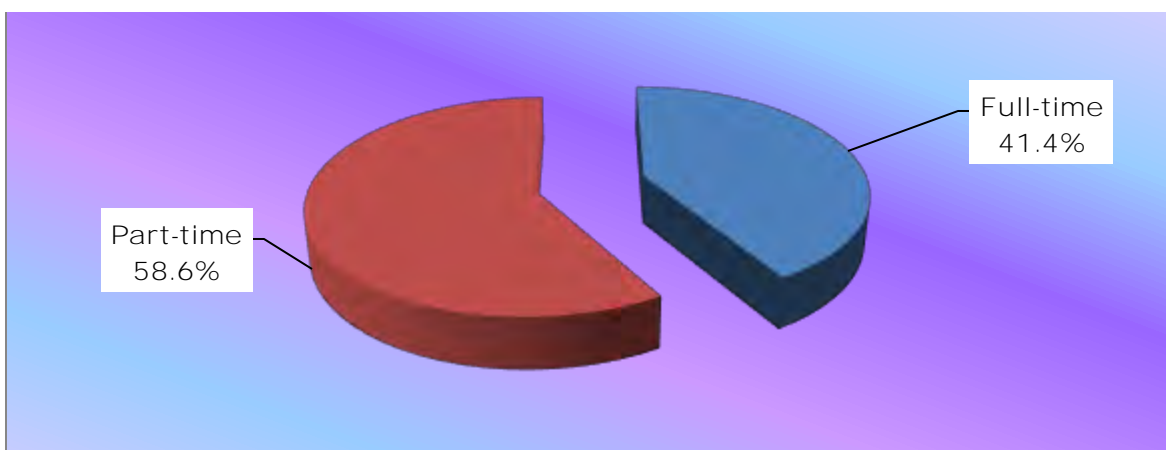
Figure 4.24: Nature of study (n: 140)

4.3.2 Section II: Use of Library

This section was set out to establish the general usage of the library. Questions 6a, 6b and 7 determined which library the respondents used and how often they visit the library.

4.3.2.1 GSB Library or Westville Main Library (Question 6a)

Respondents were asked which library they used, either the GSB Library or the Westville Main Library or both. Most respondents, 67 (47.95%), indicated that they used both libraries. While 64 (45.7%) used the GSB Library only, six (4.3%) respondents indicated using the Westville Main Library only. Three (2.1%) respondents did not respond to this question.
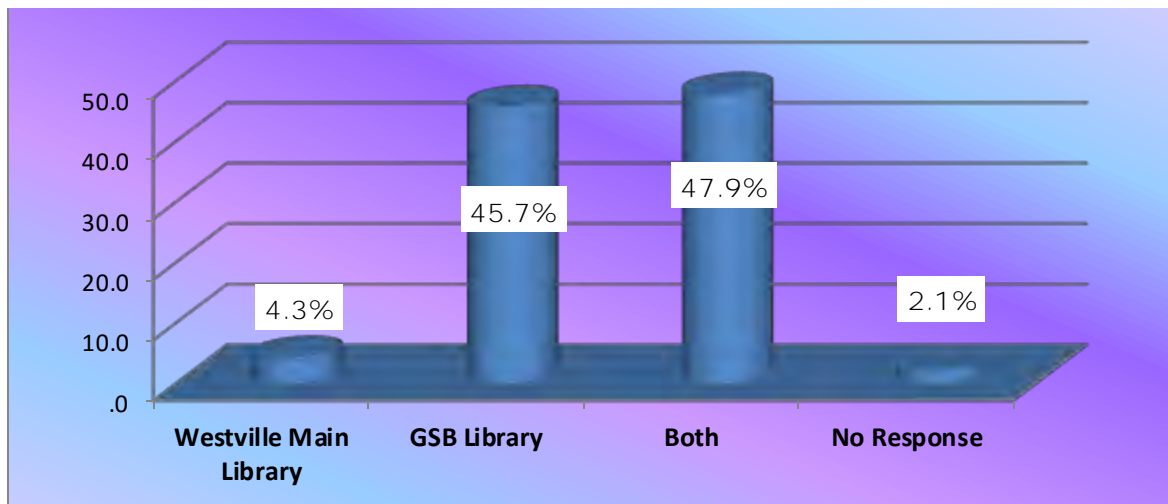
Figure 4.25: Library used (n: 140)

4.3.2.2 Library used more often (Question 6b)

Those respondents who used both Westville Main Library and GSB Library were asked to indicate which library they used more often. Forty (28.6%) indicated they used Westville Main Library more often while 34 (24.3%) postgraduate students indicated used GSB Library more often.
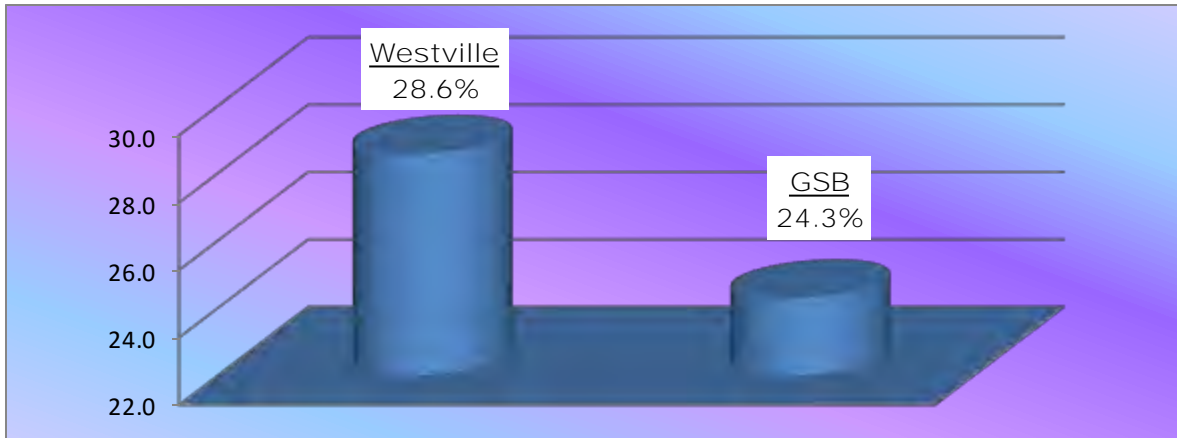
Figure 4.26: Library used more often (n: 74)

4.3.2.3 Frequency of physical visits to the library (Question 7)

The response illustrated in Figure 4.27 below indicates that most postgraduate students rarely made physical visits to the library. The highest proportion of respondents, 57 or (40.7%), rarely visited the library while four or (2.9%), never visited the library. Only 12 (8.6%), visited the library on a daily basis and 29 (20.7%), respondents stated that they visited the library weekly.
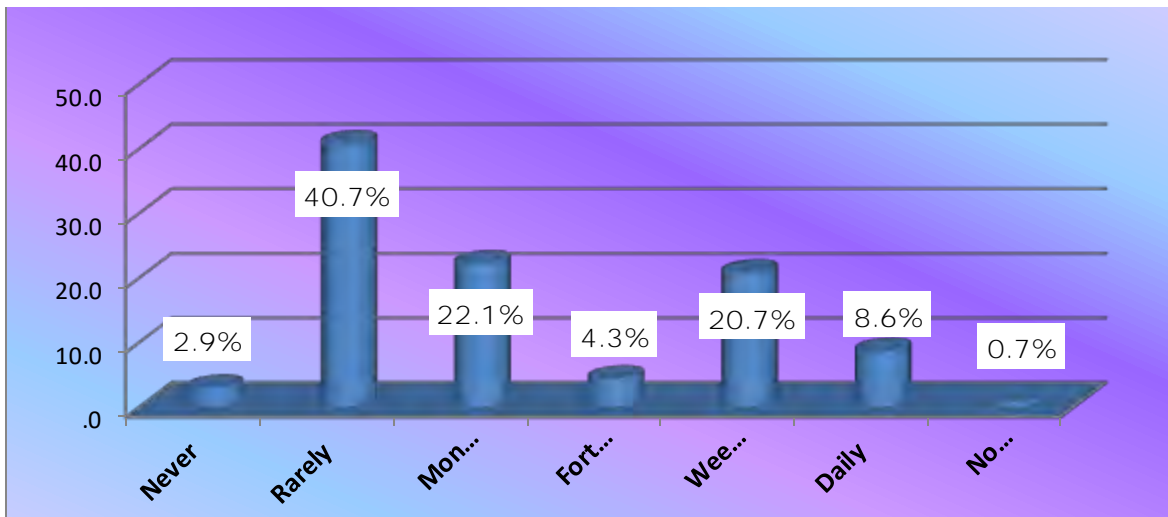
Figure 4.27: Frequency of physical visits to the library (n: 140)

4.3.3 Section III: Information regarding e-resources usage

This section relates specifically to the use of e-resources offered by the library. Questions 8 to 31 in the questionnaire elicited information pertaining to postgraduate student usage of e-resources.

4.3.3.1 Use of e-resources (Question 8)

Results indicate that use of e-resources was high, with the vast majority 118 (84.3%) of the respondents stating that they used the e-resources provided by the library. However, 21(15%) of respondents did not use any of the e-resources provided by the library and one respondent (0.7%) did not answer this question.
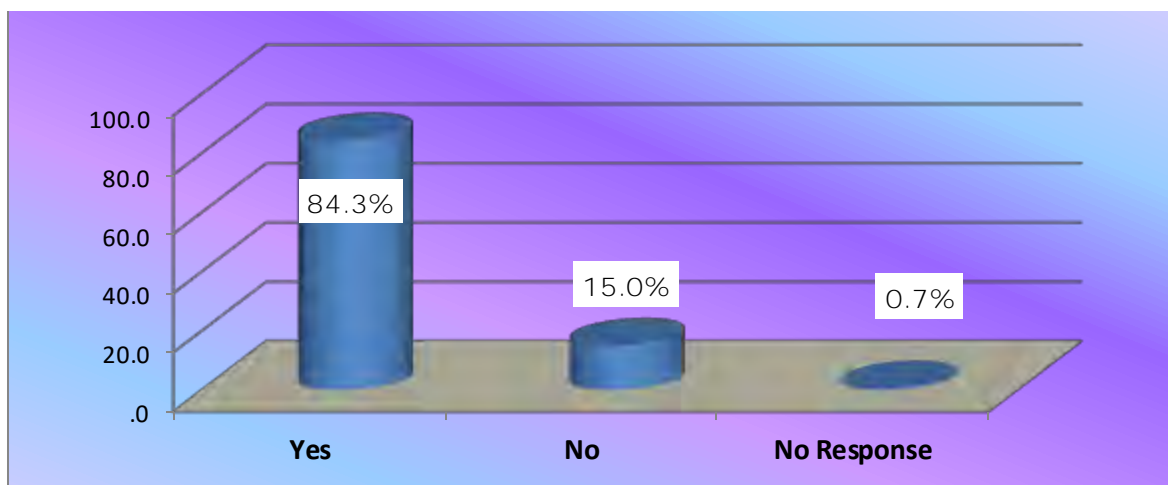
Figure 4.28: Use of e-resources (n: 140)

4.3.3.2 Reasons for not using e-resources (Question 9)

The respondents who indicated "no" to the previous question were asked to select from a given list, reasons for not using library e-resources. Results in Table 4.15 below shows that 21 respondents stated that the main reason for not using e-resources was not having access to computers. The same number of respondents also felt that they did not require the use of e-resources, 13 felt they had no time to search during library hours and nine were not aware of the presence of e-resources.

Table 4.15: Reasons for not using e-resources (n: 21)

Reasons	YES		NO		Total%
	Count	%	Count	%	
No access to computers	21	100			100
Did not require use of e-resources	21	100.0			100
No time to search during library hours	13	62.0	8	38.0	100
Not aware of the presence of these resources	9	43.0	12	57.0	100
Unsatisfactory results in accessing	7	33.0	14	67.0	100
Do not know how to access off campus	7	33.0	14	67.0	100
No staff available to assist	1	5.0	20	95.0	100

*Multiple responses

4.3.3.3 Frequency of e-resources usage (Question 10)

A list of e-resources was provided from which postgraduate students had to indicate which ones they used and how often they were used. In general, it was noticed that most respondents utilised e-resources on a weekly basis. The frequency with the highest usage "weekly" was Science Direct with 89 (75.4%) respondents doing so. The top three e-resources used daily was Google Scholar (32.2%), e-Journal (26.3%) and EbscoHost (14.4%). When combining the daily, weekly and monthly usage of e-resources, it was interesting to note that Google Scholar was the most frequently used e-resource being used by 115 (82.1%) of respondents. Table 4.16 below also indicates that a small minority of respondents 10 (8.5%), used e-books on a monthly basis while 11(9.3%) indicated usage on a weekly basis.

Table 4.16: Frequency of e-resource usage (n :118)

e-resource	Total	Frequency of e-resource usage										Total%
		Daily		Weekly		Monthly		Less than once a month		No Response		
		Count	%	Count	%	Count	%	Count	%	Count	%	
Web e.g. Google Scholar	10	7	43.8	3	18.8					6	37.5	100
Science Direct	9	3	18.8	3	18.8	3	18.8			7	43.8	100
EbscoHost	6	3	18.8	3	18.8					10	62.5	100
e-Journals	9	2	12.5	7	43.8					7	43.8	100
SAGE Journals Online	5	1	6.3			2	12.5	2	12.5	11	68.8	100
Emerald Insight	13	1	6.3	11	68.8	1	6.3			3	18.7	100
Academic Search Complete	13	1	6.3	2	12.5	10	62.5			3	18.7	100
Academic Research Library	5	1	6.3	2	12.5	1	6.3	1	6.3	11	68.8	100
LibGuides	13	1	6.3			1	6.3	11	68.8	3	18.8	100
Database for theses	12	1	6.3			1	6.3	10	62.5	4	25.0	100
Web of Knowledge	3					1	6.3	2	12.5	13	81.2	100
Springer	3					1	6.3	2	12.5	13	81.2	100
SABINET	4			3	18.8			1	6.3	12	75.0	100
SA ePublications	4			1	6.3	1	6.3	2	12.5	12	75.0	100
ProQuest	7			3	18.8	3	18.8	1	6.3	9	56.2	100
McGregor BFA	7			3	18.8	4	25			9	56.2	100
Lexis Nexis Academic	3							3	18.8	13	81.2	100
JSTOR	4					1	6.3	3	18.8	12	75.0	100
Index to South African Periodicals	1					1	6.3			15	93.7	100
Global Marketing Information	5					1	6.3	4	25	11	68.8	100
Business Source Complete	13			4	25.0	9	56.3			3	18.7	100
Business Insight	5					3	18.8	2	12.5	11	68.8	100
Abi-Inform Global	4					1	6.3	3	18.8	12	75.0	100
e-Books	12			2	12.5	6	37.5	5	31.3	3	18.8	100
OPAC	12			2	12.5	5	31.3	5	31.3	4	25.0	100

*Multiple responses

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4.3.3.4 Level of importance of each e-resource (Question 11)

Respondents were asked to rate the e-resources as very important, important, not sure, less important and not important. The response pattern is observed in Table 4.17 below indicating that EbscoHost 101 (72.1%) and Google Scholar 101 (72.1%) were both regarded as very important e-resources. Proquest was rated as very important by 90 (64.3%) and important by 22 (15.7%) of respondents respectively. From the table, it was observed that some of the e-resources that were not considered important were LibGuides 14 (10%), Global Marketing Information 7(5%) and Index to South African Periodicals 5(3.6%).

Table 4.17: Level of importance of e-resources (n: 140)

E-resource	Total	Not Important		Less Important		Not Sure		Important		Very Important		No Response		Total%
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
EbscoHost	117							16	11.4	101	72.1	23	16.4	100
Web e.g. Google Scholar	106					1	0.7	4	2.9	101	72.1	34	24.3	100
ProQuest	114					2	1.4	22	15.7	90	64.3	26	18.6	100
e-Journals	115							26	19	89	63.6	25	17.9	100
Business Source Complete	108					1	0.7	20	14.3	87	62.1	32	22.9	100
McGregor BFA	106			2	1.4			17	12.1	87	62.1	34	24.3	100
Emerald Insight	95					8	5.7	2	1.4	85	60.7	45	32.1	100
SABINET	91	1	0.7			2	1.4	6	4.3	82	58.6	49	35.0	100
JSTOR	99			3	2.1	9	6.4	6	4.3	81	57.9	41	29.3	100
SAGE Journals Online	103					15	10.7	10	7.1	78	55.7	37	26.4	100
Springer	95	1	0.7			14	10.0	8	5.7	72	51.4	45	32.1	100
Wiley online	54			1	0.7			5	3.6	48	34.3	86	61.4	100
Science Direct	111					1	0.7	76	54.3	34	24.3	29	20.7	100
Academic Search Complete	109					2	1.4	91	65.0	16	11.4	31	22.1	100
Business Insight	104					1	0.7	96	68.6	7	5.0	36	25.7	100
SA ePublications	98					76	54.3	16	11.4	6	4.3	42	30.0	100
OPAC	109	1	0.7			76	54	27	19	5	3.6	31	22.1	100
e-Books	109			1	0.7	80	57	23	16	5	3.6	31	22.1	100
Database for theses	108			2	1.4	79	56	22	16	5	3.6	32	22.9	100
Academic Research Library	87					70	50.0	14	10.0	3	2.1	53	37.9	100
Index to South African Periodicals	98	1	0.7	4	2.9	79	56.4	11	7.9	3	2.1	42	30.0	100
Lexis Nexis Academic	95			1	0.7	87	62.1	4	2.9	3	2.1	45	32.1	100
Web of Knowledge	99			1	0.7	87	62.1	8	5.7	3	2.1	41	29.3	100
Abi-Inform Global	86					77	55.0	7	5.0	2	1.4	54	38.6	100
LibGuides	96	1	0.7	13	9.3	11	7.9	70	50.0	1	0.7	44	31.4	100
Global Marketing Information	98			7	5.0	4	2.9	86	61.4	1	0.7	42	30.0	100

*Multiple responses

4.3.3.5 E-resources used most frequently (Question 12)

From the list of e-resources given, respondents were asked to rank the five most frequently used e-resources in order of use. From Table 4.18 below it was noted that 55 (39.3%) postgraduate students ranked e-journals as their most frequently used e-resource, followed by EbscoHost with 28 (20%) postgraduate students and Google Scholar with seven (5%) postgraduate students. Forty five (32.1%) of the respondents used Wiley Online as their second choice, and 67 (47.9%) respondents indicating their third choice was the Web e.g. Google Scholar. The least used e-resource was Science Direct indicated by 30 (21.4%) of respondents.

Table 4.18 : Most frequently used e-resources (n : 140)

e-resource	Most Frequent Count	Most Frequent %	2nd Choice Count	2nd Choice %	3rd Choice Count	3rd Choice %	4th Choice Count	4th Choice %	Least Frequent Count	Least Frequent %
e-Journals	55	39.3	13	9.3	5	3.6	12	8.6	7	5
EbscoHost	28	20.0	15	10.7	9	6.4	29	20.7	2	1.4
Web e.g. Google Scholar	7	5.0	7	5.0	67	47.9	2	1.4		
ProQuest	6	4.3	2	1.4	9	6.4	22	16	11	7.9
McGregor BFA	5	3.6	8	5.7	3	2.1	7	5.0		
Business Source Complete	3	2.1	9	6.4	1	0.7	2	1.4	3	2.1
Science Direct	3	2.1	7	5.0	10	7.1	14	10.0	30	21.4
Academic Search Complete	2	1.4	1	0.7	2	1.4	3	2.1	4	2.9
Business Insight	2	1.4	1	0.7	1	0.7				
OPAC	1	0.7	1	0.7					1	0.7
e-Books	1	0.7							1	1.4
Database for theses	1	0.7					1	0.7	1	0.7
SA ePublications	1	0.7	1	0.7			2	1.4	5	3.6
SAGE Journals Online	1	0.7			1	0.7	5	3.6	29	20.7
Web of Knowledge	1	0.7								
Wiley online	1	0.7	45	32.1	1	0.7	1	0.7		
Emerald Insight			3	2.1	1	0.7	4	2.9	6	4.3
SABINET			2	1.4	2	1.4	2	1.4	3	2.1
Academic Research Library			1	0.7	1	0.7	1	0.7		
Index to South African Periodicals			1	0.7						
Springer			1	0.7	1	0.7	2	1.4	1	0.7
LibGuides										
Abi-Inform Global										
Global Marketing Information										
JSTOR					4	2.9	7	5.0	3	2.1
Lexis Nexis Academic									1	0.7

*Multiple responses

4.3.3.6 Benefits of using e-resources (Question 13)

The results in Table 4.19 below shows that respondents identified many benefits of using e-resources. Forty eight (34.3%) respondents indicated that the most important benefit of using e-resources was "Can email, save print results" followed by 30 (21.4%) of respondents who found that "Easy / faster access" was an important benefit of using e-resources. A large number of respondents, 87 or (62.1%), indicated that the least important benefit was "Availability from desktop." Twenty three (16.4%) respondents did not answer this question.

Table 4.19: Benefits of using e-resources (n: 140)

*Multiple responses

Benefits	Most Important		2nd Choice		3rd Choice		4th Choice		5th Choice		Least Important		No Response		Total%
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Can email, save print results	48	34.3	18	13	11	7.9	6	4.3	33	23.6	1	0.7	23	16.4	100
Easy / faster access	30	21.4	16	11	9	6.4	56	40	4	2.9	2	1.4	23	16.4	100
Currency of information	15	10.7	10	7.1	21	15.0	11	7.9	43	30.7	17	12.1	23	16.4	100
Access any time of day	13	9.3	57	41	16	11.4	21	15.0	6	4.3	4	2.9	23	16.4	100
Availability of full-text	9	6.4	14	10	57	40.7	18	12.9	13	9.3	6	4.3	23	16.4	100
Availability from desktop	2	1.4	2	1.4	3	2.1	5	3.6	18	12.9	87	62.1	23	16.4	100

4.3.3.7 Main problems faced when using e-resources (Question 14)

Postgraduate students were asked to indicate the problems they faced when using e-resources. A list of common problems was given from which respondents had to select their responses. Forty five (32.1%) respondents indicated "Limited off-campus access" as the most serious problem they faced. This was followed closely by 36 (25.7%) of respondents indicating "Slow internet connection" as their most serious problem. However, from the results it was also observed that 29.3% of respondents also indicated "Slow internet connection" as their least serious problem. The highest number of responses was by 49 (35%) of respondents who faced problems with password requirements.

Table 4.20: Main problems faced when using e-resources (n: 140)

Problems Faced	Most Serious		2nd Choice		3rd Choice		4th Choice		5th Choice		6th Choice		7th Choice		Least Serious		No Response		Total %
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Limited off-campus access	45	32.1	23	16.4	12	8.6	3	2.1	15	10.7	6	4.3			11	7.9	25	17.9	100
Slow internet connection	36	25.7	5	3.6	9	6.4	1	0.7	6	4.3	10	7.1	7	5.0	41	29.3	25	17.9	100
Password requirements	17	12.1	16	11.4	49	35.0	9	6.4	10	7.1	2	1.4	5	3.6	7	5.0	25	17.9	100
Logging in	13	9.3	18	12.9	16	11.4	54	38.6	6	4.3	1	0.7	3	2.1	4	2.9	25	17.9	100
Not sure which database to choose	1	0.7	40	28.6	9	6.4	8	5.7	7	5.0	15	10.7	24	17.1	11	7.9	25	17.9	100
Difficulties in searching	1	0.7	3	2.1	2	1.4	25	17.9	59	42.1	18	12.9	6	4.3	1	0.7	25	17.9	100
Library staff not always available to help	1	0.7	2	1.4	5	3.6	6	4.3	9	6.4	57	40.7	14	10.0	21	15.0	25	17.9	100
Printing	1	0.7	9	6.4	12	8.6	6	4.3	2	1.4	8	5.7	55	39.3	22	15.7	25	17.9	100

4.3.3.8 Different access points for e-resources (Question 15)

Respondents were given a list of different access points for e-resources. Table 4.21 indicates that of a total of 119 postgraduate students, a majority of 114 (81.4%) chose to access e-resources remotely (off-campus). A further 66 (47.1%) postgraduate students indicated that they accessed e-resources from the library while 35 (25%) used the LANS to access e-resources.

Table 4.21: Different access points for e-resources (n: 140)

Access points	E-Resources		No Response		Total%
	Count	%	Count	%	
Remote (off-campus)	114	81.4	26	18.6	100.0
Library	66	47.1	74	52.9	100.0
LAN	35	25.0	105	75.0	100.0
Postgraduate rooms	34	24.3	106	75.7	100.0

*Multiple responses

4.3.3.9 Attendance of library user education programmes (Question 16)

Responding to the question on whether postgraduate students had attended library user education programmes on the use of e-resources, a large number of respondents, 98 (70%) indicated that they had attended, while 21(15%) respondents said that they did not attend. Another 21 (15%) of respondents failed to answer this question.

Of the 21(15%) respondents who had not attended library user education programmes, the reason/s given included:

- "I am off campus – residing in Johannesburg, the education programmes are at different times".
- "No course mentioned".
- "I am block release – such activities are conducted when I am off campus".
- "Don't know who is responsible for conducting training".
- "No time".

4.3.3.10 Finding information about e-resources (Question 17)

Question 17, a multiple response question, required respondents to indicate from whom or where they found out about e-resources. This question was to establish how respondents discovered UKZN Libraries e-resources.

Table 4.22: Finding information about e-resources (n: 140)

Source	E-Resources		No Response		Total%
	Count	%	Count	%	
Lecturers	44	31.4	96	68.6	100
Library webpage	40	28.6	100	71.4	100
Library user education program	28	20.0	112	80.0	100
Friends	20	14.3	120	85.7	100
Library guides	7	5.0	133	95.0	100

*Multiple responses

Table 4.22 above shows that out of 119 postgraduate students, 44 (31.4%) were told about e-resources from their lecturers; 40 (28.6%) found out through the library webpage; 28 (20%) via the library user education programme and 20 (14.3%) were told by their friends. Only seven (5%) found out via library guides.

4.3.3.11 Use of print resources (Question 18a)

When asked whether they still used print resources, a large majority 101 (72.1%) of respondents responded positively. However, 18 (12.9%) respondents stated that they did not do so. A total of 21 (15%) students did not answer the question.
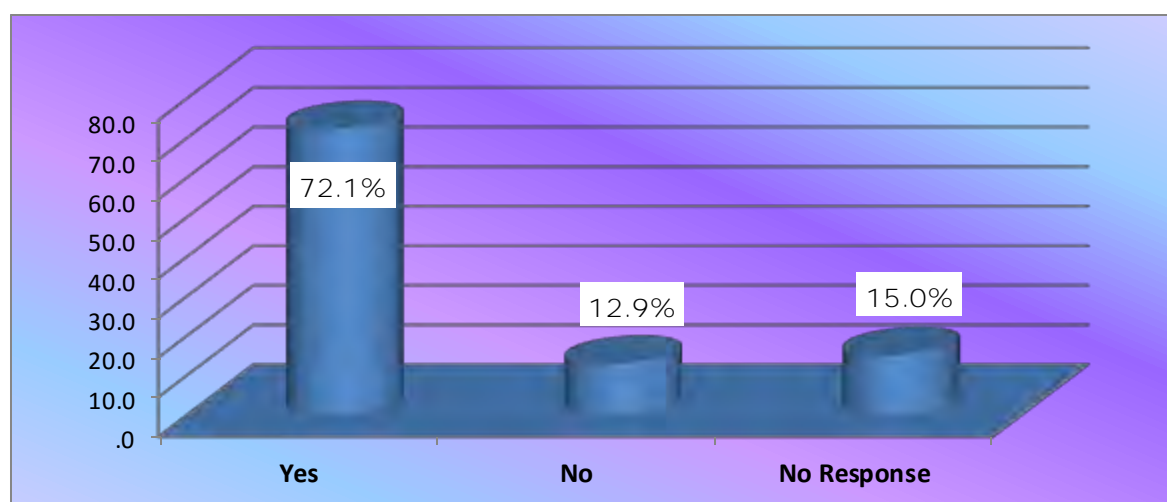
Figure 4.29: Use of print resources (n: 140)

4.3.3.12 Factors which motivate the choice of print format over electronic (Question 18b)

Of the 101 respondents who indicated they still used print resources, 52 (37.1%) respondents indicated the most important factor for choosing print over electronic was "Ability to underline and make notes". A total of 32 (22%) respondents indicated their second choice for using print over electronic resources was "Physical comfort". Other respondents revealed that they preferred print resources due to the "Ability to browse" 13 (9.3%); "Portability" four (2.9%) and only one respondent mentioned "Familiarity with format" as the most important benefit of using e-resources. One respondent did not answer this question. The results are shown in Table 4.23 below.

Table 4.23: Factors to motivate choice of print format (n: 101)

Benefits	Benefits of using print-resources												Total%
	Most Important		2nd Choice		3rd Choice		4th Choice		Least Important		No Response		
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Ability to underline and make notes	52	51.5	6	5.9	19	18.8	10	9.9	13	12.9	1	0.9	100
Physical comfort	32	31.7	54	53.5	1	0.9	4	4.0	9	8.9	1	0.9	100
Ability to browse	13	12.9	15	14.9	18	17.8	48	48	6	5.9	1	0.9	100
Portability	4	4	1	0.9	44	43.6	21	21	30	29.7	1	0.9	100
Familiarity with format	1	0.9	24	23.8	18	17.8	16	7.9	41	40.6	1	0.9	100

4.3.3.13 Format preference for journal article reading (Question 19)

Data in Figure 4.30 below shows that most respondents (69.3%) preferred both print and electronic format for reading journal articles, while 15.7% respondents preferred the electronic format.
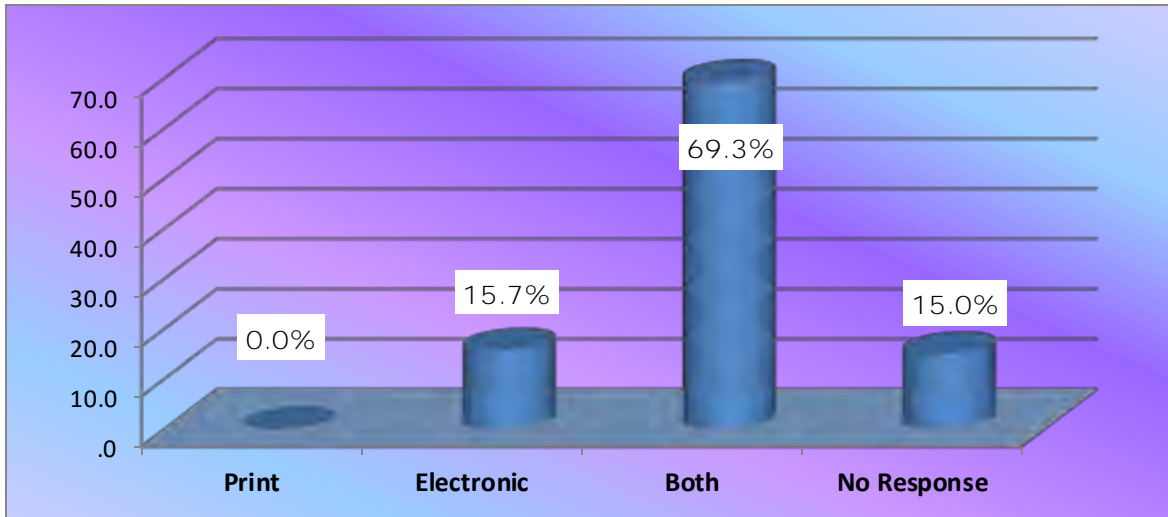
Figure 4.30: Format preference for journal article reading (n: 140)

4.3.3.14 Skills to access e-resources (Question 20a)

Respondents were asked to indicate whether they had sufficient skills to access e-resources. As depicted in the Figure 4.31 below, 87 (62.1%) of respondents indicated they had sufficient skills to access e-resources and 32 (22.9%) felt that they did not have sufficient skills.
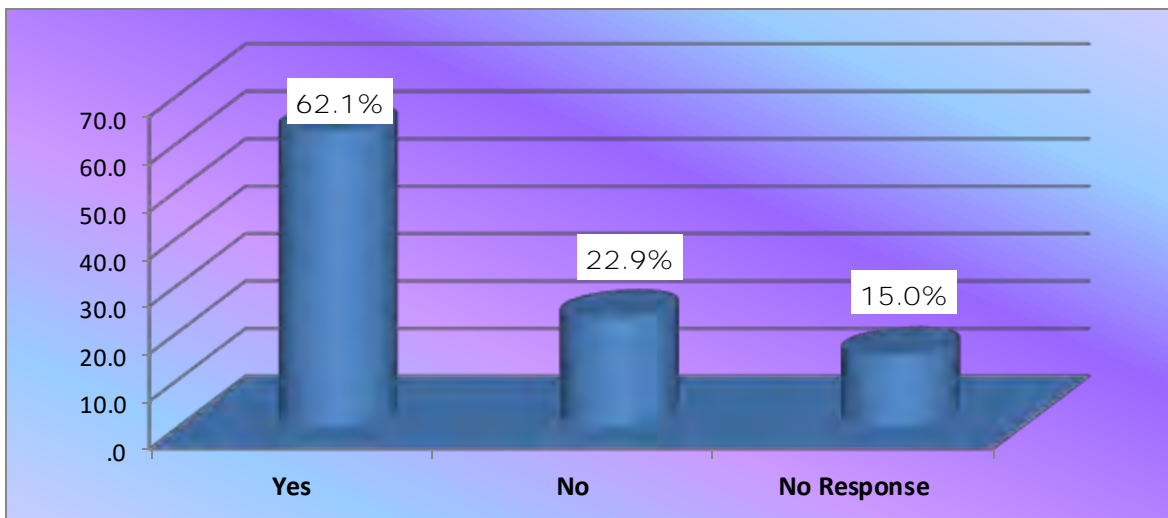
Figure 4.31: Sufficient skills to access e-resources (n: 140)

4.3.3.15 Difficulties experienced when accessing e-resources (Question 20b)

Postgraduate students who indicated they did not have sufficient skills were asked to indicate the difficulties they experienced when accessing e-resources.

The following are the difficulties they faced:

- Limiting search results (34.4%).
- Developing a search strategy (37.5%).
- Using the software interface (56.3%).
- Lack general computer skills (90.6%).

4.3.3.16 Level of skill with accessing and using e-resources (Question 21)

Respondents had to indicate their level of skill as beginner, intermediate or advanced. The results are summarised in Figure 4.32 below. Seventy six (54.3%) respondents regarded their skills as intermediate and only 20 (14.3%) considered their skills as advanced.
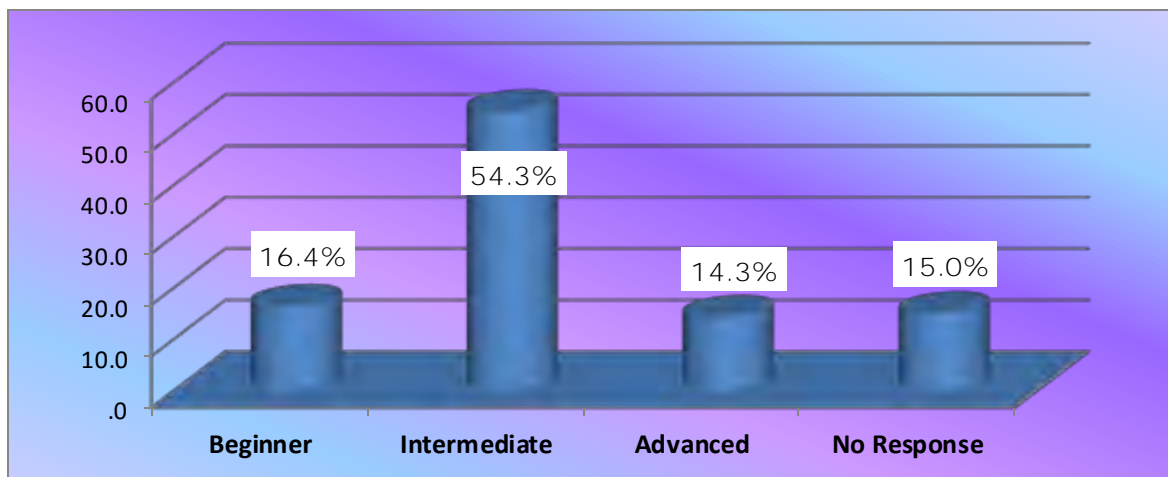
Figure 4.32: Level of skills with e-resources (n: 140)

4.3.3.17 Identification of relevant electronic articles (Question 22)

In Question 22, respondents were given a list of possible responses to a question that sought to establish how they identified relevant electronic articles. Table 4.24 below shows that most respondents, 66 or (47.1%), indicated "Relying on Library webpage or Library staff" when identifying relevant electronic articles. Others indicated "Searching bibliographic databases" 57 (40.7%) and by "Relying on library staff or academics" 46 (32.9%). A large majority of 117 (83.6%) of respondents indicated that they did not "Rely on alerting services" when identifying relevant electronic articles.

Table 4.24: Identification of relevant electronic articles (n: 140)

How identified	Electronic Articles		No Response		Total%
	Count	%	Count	%	
Relying on library webpage or library staff	66	47.1	74	52.9	100
Searching bibliographic databases	57	40.7	83	59.3	100
Relying on library staff or academics	46	32.9	94	67.1	100
Browsing through recent issues	40	28.6	100	71.4	100
Following citations, bibliographic references	39	27.9	101	72.1	100
Relying on alerting services	2	1.4	138	98.6	100

*Multiple responses

4.3.3.18 E-book usage

Zinn and Langdown (2011: 104) have emphasized that "the digital environment has led to changes in the creation, storage, access and delivery of information." Keeping this view in mind and the fact that UKZN Libraries has recently increased their e-book collection, it was imperative to identify whether respondents accessed e-books and what the reasons for their use or non-use were. Questions 23a, 23b and 23c were designed to elicit this information.

4.3.3.18.1 Accessing e-books (Question 23a)

The results in Figure 4.33 below indicate that only 46 (32.9%) of postgraduate students accessed e-books while a small majority 73 (2.1%) did not.
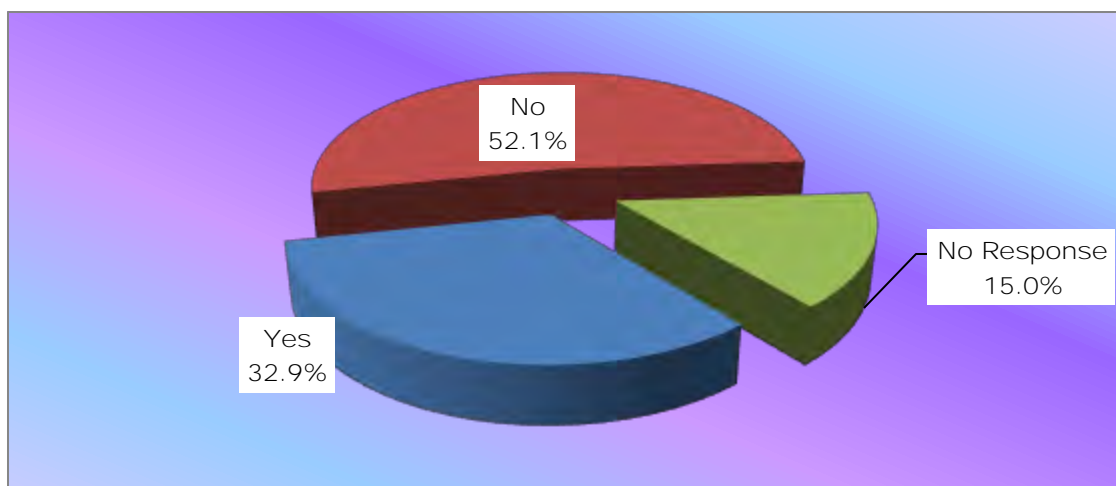
Figure 4.33: Access to e-books (n: 140)

4.3.3.18.2 Reason for using e-books (Question 23b)

The 46 (32.9%) postgraduate students who accessed e-books were asked to indicate the reasons for doing so. E-Books being "available around the clock" was the reason given by a majority of respondents with 27 (58.7%) doing so. E-books allowing "easy search possibilities" was the next most mentioned benefit by 22 (47.8%) of respondents. Only seven (15.2) respondents indicated that "e-books offer timely access to new titles" as a reason for using e-books and nine (19.6%) respondents used e-books for "Environmental advantages" to reduce paper consumption and save trees.

Table 4.25: Reasons for using e-books (n: 46)

Reasons for using e-books	Yes		No Response		Total%
	Count	%	Count	%	
e-books are available around the clock	27.0	58.7	19	41.3	100
e-books allow easy search possibilities e.g. Searching for keywords within the e-book	22.0	47.8	24	52.2	100
e-books save space	15.0	32.6	31	67.4	100
e-books have helpful features such as searchable and allows easy navigation	14.0	30.4	32	69.6	100
Environmental advantages e.g. e-books can reduce the consumption of paper and save trees	9.0	19.6	37	80.4	100
e-books offer timely access to new titles	7.0	15.2	39	84.8	100

*Multiple responses

4.3.3.18.3 Reasons for not using e-books (Question 23c)

In order to understand the reason why postgraduate students at GSB&L did not access e-books, the researcher requested respondents to give their reasons for not using e-books. These can be perceived as drawbacks for respondents not using e-books. Results are indicated in Table 4.26 below. A large majority of the respondents, 56 (76.7%) were unaware that e-books were available via the library webpage and 73 (100%) indicated they did not use e-books because "e-books need special equipment."

Table 4.26: Reasons for not using e-books (n: 73)

Reasons	No		No Response		Total%
	Count	%	Count	%	
e-books need special equipment	73	100.0	0.0	0	100
e-books from different sources are not compatible	72	98.6	1.0	1.4	100
e-books are hard to read and browse	71	97.2	2.0	2.8	100
No relevant e-book titles are available	66	90.4	7.0	9.6	100
e-books could mean additional cost on my side	66	90.4	7.0	9.6	100
Unaware of existence of e-book on library webpage	56	76.7	17.0	23.3	100

*Multiple responses

4.3.3.19 Level of computer literacy (Question 24)

Participants were asked to rank their level of computer literacy on a Likert Scale, where one equalled "Very poor" and five equalled "Very good" (see Figure 4.34 below). None of the respondents considered their computer literacy as "Very poor" and a small number of respondents, three (2.1%) indicated their computer literacy as "Poor". The highest number of participants 72 (51.4%) described their level of computer literacy as "Good".
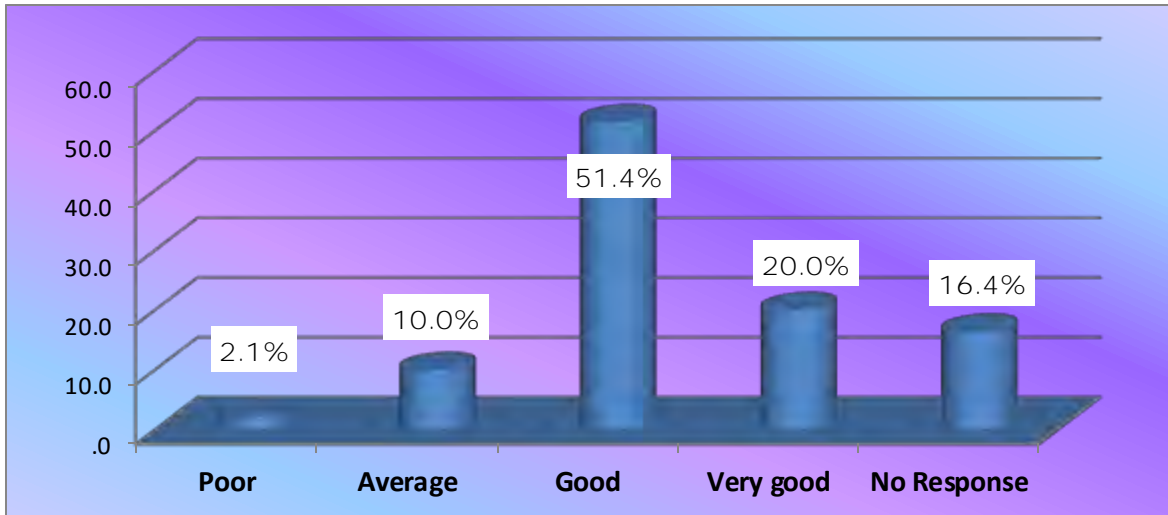
Figure 4.34: Level of computer literacy (n: 140)

4.3.3.20 Training on use of e-resources from the library (Question 25)

In order to establish if postgraduate students were trained on the use e-resources by library staff, respondents were asked if they had ever received any training regarding e-resources from the library. Figure 4.35 below shows that most of the respondents, 98 (70%), confirmed that they did receive training, while 20 (14.3%) indicated they did not receive training.
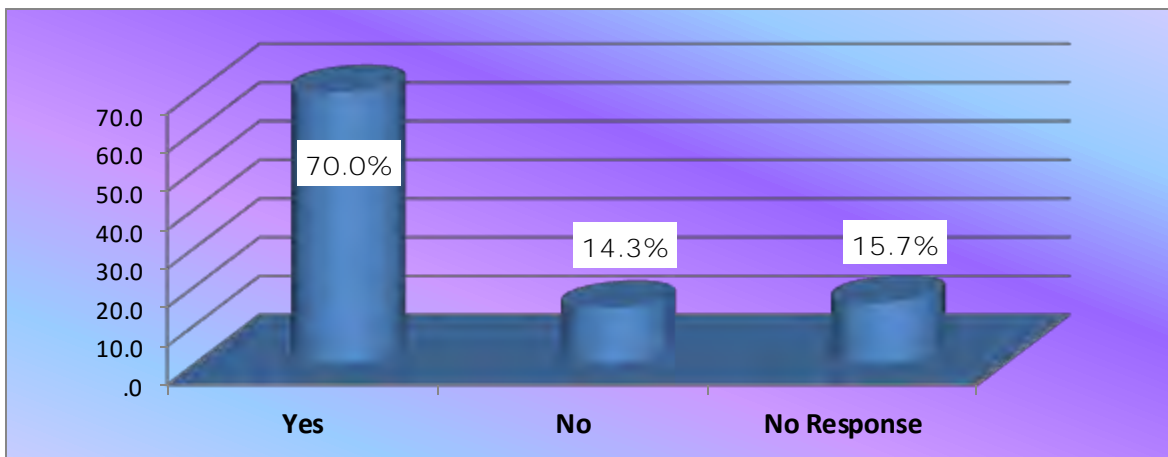
Figure 4.35: Training on e-resources (n: 140)

4.3.3.21 Evaluation of training received from the library (Question 26)

The researcher wanted to establish if the training offered by the library was effective and respondents were asked to evaluate the training they received from the library. The scale of measurement ranged from not satisfactory to highly satisfactory. Of the 98 postgraduate students who received training from the library, 15 (15.27%) evaluated their training as highly satisfactory, 36 (36.4%) indicated their training was satisfactory, and 48 (48.5%) evaluated their training as less and not satisfactory (see Figure 4.36 below). This indicates that nearly half the respondents were not happy with the training received from the library.
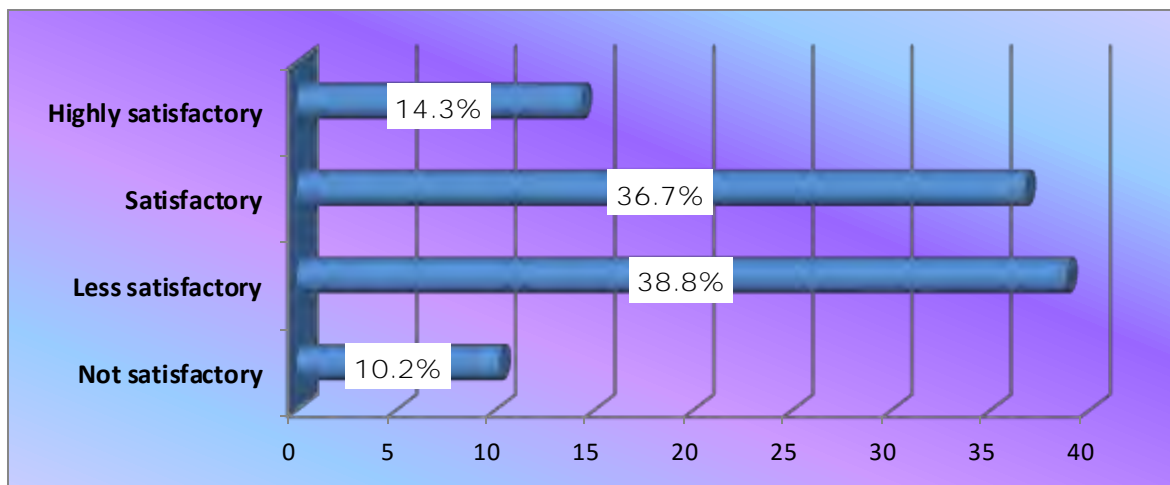
Figure 4.36: Evaluation of training on e-resources (n: 99)

4.3.3.22 Recommendations to improve user training (Question 28)

Survey results shown in Figure 4.37 indicate that many respondents, 104 out of a total of 140, gave their own recommendations to improve user training. A total of 26 (18.6%) students recommended online training resources, 24 (17.1%) recommended training in the use of multiple databases and other recommendations were to advertise and market training programmes 22 (15.7%), endnote training 17 (12.1%) and to provide training guides during training 15 (10.8%).
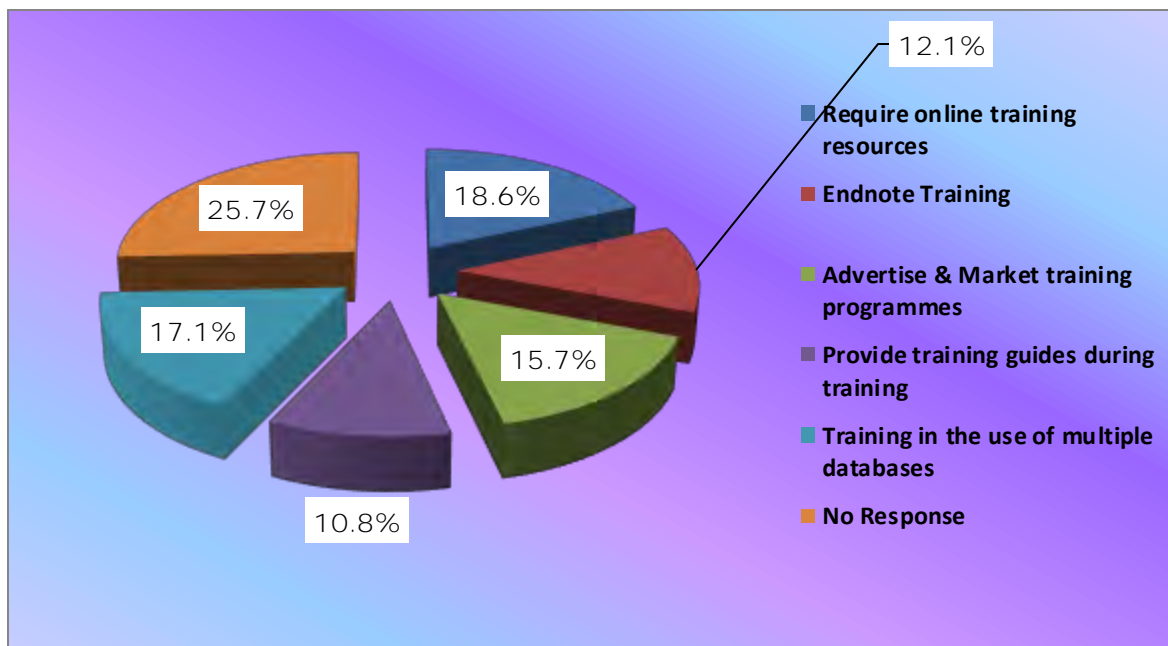
Figure 4.37: Recommendations to improve user training (n: 140)

4.3.3.23 Question 29 provided a series of Likert scale statements. Respondents were asked to rate statements on the accessibility and utilization of e-resources on a scale ranging from Strongly disagree; Disagree; Agree; to Strongly agree or Not applicable.

Table 4.27 shows that a majority of respondents 97 (69.3%) strongly agreed that they "use more e-resources now that they are generally available", 82 (58.6%) strongly agreed that they "access relevant e-resources on the internet daily" and the same number of respondents strongly agreed with the statement "I prefer to access and use e-resources for my research rather than print material." Results also showed that 22 (15.7%) of respondents were not aware of relevant online databases in their field and 14 (10%) indicated they did not use online databases in their research. The other categories and respondents' views are illustrated below.

Table 4.27: Accessibility and utilization of e-resources (n: 140)

Statements	Total	Strongly disagree Count	%	Disagree Count	%	Agree Count	%	Strongly agree Count	%	Not applicable Count	%	No Response Count	%	Total %
I use more e-resources now that they are more generally available	118			2	1.4	19	13.6	97	69.3			22	15.7	100
I access relevant e-resources on the internet daily	114			5	3.6	27	19.3	82	58.6			26	18.6	100
I prefer to access and use e-resources for my research rather than print material	115			2	1.4	31	22.1	82	58.6			25	17.9	100
I access and use online databases in my research	116			14	10	54	38.6	46	32.9	1	1.4	24	17.1	100
E-resources enable me to conduct research in a way that would not have been feasible in the print environment	108					13	9.3	35	25	60	42.9	32	22.9	100
I am aware of relevant online databases in my fields	108			22	15.7	56	40.0	29	20.7	1	0.7	32	22.9	100
I recommend the use of e-resources to students	110			1	0.7	85	60.7	22	15.7	2	1.4	30	21.4	100
If I have to choose between the electronic and printed version of an article, I would prefer the electronic	115			1	0.7	99	70.7	15	10.7			25	17.9	100

4.3.3.24 Major challenges experienced in the use of e-resources (Question 30)

Table 4.38 presents the challenges faced by postgraduate students when using e-resources. Out of 140 respondents, 111 (79.3%) answered this open question indicating their challenges and 29 (20.7%) did not answer. The challenges included the need to provide training using multiple level databases mentioned by 32 (22.9%) respondents, the need for IT support after hours 24 (17.1%) respondents, the lack of information resources 23 (16.4%), internet access being slow 10 (7.2%) and the absence of full text e-resources mentioned by seven (5.0%) respondents.
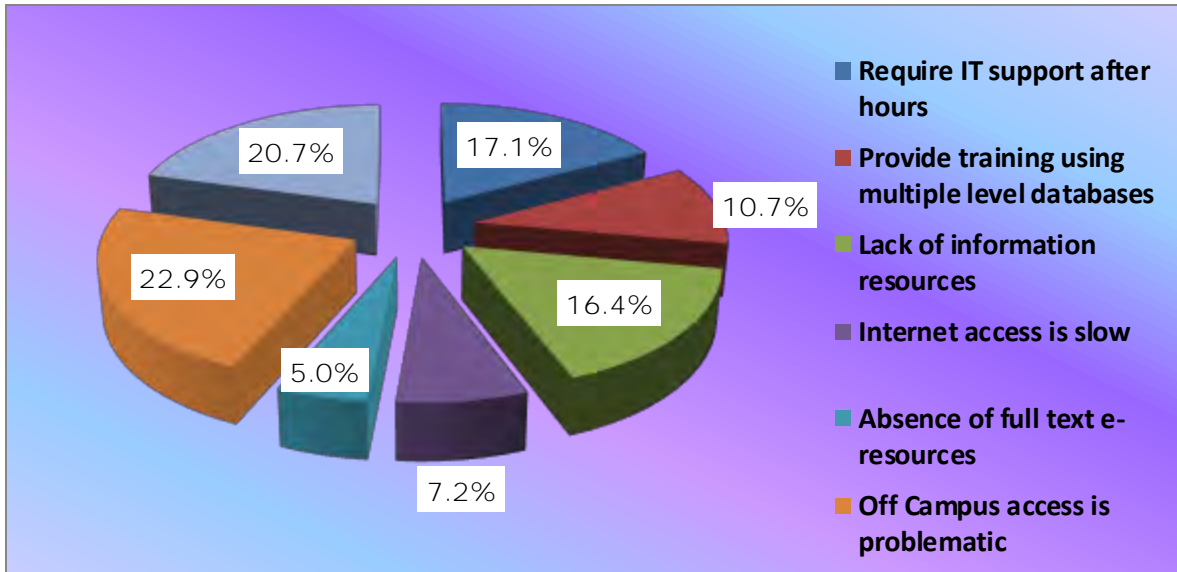
Figure 4.38: Challenges experienced in using e-resources (n: 140)

4.3.3.25 Additional comments regarding use of e-resources (Question 31)

In the final question, respondents were given the opportunity to add any further comments regarding the use of e-resources. Thirty one (22.1%) postgraduate students indicated the need for regular training sessions and 20 (14.4%) required regular endnote training. Training is an important aspect for the use of e-resources as revealed by the study. Further comments on use of e-resources included 16.4% of respondents indicating the need to subscribe to more databases and 11.4% found being off-campus a challenge. Comments are depicted in Figure 4.39 below.
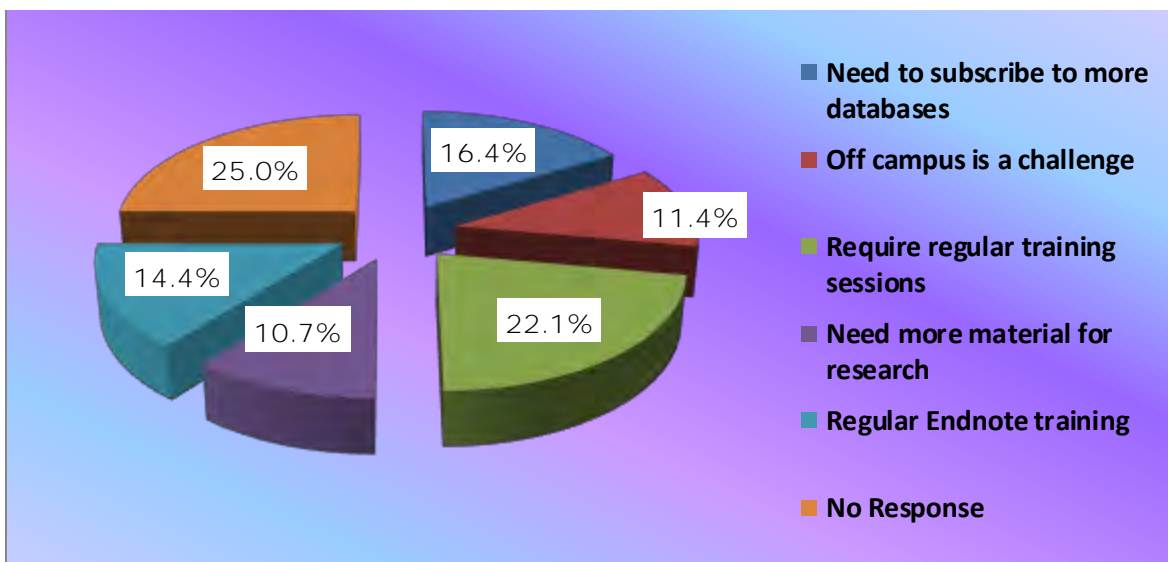
Figure 4.39: Comments regarding the use of e-resources (n: 140)

Section C - Presentation of Inferential Statistics

This section contains all inferential statistics showing all techniques applied to the data as presented in Sections B above. Due to the small population of academics it was not feasible to get a realistic analysis completed and therefore no statistical techniques were done with this group.

4.4 Inferential statistics

According to Trochim (2008), inferential statistics allows the researcher to utilize the data collected to make interpretations about the study. The study employed inferential statistics to looks for generalisations and patterns that may exist amongst the respondents. This study involved the use of cross tabulations and Chi-square tests that was analysed on SPSS. In order to understand whether a relationship or pattern exists between different variables such as age, gender, rank, position and use of e-resources, various Chi-square tests were conducted. According to Sekaran and Bougie (2013: 288), these nonparametric tests "indicates whether or not the observed pattern is due to chance." When working with the Chi-square test "the main value that you are interested in from the output is the Pearson Chi-sqaure value, which is presented in the Chi-square Tests" (Pallant, 2013: 227). With Chi-square testing, a p-value is generated and if $p < 0.05$ this indicates significant results in the test.

4.4.1 Influence of demographic variables on the use of e-resources with postgraduate students

Chapter Two points out to many user studies with variables such as age, gender and nature of study, that correlate with the use of e-resources (Bar-Ilan and Fink, 2005; Borrego et al. 2007 and Ani, 2013). In this study, cross tabulations and Chi-square tests were applied to demographic variables such as age, gender, level of education, year of study, nature of study and computer literacy of the respondents and this was compared with the use of e-resources. The main aim was to establish whether these demographic characteristics have any correlation with the use of e-resources and to establish if a pattern or relationship exists between variables.

4.4.1.1 Age

The possible influence of age of postgraduate students on use and accessibility of e-resources was examined in the study (Table 4.28 to Table 4.29)

Table 4.28

Chi-square: Age versus use of e-resources

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	14.349[a]	4	0.006
Likelihood Ratio	16.091	4	0.003*
Linear-by-Linear Association	4.460	1	0.031
N of Valid Cases	139		

* p < 0.01

Table 4.28 indicates that there is a significant relationship between perceptions of postgraduate students in their use of e-resources and their age at the 1% level of significance. In order to assess where these differences lie, the cross tabulation is analysed (Table 4.29).

Table 4.29

Cross tabulation: Use of e-resources and age of students

Use of e-resources	Age					
	20-25 years	26 – 30 years	31 – 35 years	36 – 40 years	40 years +	Total
Yes	7.9%	33.1%	12.2%	11.5%	20.1%	**84.8**
No	0.0%	1.4%	5.0%	5.0%	3.6%	**15**
Total	**7.9**	**34.5**	**17.2**	**12**	**23.7**	**99.8**

From Table 4.29 it is evident that the majority of postgraduate students (84.8%) indicated that they use e-resources whilst 15% indicated that they did not. Results indicate that 13.6% of respondents over the age of 30 years did not use e-resources. This indicates that age has a direct impact on the use of e-resources. Evidently, older students were not inclined to use e-resources. It is also evident that the majority of students accessing and using e-resources are between 26-30 years (33.1%).

4.4.1.2 Gender

Table 4.30

Chi-square: Gender versus use of e-resources

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-square	7.302[a]	1	0.007*		
Continuity Correction[b]	6.058	1	0.014		
Likelihood Ratio	8.215	1	0.004		
Fisher's Exact Test				0.008	0.005*
Linear-by-Linear Association	7.249	1	0.007		
N of Valid Cases	139				

$* p < 0.01$

The study examined the possible influence of gender on use and accessibility of e-resources by postgraduate students. The results of Chi-square test shown in Table 4.30 indicate that there is a significant relationship between postgraduate students on their use of e-resources and their gender at the 1% level of significance. In order to assess exactly where the influences lie, cross tabulations were assessed.

Table 4.31

Cross tabulation: Gender versus use of e-resources

Gender and the use of e-resources	Male	Female	Total
Yes	46.0%	38.8%	**84.8**
No	12.9%	2.2%	**15.1**
Total	**58.9**	**41.0**	**99.9**

Table 4.31 indicates that 46% of male students used e-resources and 38.8% female. However, while more male students used e-resources, it is also noted that when comparing both genders, more male students (12.9%) did not use e-resources.

4.4.1.3 Level of education of postgraduate students

Analysis of the results of the survey showed the influence of the level of education of postgraduate students on the use of e-resources.

Table 4.32

Chi-square: Level of education of versus use of e-resources

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	15.900[a]	3	0.001
Likelihood Ratio	18.724	3	0.000
Linear-by-Linear Association	8.264	1	0.004
N of Valid Cases	139		

The results shown in Table 4.32 reveal that there is a significant relationship between the perceptions of postgraduate students of their use and accessibility of e-resources and their level of education (Sig. =0.001). In order to assess exactly where the influence lies, cross tabulations were assessed (Table 4.33).

Table 4.33

Cross tabulation: Level of education versus use of e-resources

Level of education versus use of e-resources	Honours/ Postgraduate Diploma	Masters	Doctoral	Post-Doctoral	Total
Yes	22.3%	51.1%	8.6%	2.9%	**84.9**
No	0.0%	9.4%	5.8%	0.0%	**15.1**
Total	**22.3**	**60.5**	**14.4**	**2.9**	**100**

From Table 4.33 shows that majority of students accessing and using e-resources are masters students (51.1%), followed by Honours/postgraduate diploma students (22.3%), Doctoral student (8.6%) and finally post-doctoral (2.9%). The highest usages of e-resources were recorded as Master students.

4.4.1.4 Year of study

The study looked at the possible influence of respondents' year of study and use of e-resources. The results Table 4.34 shows that there was no significant relationship between the perceptions of postgraduate students of their use and accessibility of e-resources and their year of study (Sig. =0.091).

Table 4.34

Chi-square: Year of study versus use of e-resources

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	4.799[a]	2	0.091
Likelihood Ratio	4.418	2	0.104
Linear-by-Linear Association	0.519	1	0.471
N of Valid Cases	138		

Table 4.35

Cross tabulation: Year of study versus use of e-resources

Year of study versus use of e-resources	First	Second	Third	Total
Yes	47.8%	23.9%	13.0%	**84.8**
No	5.8%	8.0%	1.4%	**15.2**
Total	**53.6**	**31.9**	**14.4**	**100**

Table 4.35 reflects that the majority of postgraduate students (84.8%) agreed that they used e-resources. It is also evident that the majority of students accessing and using e-resources were first year postgraduate students (47.8%), followed by those who were in second year (23.9%) and finally, those postgraduate students currently in their third year of study (13.0%). It is interesting to note that as students progressed to their third year studies, their non-use of e-resources reduced.

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4.4.1.5 Nature of study

Table 4.36 and 4.37 indicates the nature of study whereby students who pursued part-time or full-time studies, indicated their use of e-resources.

Table 4.36

Chi-square: Nature of study (part-time and full-time students) versus use of e-resources

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-square	13.901[a]	1	0.000*		
Continuity Correction[b]	12.168	1	0.000		
Likelihood Ratio	17.384	1	0.000		
Fisher's Exact Test				0.000	0.000
Linear-by-Linear Association	13.801	1	0.000		
N of Valid Cases	139				

$* p < 0.01$

Table 4.36 shows that there is a significant relationship between the perceptions of postgraduate students of their use and accessibility of e-resources and their nature of study (part-time/full-time) (Sig. =0.00). In order to assess where these influences exist, cross tabulations were analysed (Table 4.37).

Table 4.37

Cross tabulation: Nature of study (part-time and full-time students) versus use of e-resources

Nature of study versus use of e-resources	Full-time	Part-time	Total
Yes	41.0%	43.9%	**84.9**
No	0.7%	14.4%	**15.1**
Total	**41.7**	**58.3**	**100**

From Table 4.37 indicates that there is an almost even proportion of part-time (43.9%) and full-time students (41.0%) who access and use e-resources. It is evident that more part-time students do not access and use e-resources.

Table 4.38

Chi-square: Awareness of relevant online databases in my area of study versus part-time and full-time students

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-squar	8.675[a]	3	0.034**
Likelihood Ratio	9.253	3	0.026
Linear-by-Linear Association	8.468	1	0.004
N of Valid Cases	108		

** $p < 0.05$

Table 4.38 shows that there is a significant influence between the nature of study of postgraduate students (part-time/full-time) and their awareness of the relevant online databases in their areas of study at the 5% level of significance. In order to assess the influence, the cross tabulation was analysed (Table 4.39).

Table 4.39

Cross tabulation: Awareness of relevant online databases in area of study part-time and full-time students

Nature of study versus awareness of relevant online databases	Full-time	Part-time	Total
Disagree	5.6%	14.8%	**20.4**
Agree	23.1%	28.7%	**51.9**
Strongly Agree	17.6%	9.3%	**26.9**
Total	**46.3**	**52.8**	**99.1**

Table 4.39 shows that while 28.7% of part-time postgraduate student were in agreement that they were aware of relevant online databases, 14.8% disagreed implying that they were unaware of relevant online databases. However, 23.1% of full-time postgraduate students agreed and a further 17.1% strongly agreed that they were aware of relevant online databases. As compared to part-time students (14.8%) only 5.6% of the full-time students were not aware of relevant online databases.

4.4.1.6 Computer Literacy

Table 4.40

Chi-square: Age versus computer literacy

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	53.634[a]	12	0.000*
Likelihood Ratio	49.282	12	0.000
Linear-by-Linear Association	3.946	1	0.047
N of Valid Cases	117		

* p < 0.01

Table 4.40 reflects that there is a significant relationship between the age of postgraduate users and their computer literacy at the 1% level of significance

Table 4.41

Cross tabulation: Age versus computer literacy

Age versus computer literacy	20-25 years	26-30 years	31-35 years	36-40 years	40 years and over	Total
Poor	1.7%	0.9%	0.0%	0.0%	0.0%	**2.6**
Average	0.0%	3.4%	0.0%	0.0%	8.5%	**11.9**
Good	0.9%	29.1%	10.3%	9.4%	12.0%	**61.7**
Very Good	7.7%	6.0%	4.3%	2.6%	3.4%	**24**
Total	**10.3**	**39.4**	**14.6**	**12.0**	**23.9**	**100.2**

Table 4.41 reflects that over 50 percent of postgraduate students (61.7%) indicated their computer literacy as good, while 24% considered themselves as very good. It was positive to note that only 2.6% of postgraduate students revealed their computer literacy skills as poor, thus indicating that most respondents were skilled with using computers. Respondents with the highest computer literacy skills were between 26-30 years, with 29.1% indicating their skills as good.

4.5   Summary

This chapter presented the findings obtained from the analysis of the questionnaires. The findings were presented in the form of tables and diagrams. This chapter included cross tabulations and Chi-square tests. The findings revealed that most respondents were aware of e-resources. A large percentage of respondents used the print format but also indicated that many preferred both print and e-resources. The e-resources which were found to be very important by academics were EbscoHost, Science Direct and e-Journals. Postgraduate students found EbscoHost, Google Scholar, ProQuest and e-Journals as important. Most respondents learnt about e-resources through the library webpage.

A large majority of postgraduate students accessed e-resources remotely via the off-campus access and via the library webpage. The problems encountered when accessing e-resources were: "limited off-campus access", "not sure which database to choose", "password requirements", "slow internet connection" and "limited of campus access". The main benefits were: "easy/faster access", "currency of information", "emailing, saving and printing results" and because it saved them money, time and also helped save the environment. The results showed that majority of academics were aware of e-books. More than half of postgraduate students did not access e-books. The results of cross tabulations and Chi-square tests with postgraduate students, tests revealed that there was a significance influence of age on the use of e-resources access and the use of online databases. Inferential statistics found that there was a significant relationship between the age of postgraduate users and their computer literacy.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1   Introduction

This chapter discusses the findings of the questionnaire survey of academics and postgraduate students at GSB&L as presented in the previous chapter. When discussing the results, the research questions were looked at again together with the previous studies which were mentioned in the literature review of this study. While the findings relating to the academics and postgraduate students were presented separately in Chapter four, they will be discussed together in this chapter. This will help to determine awareness, the use of the library's e-resources and the extent to which academics and postgraduate students from the GSB&L differ in their use of e-resources. In addition, it will help to understand whether the various e-resources used met their study, teaching and research related information needs and to see if they faced similar experiences when accessing e-resources.

It was imperative to interpret the information from the results to ensure that the research questions of this study were answered. The research questions as made explicit in previous chapters will provide the basis for the discussion. However, prior to doing so the demographic variables concerning the respondents will be discussed and this will be followed by a discussion of general library use and the shift from print to e-resources.

5.2   Discussion relating to background information

This section explores the attributes of the respondents with regard to their demographic characteristics. These attributes are important indicators that may impact or impede the use of e-resources.

5.2.1   Background information of the academics

The questionnaires were distributed to the survey population which was composed of 20 academics at the GSB&L, UKZN. Sixteen (80%) of the academics to whom questionnaires were distributed responded. This good response rate can be attributed to the co-operation of the academics at the GSB&L. Results pertaining to the following variables are discussed: gender,

age, highest qualification, professional rank, main area of focus, type of employment and teaching experience of academics.

Eleven (68.7%) of the respondents were male and five (31.3%) female. The age category of the academics ranged from 30 to over 50 years. Although a majority (75%) of respondents fell between the ages of 30 and 49 years, there was representation in all the age ranges specified. A majority (75%) of the academics held a Master degree as their highest qualification with the remaining respondents having either a Doctorate (12.5%) or Post-doctorate (12.5%) degree. A majority of respondents (75%) were of junior lecturer rank. It is surprising that the lecturer rank was not represented at all. The reason/s for this cannot be ascertained. While Business Management was the main area of teaching focus with 56.2% of respondents, it was valuable to have academics from other subject areas included in this study. Half (50%) of the respondents had been teaching for between six and 10 years, and 25% for more than 10 years. This indicates that the academics at GSB&L were experienced in terms of teaching.

Moreover, Figure 4.11 in Chapter Four indicates that a vast majority (87.5%) of the academics surveyed in this study used e-resources. As these academics are represented in all age groups, it can be concluded that a majority of academics, irrespective of their age, utilize e-resources. This supports the findings of Bar-Ilan and Fink (2005) and Borrego et al. (2007) that indicated regardless of age, most respondents favoured e-resources. In contrast were the findings of Majid and Abazova (1999) which indicated that variables such as age, gender and computer skills impacted on the use of e-resources and that age is a variable which correlates with computers. The results in the present study are in keeping with the findings of Ani's (2013) study which noted that the influence of demographic variables such as age, gender, discipline and professional rank on the use of e-resources was not significant.

5.2.2 Background information of the postgraduate students

The questionnaires were distributed to a sample of 250 postgraduate students drawn from a survey population composed of 700 students at the GSB&L, UKZN. The sample was selected using stratified random sampling to ensure that all categories of students were represented in the sampling process. Of the 250 questionnaires distributed, 140 were completed giving a response rate of 56%. Results pertaining to the following variables are discussed: gender, age, level of education, year of study and nature of study of postgraduate students.

Regarding the level of study of students, all the categories were represented, from postgraduate diplomas to doctoral students. Males comprised 58.6% of the respondents and females (41.4%). Most respondents 85 (60.7%) were registered for Masters degrees and 20 (14.3%) for Doctoral level studies. There were 31 (22.1%) Honours/postgraduate diploma and four (2.9%) Post-doctoral students. Since GSB&L offers students the opportunity to work and study part-time, it is not surprising that more than half the respondents 82 (58.6%) indicated they were part-time students and 58 (41.4%) full-time students. This high proportion of part-time students may impact on use of the physical use of the library as a large number of postgraduate students 57 (40.7%) rarely used the library. This is supported by the study completed at San Jose State University that demonstrated "that there are significant differences between part-time and full-time faculty and student use of the library, with part-time students and faculty using the library less" (Whitlatch, 1983: 142).

Cross tabulations and Chi-square tests were conducted to look for generalisations and patterns in the findings. The influence of demographic variables namely age, gender, highest qualification and year of study was compared with the use of e-resources to establish if there was any correlation. The cross tabulations and Chi-square tests used have shown that there is a significant relationship between use of e-resources and demographic variables such as age (p=0.006) and gender (p=0.007). Cross tabulation in Table 4.29 indicates that postgraduate students using e-resources the most were between the ages of 20 and 30 years (41%), followed by 31 to 40 years (23.7%) and finally those over 40 years (20.1%). This indicates that the younger postgraduate students tend to use e-resources more often. With regard to levels of education, analysis of the cross tabulation in Table 4.33 indicates that the highest usage of e-resources were recorded by masters students (51.1%) followed by Honours/postgraduate diploma students (22.3%), thereby indicating that students in higher levels of study used e-resources more.

In this study, the inferential statistics found that there is a significant relationship between the age of postgraduate users and their computer literacy (Sig=.000). Table 4.41 indicates that most respondents who rated themselves as having "good" computer literacy skills were between 26-30 years (29.1%). This in comparison to a smaller percentage (9.4%) of respondents who were older in the age category 36-40 years and who rated their skills as good. Notably, younger postgraduate students considered themselves as having better computer skills and therefore might use e-resources more than older students. Generally, one can assume that younger students have been exposed to more technology and may be more comfortable embracing new technology. In terms

of the influence of demographic variables on e-resource usage, this study found that while there was a significant influence of demographic variables on the use of e-resources among the postgraduate students, there was no influence of demographic variables among academics at GSB&L.

5.3   General library use

Since both academics and postgraduate students were given the same questions regarding the use of the library and the frequency of use, the discussion for these questions will be integrated. These questions were set out to establish which library the respondents used and how often they visited the library.

Results show that 87.5% of the academics and 47.9% of the postgraduate students used both the GSB Library and the Westville Main Library. However, only a very small minority of academics (6.3%) and students (4.3%) indicated that they used the Westville Main Library only. This indicates that a majority of both academics and postgraduate students do not use the Westville Main Library as their primary library. The low usage of this library could be attributed to distance. It takes approximately 15 minutes to walk from the GSB&L building, where students attend lectures, to the library. This finding underscores the importance of distance in terms of library use in that distance appears to be a factor preventing the Westville Main Library from being used more frequently. Many postgraduate students are studying part-time and therefore their mode of accessing information from the library is via the off-campus access. This allows them to retrieve and access electronic information seamlessly in a faster delivery time without physically entering the library.

When asked to indicate how often they physically visited the library, 43.8% of academics stated that they visited the library weekly and 37.5% indicated they visited the library fortnightly. These findings are similar to those of Hart and Kleinveldt (2011: 37) who indicated that "40% of researchers in the UK personally visited their main institutional library at least once a week."
 In the present study a large proportion (40.7%) of postgraduate students rarely made physical visits to the library and only 8.6% physically used the library on a daily basis. One of the reasons for this low usage is pointed out by Jayasundara, Ngulube and Minishi-Majanja (2010: 118) who state that "besides competing with other service providers, present day libraries may experience a sharp decline in library usage as customers find other avenues to access information, rather than

visiting their local libraries." The finding also underlines the importance of digital libraries where access to resources is not contingent on physically visiting the library. It also supports the viewpoint of Wu (2005) who indicated that library users' numbers have dropped due to the widespread availability of resources online. The prevalent format and speed of information access and retrieval offered to users at Westville Main Library now allows students to circumvent physically coming the library when searching for information. These findings also suggest that the need to visit libraries is decreasing and support Wisner's (2001) highly contentious view that library buildings will eventually disappear.

5.4   Shift from print to e-resources

Previously users had little or no choice with methods used when accessing information. The advances in technology, the compelling web emergence and the generation of "web-savvy" students has reshaped the academic environment with new access points which offers users the choice of either print or electronic formats. However, the increasing need for digital information has changed the trend of accessing information by shifting from print to electronic format.

Findings of the study indicated that 81.3% of academics and 72.1% of postgraduate students still use the print format. In general, these results demonstrated that despite the shift from print to electronic, most respondents are still using print resources. These results conform to the findings of Mgobozi and Ocholla (2002), Mawindo (2005), Kaur (2012) and Chauhan and Mahajan (2014) who found that while most users preferred e-resources, many still used the print format indicating that such formats are still used for research and other purposes. It also needs to be borne in mind that the vast majority of books available in the libraries are still in print or hardcopy format as opposed to their electronic counterparts (e-books).

In order to establish the reasons why respondents still used print resources, they were asked to indicate factors which motivated their choice of print. Results from the academics indicate that their most important reason for choice of print over electronic format was "Familiarity with format". Other factors that motivated their choice of print format included, "Ability to underline and make notes" and the "Ability to browse". These reasons are similar to the findings of Kaur's (2012) study that noted the characteristics such as "Familiarity with format" and "Ability to browse" affects the choice of print over electronic format.

Results from the postgraduate students differed from those of the academics. Students indicated that the "Ability to underline and make notes" was the most important reason for their choice in using print resources. Other benefits included the "physical comfort" and "ability to browse" when using print resources. Interestingly, this study indicates that while academics indicated that "familiarity with format" was their most important reason for using print, postgraduate students considered it the least important reason. This is perhaps understandable given that postgraduate students have, arguably, been exposed to the electronic format from a younger age as compared to their older academic counterparts.

Despite the high usage of print resources, further results of the study revealed that both academics (25%) and postgraduate students (69.3%) indicated their preference for both electronic and print formats. Academics (68.8%) and postgraduate students (70.7%) further agree that if they have to choose between the electronic and print version of an article, they would prefer the electronic. These results correspond with Dilek-Kayaoglu's (2008) study, where over 90% of respondents indicated that if print and e-journals were similarly available, they would choose to use the e-journals. The results of this study and Dilek-Kayaoglu's (2008) study would suggest that most respondents were comfortable to move from print to an electronic format. Notwithstanding the preference and trend for electronic information, results of this study are consistent with other studies by Kaur and Verma (2009) and Kacherki and Thombare (2010) in indicating that e-resources will substitute the traditional print format.

Having discussed various background or contextual issues relating to the study, the discussion now shifts to the actual research questions posed. What follows is a listing and discussion of each research question.

5.5   Research Question 1: What is the level of academics and postgraduate students awareness of e-resources

Asemi and Riyahiniya (2007) in Msagati (2014: 7) concluded that awareness of e-resources plays an important role in influencing the use of e-resources and also added further that awareness of e-resources is usually an indication of greater use of e-resources. As noted in the literature review, levels of awareness differ considerably across different schools, colleges and academic libraries across the globe. Due to the fact that no studies have previously been conducted at GSB&L, UKZN, it was important to investigate the awareness and use of re-resources amongst academics and

postgraduate students at GSB&L. This research question therefore captures the main purpose of the study.

Only one (6.3%) academic and 21 (15%) postgraduate students indicated that they do not use e-resources. It was interesting to observe that some of their main reasons for not using e-resources included having no access to computers, did not require the use of e-resources, no time to search during library hours and not being aware of e-resources. Seemingly, lack of awareness of e-resources was thus not a significant factor in not using such resources. It is evident, given the findings of the study, that the vast majority of academics (87.5%) and postgraduate students (84.3%) used e-resources and were thus aware of the existence of these resources.

With regard to usage, the results of the present study concur with Voorbij and Ongering (2006) who found that more than 75% of researchers used e-resources. These results are in contrast to studies by Tomney and Burton (1998); Tenner and Yang (2000) and Bar-Ilan, Peritz and Wolman (2003) that revealed low awareness and use of e-resources amongst students and faculty members. However, it is important to record that these studies were undertaken more than ten years ago when e-resources were not as prevalent as they are now and variables such as age and the lack of internet facilities hindered the use of these resources. In addition the concept of the "digital library" was in its early stages of development. This indicates that 21st century library users are more "web-savvy" and are comfortable using digital information. It is evident that the growth of the internet and the transition from traditional to digital libraries has created more awareness and subsequent use of e-resources.

Inferential statistics conducted in this study revealed that there was a significant relationship between the nature of study of postgraduate students (part-time/full-time) and their use and awareness of the relevant online databases in their areas of study. The findings suggest that there was a significant influence of the part-time and full-time postgraduate students on the use of e-resources (Sig=.000, $p<0.05$) and awareness of relevant online databases (Sig=.034, $p<0.05$). Table 4.39 reflects that a small minority of part-time students strongly agreed that they were aware of relevant online databases.

The high rate of awareness among library users is in agreement with local studies carried out by Soyizwapi (2005) and Hadebe and Hoskins (2010) as well as studies conducted in other countries by Kaur and Verma (2009) in India, Faizul and Naushad (2012) in Delhi, Omeluzor et al. (2012)

in Nigeria and Pandurangaswamy and Kishore (2013) in Chennai. These results are contrary to the findings by Tomney and Burton (1998) who found that a majority of respondents in their study on electronic journal usage and attitudes among academics in United Kingdom knew only a little about e-resources. Similarly, Shuling (2007) investigated the current use of electronic resources in university libraries in China and also revealed that 77.4% of people knew very little about e-resources. Again, one can point, particularly in the case of Tomney and Burton, to the fact that the studies were conducted some time ago when knowledge and subsequent use of such e-resources was highly likely to have been less developed.

5.6 Research Question 2: To what extent do academics and postgraduate students use e-resources?

While the emergence of academic digital libraries offers more opportunities for library users, this comes at a high financial cost to most libraries. Most digital libraries currently spend millions of rand on e-resources and UKZN Libraries in particular spent approximately R48 million on e-resources in 2014. With this factor as a backdrop, this study was important to establish the extent to which these e-resources are used. To establish the extent of usage, it was necessary to establish the level of importance of each e-resource. The e-resources that were considered very important by academics included EbscoHost (68.8%); Science Direct (62.5%) and e-Journals (37.5%). Findings of postgraduate students also indicated similar results with EbscoHost (72.1%) being the most important e-resource followed by Google Scholar (72.1%), ProQuest (64.3%) and e-Journals (63.6%). Other databases that academics regarded as important included Academic Research Library (68.8%) and Academic Search Complete (62.5%). Table 4.17 shows that the postgraduate students found Business Insight (68.6%) and Academic Search Complete (65%) as important e-resources.

Studies undertaken at UKZN by Soyizwapi (2005) and Hadebe (2010) showed that Sabinet was perceived as highly important by the respondents in their studies However, in this study results differed between postgraduate students and academics. While Sabinet was considered very important by 82 (58.6%) postgraduate students, it was considered very important by only one (6.3%) academic. Soyizwapi's (2005) and Hadebe's (2010) study were conducted on students at UKZN and results were similar to the results of the postgraduate students in this study. This clearly indicates that students and academics did not share similar views on the importance of various e-databases. Sabinet is responsible for South African electronic publications and is a

collection of material primarily published in South Africa. Many of the academics at GSB&L are probably engaged with business research with many topics being global in orientation which therefore involves looking at worldwide resources. This could account for the low usage level of importance ascribed to this e-database by academics.

5.7   Research Question 3: What is the pattern of e-resources usage by academics and postgraduate students?

The findings in Table 4.3 reveal that academics ranked EbscoHost as their most frequently used e-resource, this was followed by Science Direct as their second choice and Google Scholar as third choice. This was in keeping with the high importance EbscoHost was given by academics in the study. Postgraduate students ranked e-Journals as their most frequently used e-resource, followed by EbscoHost as their 2nd choice and Google Scholar as their 3rd choice. When analysing data, it was found that EbscoHost has been identified as one of the most popular and important e-resources and this could possibly be due to benefits which this e-resource offers. Firstly, it is a multidisciplinary database that is made up of many sub- databases such as Business Source and Academic Search Complete. This makes the search on EbscoHost a broad one covering a consortium of publishers who make their resources available online via the electronic databases. EbscoHost allows users to use multilanguage and advanced searching, to refine results and to email, print or export results easily to reference managers such as Endnote and Refworks. In the study by Hadebe (2010), a similar result was achieved with EbscoHost being given the second highest ranking with regards to importance.

When looking at the usage pattern of e-resources, other results from academics indicated that the top two e-resources used weekly were Emerald Insight (68.8%) and e-Journals (43.8%). Postgraduate students' results showed that Science Direct (63.6%) and Business Insight (60%) were primarily used on a weekly basis. In contrast, postgraduate students' weekly usage of e-Journals was much lower than that of academic usage. However, it was good to note that e-Journals were used highly by postgraduate students on a daily basis.

The top three e-resources used on a daily basis by academics were Google Scholar (43.8%), Science Direct (18.8%) and EbscoHost (18.8%). With regards to postgraduate students, the top three e-resources used daily were Google Scholar (32.2%) followed by e-Journals (26.3%) and EbscoHost (14.4%). It is evident from these results that both academics and postgraduate students

rely heavily on Google Scholar. Similar results was achieved in a study by Waithaka (2013) in Nairobi where Google Scholar emerged as the most popular e-resource, with 80.7% of respondents indicating use of it, followed by EbscoHost with 70.4% of respondents.

There was a significant difference between the use of e-resources by postgraduate students on a daily, weekly and monthly basis. Weekly usage of e-resources was found to be higher when compared to daily or monthly usage. This could be attributed to the fact that majority of the respondents attend lectures once or twice a week. In addition most part-time students are most likely in full-time employment and therefore cannot access e-resources daily. It seems that although some e-resources indicated very low usage, it is worth noting that many of the multi-disciplinary databases such as Academic Search Complete (62.7%) and Emerald Insight (53.4%) were often used on a weekly basis. To establish which e-resources were under-utilised, users were asked to indicate the e-resources which were used less than once a month. LibGuides and Database for Theses were the top two e-resources that were used less than once a month by academics. This was similar to Thanuskodi's study (2012) but dissimilar to the study by Evans and Mersham (2006). Results with postgraduate students indicated that OPAC and LibGuides were the e-resources used less than once a month.

5.8   Research Question 4: For what purpose do academics use e-resources?

Results shows that a large majority of academics indicated that they use e-resources, perhaps understandably, for "Research" (81.3%) and "Teaching" (81.3%). This study also revealed other purposes such as "Consulting, advising others" (50%) and "Current awareness" (18.8%). With a majority of academics using e-resources for research and teaching, this also supports one of the missions of the UKZN Library, that is, to support teaching, learning, and research by providing library and information services (UKZN, 2014: 1).

When asked how the reading of electronic articles affected the principal purpose of using e-resources, 75% of academics stated that it "Improves the results of their principle purpose", 56.3% mentioned that it "Leads to data sources" and a similar percentage (56.3%) stated it "Saves time on the other resources." This indicates that access to e-resources substantially improves academics' teaching and research by linking academics to other data sources and saves them time in terms of not having to look for other resources. The importance of saving time is not surprising since one of the main advantages with digital resources is that users can access digital information

twenty four hours a day and it can be quick to do such research. As far as the former is concerned, Trivedi (2010) notes how the physical boundaries of data have been eliminated.

5.8.1 Importance of e-resources on the productivity of academics

Studies in the literature review by Agyeman and Kisiedu (2006); Dulle et al., (2002) and Okafor (2011) indicate that research output in the form of publishing of papers and supervision of postgraduate students' research points to the productivity level of academics. In this study, a series of Likert scale statements was used to establish the respondents' views on the accessibility and utilization of e-resources and their impact on productivity. A majority of academic respondents (75%) strongly agreed that they access and use online databases in their research and 6.3% agreed with the statement. This indicates that the vast majority of academics at GSB&L are accessing online databases and using electronic articles in their research.

The results of this study are in contrast to a research finding by Ehikhamenor (2003) where 89.3% of the respondents strongly disagreed that the use of internet resources which included e-journals, facilitates higher productivity. However, it is once again significant to take note that Ehikhamenor's (2003) study was undertaken approximately 12 years ago and the evolution of digital information and e-resources has made great strides since then. It is also important to take note of Eke's (2006) study that revealed that problems with information, communication and technology were a major barrier in using the internet and this could be a factor in explaining Ehikhamenor's (2003) finding above.

While 75% of academics (strongly agreed and agreed) that they use e-resources more now that such resources are more generally available, 62.5% agreed to the statement "I prefer to access and use e-resources for my research rather than print material." This trend is supported by the findings of Chauhan and Mahajan (2014) which indicated that 62.8% preferred using electronic information when writing. These results affirm that academics are using online resources to keep up-to-date with current and new research to better their research publication productivity. They results are also consistent with Satpathy and Rout's (2010) view that academics are using e-resources to keep abreast of current developments in their subject areas.

5.8.2 Importance of e-resources on teaching and/or research for academics

From Table 4.44 it is evident that all academics - junior lecturers (69.3%), professors (15.4%) and senior lecturers (15.4%) - were convinced (agree and strongly agree) that the use of e-resources impacts positively on teaching quality. It was positive to note that none of the academics believed that the use of e-resources did not impact positively on teaching quality. This suggests that academics with teaching experience understand the value of using e-resources in their teaching.

5.9   Research Question 5: What are the factors that influence the use of e-resources by academics and postgraduate students?

The results of the study identified two important factors that influence the use of e-resources. The two factors are explained below.

5.9.1 Skills

Working in this environment requires an array of skills for both academics and postgraduate students to access e-resources effectively. In this regard, it was important to establish whether or not respondents felt that they had sufficient skills to access e-resources.

While 31% of academics felt that they had sufficient skills, a larger proportion of 50% indicated that they did not have sufficient skills to access e-resources. Of the postgraduate students, 62.1% rated their skills as sufficient with 22.9% indicating they did not have sufficient skills. It was important to note that 18.8% of academics and 15% of postgraduate students did not respond when asked if they had sufficient skills. This non-response could possibly indicate that respondents were not confident about their skills.

The percentage of academics considering themselves as not having sufficient skills is relatively high. The extent to which academics use e-resources also depends on their level of skills and the difficulties which they experience when using e-resources. When indicating their level of skills, 18.8% of academics and 16.4% of postgraduate students considered themselves as beginners when accessing and using e-resources. Less than half of the academics (43.8%) and just over half (54.3%) of the postgraduate student respondents rated their level of skill as intermediate while only a few academics (18.8%) and even a smaller percentage of postgraduate students (14.3%) regarded their level of skills as advanced. These finding suggest that while e-resources are clearly

being used by both academics and postgraduate students, their levels of usage of such resources, due to insufficient skills, may not be as efficient and effective as it could be.

Other factors that impede the use of e-resources are the difficulties users experience in accessing e-resources. Of the eight (50%) academics who indicated they did not have sufficient skills to access e-resources, all eight (100%) experienced difficulty in developing a search strategy and indicated that they lacked general computer skills. Similarly, Hadebe's (2010) study found that 81.8% of respondents in her study had problems in developing a search strategy. In the present study, it was interesting to note that, as pointed out above, while 31% of academics indicated they had sufficient skills, 50% also indicated that they lacked the skills to access e-resources and these latter academics would therefore experience problems in using e-resources. Findings of this study indicate that there is a relationship between computer skills and use of e-resources which is similar to the study by Majid and Abazova (1999).

Of the 32 (22.9%) postgraduate students who indicated that they did not have sufficient skills to access e-resources, the vast majority (90.6%) stated that they lacked general computer skills; 56.3% experienced difficulties using the software interface; 37.5% developing a search strategy and 34.4% limiting search results. While these results differed from that of the academic respondents, it was important to note that lack of general computer skills and difficulty in developing a search strategy were the common problems experienced by respondents in this study. This study supports the findings of Majid and Abazova's (1999) study that despite most staff and students being computer literate; there is still a need for additional training. It also supports the view of Omeluzor et al. (2012) that students and academics should acquire additional computer skills, master and/or rediscover how to navigate and use available e-resources to achieve better utilisation of those resources.

5.9.2 Training

A variety of e-resources are available on the UKZN Libraries webpage and academics and students need to be trained on how to access these e-resources optimally. In keeping with the mission of the library, UKZN Library staff provide training to library users to ensure that they can conduct their research using the various e-resources both efficiently and effectively. It was thus considered important to establish whether respondents were making use of the training offered by the library and for those who were, whether it was satisfactory or not.

More than half the academics (56.3%) confirmed that they received training from the library while 25% claimed that they did not receive training. Figure 4.35 shows that a majority (70%) of postgraduate students received training, while 14.3% indicated that they did not receive training. Clearly a larger percentage of students have attended training on the use of e-resources than academics. One of the reasons for the lack of training attendance by academics could be related to their teaching times and busy schedules as indicated by Harle (2010) in his study undertaken in East and Southern African universities.

Of the nine academics who received training from the library, four (25%) evaluated their training as satisfactory, five (31.3%) evaluated their training as less satisfactory and 6.3% evaluated their training as not satisfactory. When asked why the training was less than satisfactory (question no. 34), the respondents who answered commented that "Training was not advertised adequately", there was "Less conduct with library staff at GSB", that "Training was held once off" and, finally, that "There were too many databases demonstrated at once." In addition to this, the final open question (question no. 35) that allowed respondents the opportunity to add concerns or comments regarding the use of e-resources, also elicited the need for regular training. It is worth noting that none of the academics were highly satisfied with their training. Many studies included in the literature review for this study have recommended that libraries should provide effective training on the use of e-resources (see, for example, Mahajan, 2006; Turan and Bayram, 2013). The results of the present study are in keeping with many other studies that emphasize the importance and need for training on the use of e-resources (Bar-Ilan, Peritz and Wolman, 2003; Ansari and Zuberi, 2010; Raza and Upadhyay's, 2006). The reasons for the low usage of some e-resources could be attributed to the lack of training on how to utilize them. This was also noted by Nemati and Babalhavaeji (2013) in their study which investigated the awareness and ability of medical students in using electronic resources of the integrated digital library portal of Iran. These researchers found that users faced obstacles when using e-resources due to insufficient information on these e-resources and the lack of training.

From a total of 98 (70%) postgraduate students who received training from the library, only 15 (15.3%) students evaluated their training as highly satisfactory while 48 (48.5%) evaluated their training as less and not satisfactory. This clearly indicates that nearly half the respondents were not happy with the training received from the library. Findings of the current study are in agreement with those of Bar-Ilan, Peritz and Wolman, (2003) who found that despite a high percentage (85.2%) of respondents having mastered the use of e-resources well, 62.3% still

indicated the need for additional training on the use of e-resource. The need for additional training could possibly explain the high usage of Google Scholar that requires minimal or no training from library staff.

5.10   Research Question 6: How do academics and postgraduate students find out about the available e-resources?

In order to access and utilize e-resources, users need to know how to find information about available e-resources. Most academics (81.3%) found information about e-resources by accessing the library webpage followed by 56.3% of academics who browsed the web to find information. Other academics indicated that they relied on colleagues (50%) while a smaller percentage relied on library staff (31.3%). Postgraduate students found information mainly from lecturers (31.4%); from the library webpage (28.6%), library user education programme (20%); friends (14.3%) and finally from the library guides (5%). It is evident that many academics and postgraduate students at GSB&L use the library webpage to find information regarding e-resources. Findings of the current study were in contrast to the findings of Soyizwapi (2005) and Mawindo (2005) who, in their studies, indicated that it was friends and library orientation that proved to be the top two most important sources of finding out about e-resources. The majority of postgraduate students, 114 (81.4%) accessed e-resources remotely via an off-campus login, followed by 66 (47.1%) from within the library itself. This is aligned with the study by Scotti (2010) that pointed out the value of accessing e-resources twenty four hours a day, seven days a week remotely.

It is encouraging to note that 62.5% of academics and 47.1% of postgraduate students identified relevant electronic articles by relying on the library webpage or library staff. This once again indicates the efforts of the library in terms of creating awareness. It was also important to note that 32.9% of postgraduate students relied on library staff or academics to identify relevant electronic articles. It is therefore imperative for academics to be knowledgeable on the use of e-resources so that information can be passed on to students. This is supported by Nkosi, Leach and Hoskins (2011) who stated that academics with library service knowledge can encourage students to use the library.

5.11 Research Question 7: What problems do academics and postgraduate students encounter when accessing e-resources?

Academics as well as postgraduate students faced a number of problems when accessing e-resources. From the list of main problems given, respondents had to indicate the most serious to the least serious problem which they experienced. This study found that the most serious problems faced by 32.1% of postgraduate students was "Limited off-campus access". This once again indicates and confirms the finding of this study that most students do not come to the library physically to access e-resources but instead choose to use the off-campus access. Other problems listed included the second main problem was "Not sure which database to choose" (28.6%) and the third main problem being "Password requirements" (35%).

The most serious problem mentioned by academics (56.3%) was "Slow internet connection." It is surprising to note that while "Slow internet connection" was the most serious problem for academics, it was found to be the least serious problem by postgraduate students. Results also revealed that academics faced similar problems to postgraduate students with limited of campus access being indicated by 56.3% of respondents as their second main problem and finally "Logging in" (50%) as their third main problem experienced when using e-resources.

While this study indicated a high usage of e-resources, a large proportion of students 115 (82.1%) and 13 (81.3%) of academics experienced some challenges when using e-resources. Some of the challenges experienced included the need for the provision of training using multiple level databases (which suggests a lack of the necessary skills), information technology support after hours, lack of information resources, slow internet access and the absence of full text e-resources. Some of these challenges, namely information technology support and slow internet access were found in other studies, for example Chauhan and Mahajan (2014), found that slow bandwidth problems were a major impediment when accessing e-resources. Studies on internet usage by Okello-Obura and Magara (2008) at Makerere University, Uganda also found slow internet as a problem. Further studies in the literature by Bhattacharya (2004) indicates that connectivity is also hindered by unreliable power supplies and power outages, problems that are currently prevalent in developing countries.

The problems that academics and postgraduate students in this study encountered were similar to the finding of studies by Soyizwapi (2005); Mawindo (2005) and Faizul and Naushad (2012). All these studies indicated that the majority of respondents experienced difficulties with slow

connectivity and password requirements. Password requirement are of concern as the password is an essential for logging in to the computer network and subsequent access to e-resources. However, in this study the researcher became aware of the common problem students' face with passwords when accessing e-resources off-campus. Users tend to forget their login password and are sometimes unaware that their password expires after three months. Slow internet connectivity was the major problem which students faced but this was a university-wide problem that was linked to the Information and Communication Services Division (ICS). However, the issue of slow internet is mainly applicable to remote users who use the off-campus access. It is interesting to note that all the main problems students faced such as accessing e-resources through off-campus access, logging in and password requirements all relate to ICS problems.

5.12 Research Question 8: What do academics and postgraduate students perceive as the benefits of using e-resources?

Table 4.4 reveals that a small majority of academics (56.3%) were of the opinion that the main advantage of accessing e-resources was "Easy/faster access", followed by "Currency of information" (18.8%). Although "Access at any time of the day" may be assumed as a major benefit of using e-resources, it is surprising to note that 37.5% of academics considered this as the least important benefit of e-resources. This suggests that for academics there are more important benefits of using e-resources than accessibility at any time of the day.

Table 4.19 demonstrates what the postgraduate students identified as being the benefits of using e-resources "Emailing, saving and printing results" was considered the most important benefit by 48 (34.3%) students. This was followed by 30 (21.4%) students who indicated "Easy/faster access" as a benefit of using e-resources. The "Availability from desktop" was considered the least important benefit of using e-resources. Similar to the findings of this study, Toteng (2010) in her study of the use of electronic databases, by undergraduate law students at the University of Botswana Library, found that over half the respondents (56.8%) regarded the possibility to "Email, print and save" an advantage of e-resources.

5.13   Use of e-books

Since other studies conducted at UKZN did not include e-books in the list of e-resources, this was done by the researcher with the purpose of determining if respondents used e-books and if not, the reason/s for not doing so. It must be noted that e-books are a relatively new e-resource accessible via the library webpage.

Results indicated that a majority (81.3%) of academics accessed-books that UKZN libraries subscribe to. Reasons for using e-books included "e-books allow search possibilities" (81.3%); "e-books are available around the clock" (62.5%) and "e-books save space" (6.3%). These reasons and advantages of e-books were in agreement with those put forward by Zinn and Langdown (2011) in their study of e-book usage amongst academic librarians in South Africa. Data from the postgraduate survey showed that 32.9% use e-books, over half the students (52.1%) did not access e-books and 15% did not respond to this question. Their main reasons for using e-books included "e-books are available around the clock" (19.3%), "e-books allow search possibilities" (15.7%) and "e-books save space" (10.7%).

While there were other valid reasons for using e-books, it was interesting to note that some students (25.7%) and most academics (81.3%) were not concerned with the environmental advantages of using e-books such as reducing the consumption of paper and saving trees. When asked to indicate their reasons for not using e-books, it was interesting to note that none of the academics answered this question. It thus appears that academics are fully aware of e-books and do not have a valid reason for not using e-books.

The result differed greatly with postgraduate student in which the majority of the 73 (52.1%) respondents indicated they did not use e-books. All 73 postgraduate students did not access e-books, because "e-books need special equipment" and 56 (76.7%) indicated they were "unaware of existence of e-books on library webpage." It is thus evident that most postgraduate students at GSB&L who did not access this resource were not aware of e-books being available on the library webpage and did not know how to access e-books.

5.14   Summary

In this chapter the findings of the study as presented in Chapter Four were discussed. The key research questions provided the basis for the discussion. The major areas covered in the chapter included the shift from print to e-resources, awareness and extent of e-resources, usage patterns of e-resources, academics' main purpose for using e-resources, factors that influence the use of e-resources such as skills and training, how academics and postgraduate students found out about e-resources, problems encountered when using e-resources, the benefits of e-resources and finally usage of e-books. It emerged from the study that most of the respondents (both postgraduate students and academics) are aware of and use e-resources but require further training to advance their skills when using e-resources effectively. The next chapter will consist of the summary, conclusions and recommendations of the study.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1   Introduction

This chapter presents the summary, findings, conclusions and recommendations of the study. Conclusions are drawn from the findings in Chapter Four and the discussion of those findings in Chapter Five. The recommendations will flow from the key findings and conclusions of the study.

6.2   Summary of the study

Chapter One provided an introduction to the study by presenting an outline of the research problem, the problem statement, purpose of the study, the research questions and the rationale of the study. It also presented the background of the study by highlighting the Graduate School of Business and Leadership (GSB&L) discipline and students. Ranganathan's Five Laws of Library Science, the delimitations, definitions of key terms and the theoretical framework, that of Kuhlthau which underpinned the study, were discussed. The study also confirmed that academics and postgraduate students applied Kuhlthau's stages when they conducted research via e-resources. Stage five was the most important stage where respondents used different methods of searching for various e-resources through the library webpage, indicating their awareness of the various e-resources.

The focus of Chapter Two was the literature review where several studies on the use of e-resources were examined. The literature presented in this chapter was categorized by themes and focussed on the role of academic libraries, convergence of academic libraries, e-libraries, distant learning systems, variables affecting the utilization of e-resources, research productivity of academics and e-resources as a tool for teaching and learning. This included studies from other parts of the globe as well as from within Africa.

The research design and methods used in this study were discussed in Chapter Three. It was explained how data was collected in an attempt to answer the research questions of the study. The instrument used for the data collection consisted of a questionnaire comprising mainly of closed and some open questions. The validity of the study was established using a pretest questionnaire that was given to academics and postgraduate students. The quantitative data was analysed using SPSS and the analysis of the open questions involved transcription and coding into themes.

Chapter Four presented the results of the study which set out to establish the use of electronic resources by the academics and postgraduate students at GSB&L and the elements that contribute to or impede the use of e-resources. The results of the study have adequately answered the research questions of the study. This chapter presented the results of the study using inferential and descriptive statistics.

Chapter Five discussed the findings presented in the previous chapter. When discussing the results of the questionnaire, the research questions were reflected on again together with the previous studies which were mentioned in the literature review of this study. The results of the study revealed that while a vast majority of academics and postgraduate students were aware of e-resources, both academics and students still use print resources. Google Scholar, Science Direct and EbscoHost proved to be the top three e-resources used by academics and for postgraduate students, the top three e-resources were Google Scholar, e-Journals and EbscoHost.

6.3 Summary of findings

The summary of the findings are presented below in accordance with the research questions of the study.

Shift from print to e-resources

The advent of e-resources that has been driven by changes in technology has seen academic libraries moving from a traditional print-based environment to an increasing digital environment. Along with these changes, e-resources have been given great importance and become a necessity at UKZN Libraries. However, despite these radical changes and notwithstanding the shift from print to e-resources, this study has found that the majority of academics and postgraduate students at the GSB&L who participated in the study still use print resources for research. A large percentage of academics (81.3%) and postgraduate students (72.1%) give much emphasis to using the print format. The findings of this study complement the studies by Mawindo (2005) and Kacherki and Thombare (2010) who argued that the electronic format would not replace the traditional print format, and also endorse other studies namely that of Kaur and Verma (2009) and Chauhan and Mahajan (2014), which found that despite the advent of digital libraries, the need for print resources has not diminished.

While many respondents used print resources, results of the study indicated that postgraduate students (69.3%) and academics (25%) indicated their preference for both print and electronic resources. A more important finding revealed that a large proportion of these respondents preferred electronic articles over their print-based counterparts. This study supports the view of Agba et al. (2004) and advocates that academics and postgraduate students shift to e-resources for more efficient research. As put forward by Rao (2004), the shift would add capabilities that are not possible with traditional print-based resources.

The study attempted to answer the main question of this research:

What elements contribute to or impede the use of electronic resources for academics and postgraduate students at the GSB&L at UKZN, Westville Campus?

This research question has been adequately answered by statements of the respondents and through the analysis of the data of the study. This can be viewed in the various statements below.

Level of academics and postgraduate students' awareness of e-resources

This study found that majority of academics (87.5%) and postgraduate students (84.3%) were aware of e-resources. The high level of e-resource awareness in this study seems to reflect findings of other studies internationally as well as local studies. Only one (6.3%) academic and 21 (15%) postgraduate students indicated that they did not use e-resources. Some of the main reasons given by respondents for non-use of e-resources included having no access to computers, not requiring the use of e-resources, no time to search during library hours, and finally, some respondents indicated they were not actually aware of e-resources. Respondents learned about e-resources mainly through the library webpage, indicating that the library webpage is achieving its role in creating awareness amongst library users. Postgraduate students who learnt about e-resources through lecturers accounted for 28.6%. This could be seen as an important gateway for librarians to educate academics on e-resources so that they could filter through their knowledge about e-resources to their students.

More than half (58.6%) the postgraduate students at GSB&L were studying part-time and this seems to impact on their awareness of some e-resources. This is evident in the results of this study that revealed part-time students may lack awareness and knowledge on the use of online databases when compared to fulltime students. Inferential statistics conducted in the study showed that there

was a significant relationship between postgraduate students (part-time/full-time) and their use and awareness of the relevant online databases.

Generally, awareness and use of e-resources is particularly important to part-time students who as noted in Chapter One are busy balancing their lives between work and family responsibilities. This form of part-time learning encompasses minimal physical contact between students and the library and therefore part-time students will depend on lecturers and librarians to inform them about the use of e-resources. While some students may be well aware of the e-resources visible on the library page, they could lack knowledge on how to use them and this is supported by Omotayo's (2010) view that awareness does not always indicate proof of use. Hence the need for librarians to conduct library workshops or training on a continuous basis for academics and postgraduate students to ensure that they can identify and navigate through e-resources easily. To supplement the training, users should be given handouts on methods to access e-resources. As most part-time users are not on campus, they should also specifically be advised how to use the off-campus access. An electronic mailing list should also be used to regularly update users on new e-resources available.

Extent of e-resources usage by academics and postgraduate students

The e-resources that were found to be very important by academics were EbscoHost, Science Direct and e-Journals. Postgraduate students also indicated similar results with EbscoHost, Google Scholar, ProQuest and e-Journals being considered important. Results of this study demonstrate that Google Scholar has emerged as the most important e-resource for both academics and postgraduate students and this could be, as pointed out by Waithaka (2013: 127), that this search engine is user-friendly, simple to conduct scholarly searches and requires less or no training. Results of this study also showed that needing a password was a common problem faced by respondents accessing e-resources and this could perhaps be the reason for them opting to use Google Scholar since it omits the need for a password when accessing scholarly information. High usage of Google Scholar by academics could be attributed to the fact that this search engine allows researchers to establish who is citing their publications and allows them to do simple searches without any training from library staff. E-resources such as OPAC, LibGuides and JSTOR were identified as unimportant by both academics and postgraduate students. Some of the challenges when using e-resources experienced by both academics and postgraduate students included the lack of training using multiple level databases, IT support after hours, lack of information

resources, slow internet access especially for remote access users and the absence of full text e-resources.

Pattern of e-resources usage by academics and postgraduate students

Academics ranked EbscoHost as the most frequently used e-resource, followed by Science Direct as their 2nd choice and Google Scholar as 3rd choice. Postgraduate students ranked e-Journals as their most frequently used e-resource, followed by EbscoHost as their 2nd choice and Google Scholar as their 3rd choice. Emerald Insight (68.8%) and e-Journals (43.8%) were the top two databases used mainly on a weekly basis by academics.

Google Scholar (43.8%), Science Direct (18.8%) and EbscoHost (18.8%) were found to be the top three e-resources used on a daily basis by academics. For postgraduate students, the top three e-resources used daily were Google Scholar (32.2%) followed by e-Journals (26.3%) and EbscoHost (14.4%). Once again Google Scholar emerged as the most popular e-resource in this study. This finding for the high usage of Google Scholar indicates that academics and postgraduate students lack awareness of the value of other e-resources such as e-databases and e-Journals. This view is supported by a study by Harle (2010) who suggested that a lack of awareness of academic e-resources was the reason for researchers' use of Google.

For what purpose do academics use e-resources

The majority of academics revealed that their main purposes for using e-resources were for "research" (81.3%) and "teaching" (81.3%). Other purposes included "consulting, advising others" and "current awareness". Results of the study revealed that academics agreed that e-resources impact positively on their research productivity, showing that there is a positive relationship between the use of e-resources and research productivity. This corroborates the findings of Omeluzor et al. (2012), that access to e-resources is crucial to enhance innovations in research findings.

Factors that influence the use of e-resources by academics and postgraduate students

Researchers today need to work in a hybrid information environment to access information globally. This demands a selection of skills and training that makes the user confident and comfortable when accessing e-resources. Lack of skills or training may result in the user not accessing e-resources efficiently and successfully. Results indicate that many respondents in this study did not consider themselves adequately skilled in using e-resources. The lack of skills in

accessing e-resources could explain, to some extent, why some respondents preferred the print format when accessing e-resources. This is confirmed by Bodomo, Lam and Lee (in Mawindo, 2005) who found that when users were not confident about their computer skills they preferred to use print resources.

Despite the large number of respondents confirming that they had received training, it was found that many, who had received training, evaluated their training as less satisfactory. This could mean that many respondents may have not been properly trained on the use of e-resources and is in agreement with the findings of Faizul and Naushad (2012) and Msagati (2014) that despite using e-resources, users lacked training. It is therefore important that training should be done frequently to keep pace with the new changes and to improve the skills and confidence of users when using e-resources. While Harle (2010) affirms that academics may have busy schedules, it is important for librarians make time to visit academics to offer training periodically.

Most postgraduate students are encouraged to attend orientation programmes which are usually at the beginning of their studies. During these times, librarians are given a small time slot to inform students about library services and e-resources. The researcher is of the opinion that while most students may consider orientation sessions as "training", which accounts for the high numbers of respondents indicating having received such training, it must be noted that this is not in-depth training. Specialised training on how to use the e-resources effectively takes at least one hour and students need to pre-book these training sessions with their respective librarians.

How do academics and postgraduate students find out about the available e-resources?
Most respondents, both academics and postgraduate students, learnt about e-resources through the library webpage. These results confirm that the UKZN libraries are fulfilling their role of creating awareness of e-resources and a good indication that the library webpage is well marketed to both academics and postgraduate students. Browsing the web and relying on colleagues also proved to be good source for academics to find information on e-resources. With the postgraduate students lecturers proved to be the best source of information for finding out about the available e-resources and this was followed by the use of library guides.

E-resources were accessed from different access points and a large majority of postgraduate students 114 (81.4%) accessed e-resources remotely via the off-campus access and 66 (47.1%) via the library webpage. It seems that most postgraduate students do not come into the library or university to access e-resources. This is also supported by the finding that 57 (40.7%) rarely used the library and further underscores the important advantage of e-resources being available from anywhere and at any time. This study concurs with the findings of Sunna and Yuan (2012) that e-resources eliminate time and space constraints of traditional bricks-and-mortar libraries.

Problems encountered when accessing e-resources

Respondents encountered a number of problems when accessing e-resources. From the list of main problems given, the most serious problems faced by postgraduate students were "Limited off-campus access", followed by "Not sure which database to choose" and finally the third main problem being "Password requirements". With academics, the problem of "Slow internet connection" was indicated as their most serious problem. Other problems academics faced also included "Limited off campus access" and finally "Logging in" as their third main problem. The study revealed that the slow internet access and password requirements were a common and serious problem that both postgraduate students and academics faced when accessing e-resources. Both these problems are mostly experienced when accessing e-resources via the off-campus access.

Benefits of using e-resources

The study showed that respondents believed that use of e-resources was beneficial in their learning, research and teaching. The main benefits of using e-resources indicated by academics included "Easy/faster access" and "Currency of information". Results with postgraduate students revealed "Emailing, saving and printing results" and "Easy/faster access" as their main benefits. The findings of this study have also revealed that academics, preferred e-resources because it saved them money, time and also helped save the environment. In also allowed them to use multiple devices to read, and fonts could be adjusted to suit reading conditions.

E-Books usage

Anderson (2008: 564) rightfully affirms that, "The library is not about books, it's about information." Now that the walls of the traditional library have been removed, it has become imperative for academic libraries to find better ways not only to provide access to electronic articles but to also allow users to read information via e-books without physically entering the library. This study found that the majority of academics were aware of e-books, while more than half of postgraduate students did not access e-books due to not being aware of the existence of e-books and their lack of knowledge on e-book usage. This concurs with the findings by Jamali, Nicholas and Rowlands (2009: 42) that students face a lack of awareness and misperception of e-books. Although UKZN Libraries have adopted and provided e-books as an education tool to their users, this study indicates that postgraduate students need more awareness of and training on the use of e-books. However, it is positive to note that academics from the GSB&L are using e-books. Since e-books have become an important e-resource, results indicate that the library can invest more on e-book acquisitions provided that postgraduate students receive more training and awareness on the use of e-books, either from academics or library staff.

6.4 Important findings from the study

In this study, the influence of demographics variables such as age, gender, qualification and year of study has been analysed using cross tabulations and Chi-square tests. The results indicate that with postgraduate students, tests revealed that there was a significance influence of age on the use of e-resources access and the use of online databases. In addition there was a significant influence of various degrees for which respondents were registered on the use of e-resources. Findings of this study also suggest that there was a significant influence of age on the computer literacy of postgraduate students. Inferential statistics found that there is a significant relationship between the age of postgraduate users and their computer literacy (Sig=.000). Particularly, this study revealed that younger postgraduate students considered themselves as having better computer skills than older students did and therefore may embrace the use of e-resources more easily.

6.5   Conclusions

While traditional libraries have undergone a rapid shift from print to electronic and have changed the way information is accessed, academics and postgraduate students at GSB&L are still given the choice of walking into the library to browse the shelves or access electronic information beyond the walls of the library, and without geographical boundaries. However, despite this shift to reliance on e-resources that has emerged, this study found that the majority of academics and postgraduate students at the GSB&L were aware of e-resources but still preferred a blend of print and electronic resources. More importantly, this study also indicated that academics and postgraduate students' usage patterns are shifting in terms of their willingness and preference for using electronic articles. The top four e-resources used most frequently on a daily basis were Google Scholar, e-Journals, EbscoHost and Science Direct. While this study confirmed high usage of this search engine and the two e-databases, it was disheartening to note that despite the substantial amount of money spent by UKZN Libraries on other e-databases such as Lexis Nexis Academic, Springer, Index to South African Periodicals, Sage and Web of Knowledge, these were underutilized.

Finally, it may be concluded that this study has answered the research questions and the objectives of this study and acknowledges the importance of e-resources to support and enhance teaching and learning. This study concurs with many other studies reflected in the literature reviewed that despite this global trend with the shift to digital resources, some academics and students may be aware of e-resources but do not utilize them effectively and this could be due to barriers which they experience, including the lack of training on the use of these e-resources. While UKZN currently has a large volume of print books and electronic resources, this study indicates that UKZN Library can invest more on e-resources which "web-savvy" users will welcome and gladly use.

The role of academic libraries needs to change to meet the competitive and changing needs of academics and postgraduate students. This includes integrating digital information to their collections, enhancing training, providing vigorous support and marketing of e-resources to users. Reverting to Ranganathan's relevance in the 21st century, "saving the time of the reader" is what all academic libraries should aim for. This can be achieved by providing high quality digital information that can be accessed via the internet within seconds. Seamless access to electronic resources will ultimately assist in promotion the mission of UKZN by achieving academic excellence and innovations in research.

6.6   Recommendations

Based on the findings of this study, the following recommendations are put forward to ensure that both academics and postgraduate students make optimum use of e-resources:

- UKZN Library should conduct intensive and more focussed training programmes for both academics and postgraduate students at GSB&L. The GSB&L should identify appropriate modules that could include library user education training programmes, and these programmes should be made compulsory for all postgraduate students and should be included as part of their lectures.

- Training on specialised e-resources should also be given on an ongoing basis to keep academics and postgraduates abreast of new e-resources and different search strategies. Handouts and step-by-step guides with screenshots should be given to all students after training sessions to assist them if they experience difficulty when accessing e-resources.

- Since the GSB&L building is located a distance from the Main Library, the librarians should allocate specific dates and time to make themselves available at the GSB&L offices to assist students and academics in small groups or on a one to one basis with any problems they may be experiencing and to disseminate information on the use of e-resources. The School of GSB&L should appoint a library representative from within the School (academic and student) to communicate their training and library needs to the librarian.

- The library needs to market the library webpage, and use this page to advertise training sessions or new e-resources regularly. The library also needs to embark on an intensive marketing programme for e-resources and use promotional materials such as posters, flyers, guides and brochures to encourage the use of e-resources.

- Library staff should be well trained with basic information technology skills to help users with password, login problems and connectivity issues.

- ICT consultants should provide training sessions or attend general orientation for students to guide users through the process of logging in and obtaining their passwords. In addition, since most of

the problems students faced when accessing e-resources all relate to ICT problem, it is imperative that these issues be discussed with the Information & Communication Services Division (ICS).

- As most academic libraries are faced with dwindling budgets, it is important for UKZN Libraries to conduct research to look at under-utilized e-resources which can assist when making decisions to renew electronic subscriptions. User surveys should be conducted every quarter to establish if the various e-resources are being used effectively and to identify changes in the needs of users. This will assist library management when budgeting and expanding the libraries' e-collections.

- It is important that more effort and time be dedicated to part-time students who are not always available for training. There should be an easier communication line between the librarian and these students via Live Chat, email or Instant Messaging to guide and inform users how to search for relevant e-resources.

- It is crucial for academics to be informed of new e-resources so that they could promote the use of such resources to their students. Library staff needs to inform academics of current and new resources either by sending email alerts, user guides or advertising such on the university website.

6.7   Suggestions for further research

As most participating students were studying part-time, this study provided a good indication of e-resources usage patterns amongst distant or part-time learners. This could be a valuable starting point for further research to be conducted at other Graduate Business Schools in South Africa.

In addition, a study of the Subject Librarians' professional training needs and expertise in the technical environment could also be considered, so that they are able to appropriately and skilfully advise and assist users on the use of e-resources. Finally, an area for further research could be to determine how the GSB&L Library's planning of library orientation and user education in the optimum use of available e-resources for both academics and postgraduate students (with particular reference to off campus users) could be undertaken.

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Appendix 1: Cover letter

<u>Informed Consent Document</u>

Dear Participant,

My name is Anita Somers (Student no. 200102870). I am a Masters candidate studying at the University of KwaZulu-Natal, Pietermaritzburg Campus. The title of my research is: "The use of electronic resources by academic staff and postgraduate students in the Graduate School of Business and Leadership at University of KwaZulu-Natal, Westville Campus." The aim of the study is to seek to analyse the use of electronic resources by academic staff and postgraduate students at the Graduate School of Business and Leadership.

Please note that:

- The information that you provide will be used for scholarly research only.
- Your participation is entirely voluntary. You have a choice to participate, not to participate or stop participating in the research. You will not be penalized for taking such an action.
- Your views will be presented anonymously. Neither your name nor identity will be disclosed in any form in the study.
- The data will be held in a password-protected file accessible only to myself and my supervisor.
- If you agree to participate please sign the declaration attached to this statement

I can be contacted at: School of Social Sciences, University of KwaZulu-Natal, Pietermaritzburg Campus, Pietermaritzburg. Email: somersa@ukzn.ac.za
Phone number : 031 2607399

My supervisor is Athol Leach who is located at the School of Social Sciences, Pietermaritzburg Campus, Durban of the University of KwaZulu-Natal. Contact details: email : Leach@ukzn.ac.za   Phone number: 033 2605098

The Humanities and Social Sciences Research Ethics Committee contact details are as follows: Ms Phumelele Ximba, University of KwaZulu-Natal, Research Office, Email: [ximbap@ukzn.ac.za,](mailto:ximbap@ukzn.ac.za)Phone number +27312603587.

Thank you for your contribution to this research.

Appendix 2: Informed Consent form for survey participation

DECLARATION

I.…………………………………………………………………………. *(full names of participant)* hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire. I understand the intention of the research. I hereby agree to participate.

I consent / do not consent to have this interview recorded (if applicable)

SIGNATURE OF PARTICIPANT   DATE

 .…………………………………………   ………………………

Appendix 3: Academics's questionnaire

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QUESTIONNAIRE
The use of electronic resources by academic staff

</div>

Electronic resources (e-resources) refer to those materials that can be accessed via computers or handheld mobile device, either remotely via the internet. Such resources in this study comprise e-journals, e-books, online databases, e-theses/e-dissertations, LibGuides and the OPAC (online public access catalogue to search for books and other resources)

General instructions for completing this questionnaire

- The questionnaire has 2 sections, please answer all questions by indicating a ✓, X or by instructions given for each question

- Where space is provided, please print or write clearly

- Please note that this questionnaire is anonymous and your participation will be held in the strictest confidence

I- PROFILE OF THE RESPONDENT

Q.1.　**Gender**

Male	1	Female	2

Q.2.　**Age**

20-29 years 1	30-39 years 2	40-49 years 3	50 and above 4

Q.3.　**Highest qualification**

Matric 1	Degree 2	Honours/Post-grad Diploma 3	Masters 4	Doctorate 5	Post-doctorate 6

Q.4.   **Professional rank** …………………………………………..

Q.5.   **Main area of focus**

Leadership	
Entrepreneurship	
Business Management	
Local Economic Development	
Other (please specify)	

Q.6.   **Please state if you are on contract or permanent staff**

Contract	1	Permanent	2

Q.7.   **Teaching experience in years**

Less than 2 years	2-5 years	6-10 years	Over 10 years
1	2	3	4

II-   USE OF LIBRARY

Q.8a) Which Library do you use?

Westville Main Library	1	GSB Library	2	Both	3

Q.8b) If both, which Library do you use more often?

Westville Main Library	1	GSB Library	2

Q.9. On average, how often do you physically visit the Library?

Never	Rarely	Monthly	Fortnightly	Weekly	Daily
1	2	3	4	5	6

III-   INFORMATION REGARDING ELECTRONIC RESOURCES

Q.10. **Have you used any of the e-resources provided by the library?**

Yes	1	No	2

Q.11. **If you answers "No" to the above question, what are you main reasons not using e-resources? (Please tick all those that apply)**

No access to computers	1
Not aware of presence of these resources	2
No time to search during library hours	3
Do not know how to access off campus	4
No staff available to assist	5
Did not require use of e-resources	6
Unsatisfactory results in accessing	7
Other (please specify)	8
_____	

If you have answered No to question 9, please do not go further.
Thank you for completing all the above questions and kindly return the questionnaire by hand to the GSB Library or via email to somersa@ukzn.ac.za

Q.12. **If you have answer Yes to question 8, please indicate which e-resources you have used and how you access these e-resources?   (Please tick all those that apply)**

	Daily	Weekly	Monthly	Less than once a month
OPAC	1	2	3	4
e-Books	1	2	3	4
Database for theses	1	2	3	4
e-Journals	1	2	3	4
LibGuides	1	2	3	4
Academic Research Library	1	2	3	4
Academic Search Complete	1	2	3	4
Abi-Inform Global	1	2	3	4
Business Insight	1	2	3	4
Business Source Complete	1	2	3	4
Emerald Insight	1	2	3	4
EbscoHost	1	2	3	4
Global Marketing Information	1	2	3	4

Index to South African Periodicals	1	2	3	4
JSTOR	1	2	3	4
Lexis Nexis Academic	1	2	3	4
McGregor BFA	1	2	3	4
ProQuest	1	2	3	4
SA ePublications	1	2	3	4
SABINET	1	2	3	4
SAGE Journals Online	1	2	3	4
Science Direct	1	2	3	4
Springer	1	2	3	4
Web of Knowledge	1	2	3	4
Web eg. Google Scholar	1	2	3	4
Other (Please specify) …………………………..				

Q.13. **Please indicate the level of importance of each electronic resource below**

	Not important	Less important	Not sure	Important	Very important
OPAC	1	2	3	4	5
e-Books	1	2	3	4	5
Database for theses	1	2	3	4	5
e-Journals	1	2	3	4	5
LibGuides	1	2	3	4	5
Academic Research Library	1	2	3	4	5
Academic Search Complete	1	2	3	4	5
Abi-Inform Global	1	2	3	4	5
Business Insight	1	2	3	4	5
Business Source Complete	1	2	3	4	5
Emerald Insight	1	2	3	4	5
EbscoHost	1	2	3	4	5
Global Marketing Information	1	2	3	4	5
Index to South African Periodicals	1	2	3	4	5
JSTOR	1	2	3	4	5
Lexis Nexis Academic	1	2	3	4	5
McGregor BFA	1	2	3	4	5
ProQuest	1	2	3	4	5
SA ePublications	1	2	3	4	5
SABINET	1	2	3	4	5
SAGE Journals Online	1	2	3	4	5

Science Direct	1	2	3	4	5
Springer	1	2	3	4	5
Web of Knowledge	1	2	3	4	5
Web eg. Google Scholar	1	2	3	4	5
Other Please specify …………………………					

Q.14. From the above list of e-resources, which do you use most frequently? (Please rank in order from the most frequently used to the least)

1

2

3

4

5

Q.15. Find below some of the benefits of using e-resources. Please rank them from the most important (1) to the least important (6).

Easy / faster access   [   ]
Can email, save, print results   [   ]
Availability of full-text   [   ]
Access any time of day   [   ]
Currency of information   [   ]

Available from desktop   [   ]

Any other benefit/s? (Please specify)

Q.16. On the list below, please indicate in order the main problems faced while using e-resources (1) for the most serious to (8) for the least serious.

Logging in   [   ]
Password requirements   [   ]
Not sure which database to choose   [   ]
Difficulties in searching   [   ]
Library staff not always available to help   [   ]
Printing   [   ]
Limited off-campus access   [   ]
Slow Internet connection   [   ]
Any other problem/s (Please specify) ----------------------------------
----

Q.17a) Do you still use print resources? (e.g. articles published in print/hardcopy)

Yes	**1**	**No**	**2**

Q.17b) **If Yes, please find below some factors which motivate the choice of the print format over electronic, please rank them in order, (1) being the most important factor and (5) being the least important**

- Ability to browse   [ ]
- Portability   [ ]
- Physical comfort   [ ]
- Familiarity with format   [ ]
- Ability to underline and make notes   [ ]

Q.18a) **Which format do you prefer for journal article reading?**

Print	1
Electronic	2
Both	3

Q.18b) **Please explain reason/s for using the above selection**

Q.19a) **Do you have sufficient skills to access e-resources?**

Yes	1	No	2

Q.19b) **If 'No', which of the difficulties below do you experience (you may tick more than one)**

Developing a search strategy	1
Using the software interface	2
Limiting search results	3
Lack general computer skills	4

Other (please specify)

Q.20. **How would you rate your level of skill with accessing and using electronic resources?**

Beginner?	1	Intermediate?	2	Advanced?	3

Q.21. How do you identify relevant electronic articles? (You may tick more than one response)

Browsing through recent issues	**1**
Searching bibliographic databases	2
Following citations, bibliographic references	3
Relying on alerting services	4
Relying on the library webpage or library staff	5

Other (Please specify)

Q.22. For what purpose/s are you using e-resources ?(You may tick more than one)

Research	**1**
Teaching	2
Consulting, advising others	3
Current awareness	4
Other? (Please specify)	

Q.23. If you ticked more than one response above, what would you consider to be the main or principal purpose?

Q.24. How does the reading of articles from e-resources affect the principal purpose mentioned above? (Please tick all those that apply)

Improves the result of the principal purpose	**1**
Narrows/broadens the focus of your principal purpose	2
Inspires new thinking, ideas	3
Results in collaboration/joint research	4
Results in faster completion of your principal purpose	5
Leads to data sources	6
Saves time on other resources	7

Q.25. How do you find information about e-resources?

Browsing the WWW	**1**
E-mail discussion lists	2
Mailshots from publishers	3

Library webpage	4
Library staff	5
Colleagues	6
Other (Please specify)……………………………………………………	

Q.26a) **Do you access e-books?**

Yes	1	No	2

Q.26b) **If 'Yes', what is the reason for using e-books** (Please tick those that apply)

e-books are available around the clock	1
e-books offer timely access to new titles	2
e-books have helpful features such as searchable and allows easy navigation	3
Environmental advantages eg. e-books can reduce the consumption of paper and save trees	4
e-books save space	5
e-books allows search possibilities eg. searching for keywords within the e-book	6
Other (Please specify)	

Q.26c) **If 'No', what is the reason for <u>NOT</u> using e-books** (Please tick those that apply)

No relevant e-book titles are available	1
e-books need special equipment	2
e-books could mean additional cost on my side	3
e-books from different sources are not compatible	4
e-books are hard to read and browse	5
Unaware of existence of e-books on library webpage	6
Other (Please specify)	

Q.27. **What are the major challenges you experience in your use of e-resources at the Library?**

┌───┐
│   │
│   │
│   │
│   │
│   │
└───┘

Q.28. **What recommendations can you make to improve the use of e-resources for teaching, learning and research?**

┌───┐
│   │
│   │
│   │
│   │
└───┘

Q.29. **Please indicate the extent to which you agree or disagree with the following statements regarding e-resources**

- **Accessibility and utilization of e-resources**

	Strongly disagree	Disagree	Agree	Strongly agree	Not applicable
I use more e-resources now that they are more generally available	1	2	3	4	5
I access relevant e-resources on the Internet daily	1	2	3	4	5
I recommend the use of e-resources to students	1	2	3	4	5
I access and use online databases in my research	1	2	3	4	5
I prefer to access and use e-resources for my research rather than print material	1	2	3	4	5

I am aware of relevant online databases in my fields	1	2	3	4	5
If I have to choose between the electronic and printed version of an article, I would prefer the electronic	1	2	3	4	5
E-resources enable me to conduct research in a way that would not have been feasible in the print environment	1	2	3	4	5

- **Productivity**

	Strongly disagree	Disagree	Agree	Strongly agree	Not applicable
Access and use of e-resources impacts positively on my research productivity	1	2	3	4	5
Access and use of e-resources impacts positively on my teaching quality	1	2	3	4	5

Q.30. **How important are the sources below for your teaching and/or research?**

	Unimportant	Uncertain	Important	Very Important
e-books	1	2	3	4
e-journals	1	2	3	4
electronic database for theses	1	2	3	4
OPAC	1	2	3	4
LibGuides	1	2	3	4
Web for eg. Google Scholar	1	2	3	4

Q.31. How would you describe your level of computer literacy?

Very poor	1	Poor	2	Average	3	Good	4	Very good	5

Q.32 Have you ever had any training regarding e-resources from the Library?

Yes	1	No	2

Q.33. If yes, how would you evaluate the training that you have received from the Library?

Not satisfactory	Less satisfactory	Satisfactory	Highly satisfactory
1	2	3	4

Q.34. If you indicated either Not or Less satisfactory above, please could you elaborate.

Q.35. Anything else you would like to add concerning the use of e-resources?

Thank you so much for your participation

Appendix 4: Postgraduate Students's questionnaire

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QUESTIONNAIRE
The use of electronic resources by postgraduate students

</div>

Electronic resources (e-resources) refer to those materials that can be accessed via computers or handheld mobile device, either remotely via the internet. Such resources in this study comprise e-journals, e-books, online databases, e-theses/e-dissertations, LibGuides and the OPAC (online public access computers to search for books and other resources)

General instructions for filling in this questionnaire

- The questionnaire has 2 sections, please answer all questions by indicating a ✓, X or by instructions given for each question

- Where space is provided, please print or write clearly

- Please note that this questionnaire is anonymous and your participation will be held in the strictest confidence

I   PROFILE OF THE RESPONDENT

Q.1. Gender:

Male	1	Female	2

Q.2. Age:

20-25 years	1	26-30 years	2	31-35 years	3	36-40 years	4	40 and above	5

Q.3. Please indicate what studies you are registered for

Honours/Postgrad Diploma	1	Masters	2	Doctoral	3	Post-Doctoral	4

Q.4. Year of study …………………………………………

Q.5. Nature of study

Full time	1	Part time	2

Section B: Use of Library

Q.6a) Which Library do you use?

Westville Main Library	1	GSB Library	2	Both	3

Q.6b) If both, which Library do you use more often?

Westville Main Library	1	GSB Library	2

Q.7. On average, how often do you physically visit the Library?

Never 1	Rarely 2	Monthly 3	Fortnightly 4	Weekly 5	Daily 6

II INFORMATION REGARDING ELECTRONIC RESOURCES

Q.8. Have you used any of the e-resources provided by the library?

Yes	1	No	2

Q.9) If you answers "No" to the above question, what are you main reasons not using e-resources? (please tick all those that apply)

No access to computers	1	
Not aware of presence of these resources	2	
No time to search during library hours	3	
Do not know how to access off campus	4	
No staff available to assist	5	
Did not require use of e-resources	6	
Unsatisfactory results in accessing	7	
Other (please specify)	8	
_____		

If you have answered No to question 8, please do not go further.

Thank you for completing all the above questions and kindly return the questionnaire by hand to the GSB Library or email : somersa@ukzn.ac.za

Q.10. If you answered Yes to question 8, which e-resources have you used and how often you use these e-resources? (Please tick all those that apply)

	Daily	Weekly	Monthly	Less than once a month
OPAC	1	2	3	4
e-Books	1	2	3	4
Database for theses	1	2	3	4
e-Journals	1	2	3	4
LibGuides	1	2	3	4
Academic Research Library	1	2	3	4
Academic Search Complete	1	2	3	4
Abi-Inform Global	1	2	3	4
Business Insight	1	2	3	4
Business Source Complete	1	2	3	4
Emerald Insight	1	2	3	4
EbscoHost	1	2	3	4
Global Marketing Information	1	2	3	4
Index to South African Periodicals	1	2	3	4
JSTOR	1	2	3	4
Lexis Nexis Academic	1	2	3	4
McGregor BFA	1	2	3	4
ProQuest	1	2	3	4
SA ePublications	1	2	3	4
SABINET	1	2	3	4
SAGE Journals Online	1	2	3	4
Science Direct	1	2	3	4
Springer	1	2	3	4
Web of Knowledge	1	2	3	4
Web eg. Google Scholar	1	2	3	4
Other (please specify) ……………………………				

Q.11.Please indicate the level of importance of each e-resources below

	Not important	Less important	Not sure	Important	Very important
OPAC	1	2	3	4	5
e-Books	1	2	3	4	5
Database for theses	1	2	3	4	5
e-Journals	1	2	3	4	5
LibGuides	1	2	3	4	5
Academic Research Library	1	2	3	4	5
Academic Search Complete	1	2	3	4	5
Abi-Inform Global	1	2	3	4	5
Business Insight	1	2	3	4	5
Business Source Complete	1	2	3	4	5
Emerald Insight	1	2	3	4	5
EbscoHost	1	2	3	4	5
Global Marketing Information	1	2	3	4	5
Index to South African Periodicals	1	2	3	4	5
JSTOR	1	2	3	4	5
Lexis Nexis Academic	1	2	3	4	5
McGregor BFA	1	2	3	4	5
ProQuest	1	2	3	4	5
SA ePublications	1	2	3	4	5
SABINET	1	2	3	4	5
SAGE Journals Online	1	2	3	4	5
Science Direct	1	2	3	4	5
Springer	1	2	3	4	5
Web of Knowledge	1	2	3	4	5
Web eg. google scholar	1	2	3	4	5
Other……………………………………………………………					

Q.12. From the above list of e-resources, which do you use most frequently? (Please rank in order from the most frequently used to the least)

1

2

3

4

5

Q.13. Find below some of the benefits of using e-resources. Please rank them from the most important (1) to the least important (6).

Easy / faster access   [ ]

Can email, save, print results   [ ]

Availability of full-text   [ ]

Access any time of day   [ ]

Currency of information   [ ]

Available from desktop   [ ]

Any other benefits ? (Please specify) --

Q.14. On the list below; please indicate in order the 8 main problems faced while using e-resources. (1) for the most serious to (8) for the least serious.

Logging in   [ ]

Password requirements   [ ]

Not sure which database to choose   [ ]

Difficulties in searching   [ ]

Staff not always available to help   [ ]

Printing   [ ]

Limited off-campus access   [ ]

Slow connection   [ ]

Any other problem/s (Please specify) ---

--- -----

Q.15. Where do you access these e-resources from? (Please tick all those that apply)

Library	1
Postgraduate rooms	2
LAN	3
Remote (off-campus)	4

Other (Please specify)

Q.16. Have you attended any library user education programs on the use of Library electronic resources?

| Yes | 1 | No | 2 |

If 'No', please explain why.

Q.17. How did you find out about these e-resources (please tick)

Library user education program	1
Library guides	2
Library webpage	3
Lecturers	4
Friends	5
Other (Please specify) - ………………………………………………………………… ………………………………………………………………	

Q.18a) Do you still use print resources? (e.g.articles published in print/hardcopy)

Yes	**1**	**No**	**2**

Q.18b) If Yes, below some factors which motivate the choice of the print format over electronic, please rank them in order, (1) being the most important factor and (5) being the least important.

- Ability to browse   [ ]
- Portability   [ ]
- Physical comfort   [ ]
- Familiarity with format   [ ]
- Ability to underline and make notes   [ ]

Q.19a) Which format do you prefer for journal article reading?

Print	1
Electronic	2
Both	3

Q.19b) Please explain reason/s for using the above selection.

Q.20. Do you have sufficient skills to access e-resources?

Yes	1	No	2

If 'No', which of the following difficulties do you experience (you may tick more than one)?

Developing a search strategy	1
Using the software interface	2
Limiting search results	3
Lack general computer skills	4

Other (please specify)

Q.21. How would you rate your level of skill with accessing and using electronic resources?

Beginner? 1	Intermediate? 2	Advanced 3

Q.22. **How do you identify relevant electronic articles? (You may tick more than one response)**

Browsing through recent issues	1
Searching bibliographic databases	2
Following citations, bibliographic references	3
Relying on alerting services	4
Relying on the library webpage or library staff	5
Relying on library staff or academics	6

Other (Please specify)

Q.23a) Do you access e-books?

Yes	1	No	2

Q.23b) If 'Yes', what is the reason for using e-books
(Please tick all those that apply)

e-books are available around the clock	1
e-books offer timely access to new titles	2
e-books have helpful features such as searchable and allows easy navigation	3
Environmental advantages eg. e-books can reduce the consumption of paper and save trees	4
e-books save space	5

e-books allow easy search possibilities eg. searching for keywords within the e-book	6
Other (please specify)	

Q.23c) If 'No', what is the reason for <u>NOT</u> using e-books
(Please tick all those that apply

No relevant e-book titles are available	1
e-books need special equipment	2
e-books could mean additional cost on my side	3
e-books from different sources are not compatible	4
e-books are hard to read and browse	5
Unaware of existence of e-book on library webpage	6
Other (please specify)	

Q.24. How would you describe your level of computer literacy?

Very poor	1	Poor	2	Average	3	Good	4	Very good	5

Q.25. Have you ever had any training regarding e-resources from the Library?

Yes	1	No	2

Q.26. If yes, how would you evaluate the training that you have received from the Library?

Not satisfactory 1	Less satisfactory 2	Satisfactory 3	Highly satisfactory 4

Q.27. If you indicated either Not or Less satisfactory above, please could you elaborate.

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Q.28. What recommendations can you make to improve the user training in accessing e-resources for students such as yourself?

Q.29. **Please indicate the extent to which you agree or disagree with the following statements regarding e-resources**
   • **Accessibility and utilization of e-resources**

	Strongly disagree	Disagree	Agree	Strongly agree	Not applicable
I use more e-resources now that they are more generally available	1	2	3	4	5
I access relevant e-resources on the Internet daily	1	2	3	4	5
I recommend the use of e-resources to my fellow students	1	2	3	4	5
I access and use online databases in my studies	1	2	3	4	5
I prefer to access and use e-resources for my studies rather than print material	1	2	3	4	5
I am aware of relevant online databases in my area of study	1	2	3	4	5
If I have to choose between the electronic and printed version of an article, I would prefer the electronic	1	2	3	4	5
E-resources enable me to conduct my studies in a way that would not have been feasible in the print environment	1	2	3	4	5

Q.30. What are the major challenges you experience in your use of e-resources at the Library?

Q.31. Anything else you would like to add concerning the use of e-resources?

Thank you so much for your participation