

**ACADEMICS' EXPERIENCE OF AND PERCEPTIONS OF THE ROLE
OF THE ACADEMIC LIBRARY IN RESEARCH AT THE CAPE
PENINSULA UNIVERSITY OF TECHNOLOGY**

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DECLARATION

“I declare that **ACADEMICS’ EXPERIENCE OF AND PERCEPTIONS OF THE ROLE OF THE ACADEMIC LIBRARY IN RESEARCH AT THE CAPE PENINSULA UNIVERSITY OF TECHNOLOGY** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references”.

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ABSTRACT

The study investigates the role of CPUT libraries in supporting research and how academics perceive this role. CPUT is a new university of technology and aims at improving its research record. Research is crucial to South Africa to develop economically, socially and to compete globally. Research is fundamental to the existence of universities.

Universities of technology libraries face the challenge of providing support for research. Previously the colleges / technikon libraries provided support for undergraduate and underdiplomates only. Today, they have to provide support for researchers at masters, doctoral, and post-doctoral levels.

Questions arising from the research problem are:

- How much and what kind of research is being conducted by academic staff at CPUT?
- What programmes does the library have to meet the needs of the researcher?
- How do academic researchers use the library at present?
- What do researchers see as the inhibiting and encouraging factors for their research with regard to library services?
- How do they perceive the role of the library in their research?

There were two phases in the research design: an in-depth interview with the recently appointed Research Librarian at CPUT libraries whose job it is to plan and implement library support services to researchers and to run the Research Information Support Centre (RISC) and an electronic survey of researchers on the academic staff of CPUT. The purpose of the interview was to explore the library plans for research support. Nine themes were highlighted during the interview with the Research Librarian for example:

- Librarians should be researchers, research support is a whole-library responsibility
- Postgraduate degree research is the core function of RISC.

The purpose of the survey was to investigate what researchers need and want from the library as well as their perceptions and attitudes towards the role of the library in research. A questionnaire consisting of mixed questions (qualitative and quantitative) was sent by email to all 602 academics at CPUT across eight campuses. The aim was to achieve a representative sample across all six faculties. The final sample was 102 with one faculty underrepresented.

The study made the following findings:

- 52% of respondents strongly agree that research is essential to their job and that CPUT needs to build a stronger research culture.
- PhD and Masters degree research dominates.
- For a University of Technology the low proportion of industrial-sponsored research is perhaps surprising.
- The average time percentage spent in a working year on research is 23.4%. Several comments in the final open-ended question point to heavy workloads.
- 65% of respondents have not published any articles in accredited journals in the past three years.
- 57% of respondents do not agree that they source information directly from the Internet and so no longer need the library.
- Most respondents, 95 of the 102, make use of the library for research support. However, RISC is not their number one choice for research support. RISC is perhaps underused. The three library services being extensively used by respondents are e-resources, borrowing print resources and Inter-library loan services. Quite a high number of respondents, 27 (28%), are undecided whether the Digital Knowledge Repository at CPUT, a library project, is important to them. However, comments in the final open-ended question indicated that respondents are unaware of this service.
- The number one on researchers' wish lists for library research support services is to be kept informed of new research in their field – thus the traditional current awareness services of libraries.
- The ICT infrastructure has been highlighted as critical. The main reason for low rating of the library is that the network / databases are too slow.
- There seems to be fairly strong doubt that librarians have adequate subject knowledge to support research with 27% agreeing that librarians lack subject knowledge.
- The cross tabulations suggest that there might well be some differences among faculties in terms of responses. But statistical tests of significance would be needed to confirm this suggestion.

The study had a few limitations. The survey left the researcher with some questions. It only focused on one institution. Postgraduate students who are not staff members were excluded from this study.

Some of the recommendations coming from the study are:

- ICT infrastructure needs to be improved
- Library current awareness and alerting services must be improved
- The Digital Knowledge research repository must be made more visible to academics
- Document delivery and inter-library loan services should be made more efficient and faster
- Collection development processes need to be geared more closely to the needs of researchers.

The aim of the project was to gather information for CPUT libraries to develop further their services to form a part of the research culture. The study might make academics and researchers aware of the potential role the library plays in contributing to their research needs. If South Africa is to progress to a knowledge society, its universities will have to increase research output. Universities of Technology have a particularly important role to play as South Africa urgently needs scientific and technological research. Therefore their libraries have a special responsibility to support their efforts to improve their research culture and production.

It is hoped that this study will contribute some insight into how University of Technology libraries might enhance their research support.

Keywords: Cape Peninsula University of Technology; Research; Research role; Academic libraries; Researchers; Perceptions.

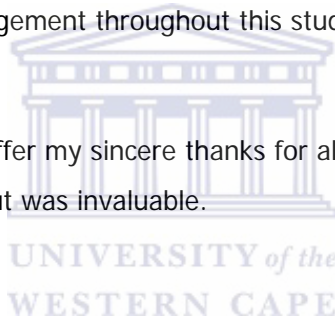
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To all academic staff and researchers at the Cape Peninsula University of Technology, thank you for all the information you gave me that enabled me to carry out the case study. Your willingness to help and your time and efforts are greatly appreciated.

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CHAPTER 1

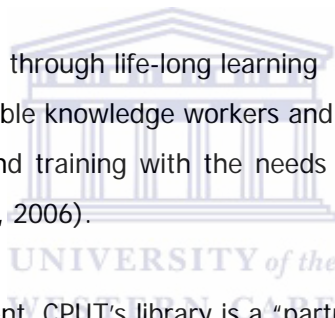
INTRODUCTION TO THE RESEARCH PROJECT

1.1 Introduction

The project comes from my work at the Cape Peninsula University of Technology (CPUT) Libraries, which in January 2005 came out of the merging of the Cape Technikon and Peninsula Technikon. CPUT is a new university of technology and one of its priorities is to improve its research record.

CPUT's vision and mission statements recognise its place and responsibilities in the national landscape of higher education in a democratic South Africa. It aims to:

- Seek to address past inequalities and transform the institution to meet national needs
- Develop human potential through life-long learning
- Develop socially responsible knowledge workers and professionals
- Integrate its research and training with the needs of South Africa (Cape Peninsula University of Technology, 2006).



According to its mission statement, CPUT's library is a "partner" in the academic mission and at its centre. It aims to be "the hub of innovative and highly valued knowledge systems, services and resources for its clients, as the information partner at the centre of CPUT's academic mission" (Coetzee, 2007: 1). It hopes to "add value to teaching, research, scholarship and community work" by "providing excellent information resources, systems, services and training".

In the light of this mission statement and after five years experience in the library services at CPUT, the researcher wishes to explore academic staff's perceptions of the library in terms of their research. The focus of the project is not on the role of the library in CPUT's teaching and community programmes but rather on its role in research and scholarship. And the focus is on how academics experience and perceive this role. The underlying question is: Do they share the view that the library is a partner in their research work?

The aim of this study is to use the information to improve our services to accommodate the research needs of academic staff. What “resources, systems, services and training” do researchers at CPUT feel they need?

1.2 Motivation and background

South Africa needs to become an information or knowledge society if it wants to compete in the global economy. A knowledge society is a learning society in which research is central. Research in science and technology contributes to sustainable development (UNESCO, 2005: 99). Research in the social sciences and humanities provides insight into and solutions to our social, economic and political challenges.

According to Danie Visser as quoted by Gower (2008): “if South Africa is to remain globally competitive it is vital that measures are adopted to enhance our international research standing.” Research and development (R&D) has become an important factor in order for South Africa to grow economically and socially as well as to compete globally. The then Minister of Science and Technology, Mosibudi Mangena mentioned in Parliament in May 2008 that 0,9% of South Africa’s Gross Domestic Product (GDP) was being spent on R&D. The expenditure on R&D as a percentage of GDP has been compared amongst 15 foreign countries including Sweden, United States and Australia. South Africa ranks 13 out of the 15 countries, indicating that the country’s economy is not competitive (Organisation for Economic Cooperation & Development, 2004). Mosibudi Mangena talks of the need to move away from a reliance on natural resources and of the role of research in the move to a knowledge economy:

The South African research environment is quite vibrant, it might be small, but there’s quite a lot of talented researchers at our universities and science councils. We are basically a resource-based economy. We need now to build an economy based on knowledge – we’ve got to mine the knowledge that’s being produced by our people at our universities and the other institutions, and protect the intellectual property that arises from that and move towards the knowledge economy.

There is a ten-year *Innovation Plan for South Africa*, which maps the course for enhancing innovation and its potential to contribute to sustained economic growth over the next decade (BuaNews, 2008).

Research is fundamental to the social mission of universities and therefore of their libraries. Universities' missions over the years have focused more and more on research. Although the South African government favours research in science and technology, universities conduct research in all areas of knowledge. The purpose of universities competing globally is to attract the best researchers and students. Research is significant in that it allows universities to compete worldwide. The summary information sheet produced by the Research Libraries Consortium (RLC) (2007) identifies six challenges for research in South African universities:

- A national imperative to improve and expand research
- An aging cadre of researchers
- An imperative in the post-apartheid era to expand the limited pool of researchers to represent South Africa's linguistic and cultural diversity
- Competition with the private sector for a limited number of talented researchers
- Inadequate preparation in schools for higher education
- An educational system in transition.

There is argument over the disparities among South African universities in terms of their research production. The table below gathers statistics from the research reports for 2006 of CPUT and the University of Cape Town (UCT) and from a newspaper report on government grants to universities in 2006. It shows the gap between UCT, South Africa's top so-called research university, and CPUT.

Table 1
Measures of research production in 2006: UCT / CPUT (CPUT 2008; UCT 2006; Gower 2008)

Measures of research output	UCT	CPUT
Publications	893	69
Postgraduate throughput	2980	77
Research grants / contracts	R149 639 000	R20 862 000
Numbers of NRF rated researchers	275	11

Research production is measured according to the internationally accepted performance indicators of number and quality of peer-reviewed publications, throughput and quality of

postgraduate students, income generated through grants and contracts, and the standing of researchers as evidenced in NRF rating.

There are two views on the gaps shown in the table. Some argue that historically black and disadvantaged HEIs such as CPUT must be supported to catch up. Trying to level the playing field, the Department of Education introduced development grants three years ago to assist institutions that battled with research production. Because the research skills and infrastructure at such institutions needed attention, funds were used to recruit research professors and for laboratory upgrades. Development grants opened opportunities for institutions to be supported to achieve their different goals (Gower 2008). But another view is that not all South African universities should aspire to be research universities. The top research universities in South Africa are critical of the development grants (Gower 2008). They feel that these institutions have not met their research output targets for the year 2006, while they have over-performed.

Makgoba (2006) argues for differentiation in which the existing top research universities are funded to keep their research strengths as he claims happens in the United States. Research universities, according to Makgoba, are universities that are research intensive, invest highly in research and account for more than 65% of R&D within the higher education sector. He argues:

South African universities have different strengths, histories and capacities. ... All parts of our higher education system should be treated and funded adequately, according to each institution's strengths, and aligned to national development and global knowledge imperatives. This approach would link academic freedom with academic accountability, informed choice, flexibility, incentives and measurable key performance areas in the public interest. A differentiated system is an excellent disciplinary system because it tends to support an educational market.

MacGregor (2007) argues that South Africa is not effectively supporting fields of research in which it excels: "Government is not sufficiently focused on areas of established excellence, is not pumping enough funding into university-based research and is not properly implementing the research priorities it identifies". According to MacGregor, some universities build excellence in certain disciplines, making them stand out internationally. There are four South African universities that fall in the top 500 world university rankings, namely Cape Town (253), Witwatersrand (398), KwaZulu-Natal (475) and Pretoria (487). Research universities focus on particular disciplines where they have strengths.

Universities of Technology and their libraries face specific challenges in providing support for research. Previously the college/technikon libraries needed to meet the information needs of undergraduates only. These libraries now have to meet the information needs of researchers at masters, doctoral and even post-doctoral levels, as well as academics preparing and teaching courses. The Department of Education has approved a benchmark for the ratio of weighted publication units to permanent staff that is considered for funding given to each institution. This means that permanent academic staff and researchers at universities are expected to deliver 1,25 research units per annum and those in universities of technology 0,5 units. This new emphasis on research output for government subsidies means that the public higher education institutions must provide information resources to support research in order to facilitate research output (Van Zijl, 2005: 2).

1.3 Background of CPUT

The history of the two former institutions, Cape Technikon and Peninsula Technikon, goes back to 1920 with the establishment of the Cape Technical College (Cape Peninsula University of Technology 2008). In 1962 the Peninsula Technical College was established to cater for the steady growth in the number of coloured apprentices in a variety of trades in Cape Town. The college then relocated to Bellville in 1967. The institutions had their status changed to College for Advanced Technical Education in the late sixties and early seventies, and were then known as the Cape and Peninsula Colleges for Advanced Technical Education. After the promulgation of the Technikons Act in 1976, these colleges could offer tertiary education in selected fields of study. During 1979 both colleges were legally established as technikons: Peninsula Technikon in Bellville and Cape Technikon in Cape Town. In 1993 the Technikons Act was promulgated, empowering technikons to offer Bachelors, Master's and Doctoral degrees in Technology. In March 2001, the Minister of Education announced the *National Plan on Higher Education*, which was set to change the higher education landscape with several South African universities being merged. Towards the end of 2002, the Minister announced that a merger between the two technikons would go ahead in January 2005. In October 2003 the Minister approved the new name, Cape Peninsula University of Technology, and announced that the status of technikons would be changed to universities of technology. In January 2005, the two institutions merged and became the Cape Peninsula University of Technology.

CPUT's library is spread across eight campuses and six faculties. The two largest libraries serve the campuses of the previous Cape and Peninsula Technikons. There are also libraries at the two former teacher training colleges in the suburb of Mowbray and the Boland town of Wellington. Wellington also houses the agriculture department and a small business education programme. The Hotel School, near Cape Town's Waterfront, also has a library.

CPUT has several research support units such as:

- The Research Directorate, headed by a professor and which co-ordinates research across the university.
- Research Information Support Centre (RISC), which is a library project headed by the Research Librarian and placed in both Cape Town and Bellville campus.
- FUNDANI, which is a teaching and learning centre for academics and which helps in dissertation writing
- Centre for Postgraduate Studies, headed by an academic and based in the library at the Cape Town and Bellville campuses.
- Digital Knowledge, a research repository for electronic theses and it is hoped that it will turn into an institutional repository.

1.4 Conceptual and theoretical framework

The research project is framed by the interrelated concepts of the "learning society" and the "knowledge society". These concepts also frame academic librarianship.

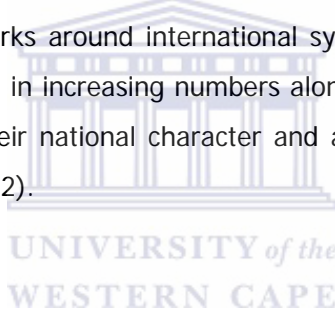
Research and the knowledge society

The concept of knowledge society has evolved out of the concept of the information society and is defined by the New Zealand government as one "that creates, shares and uses knowledge for the prosperity and well-being of its people". The information society is one in which information and its communication technologies underlie all social processes (van Dijk 2005: 133). The knowledge society is more inclusive. It talks of content and meaning and the sense people make of information. "Learning" is a key value in moving towards a knowledge society. Learning is about assimilating knowledge critically (*Towards a Knowledge Society*, 2005: 60).

The Ohio State University's web site provides the following definition of research:

"A formal, systematic application of the scientific approach to the study of a problem to discover new information or expand and verify existing knowledge" www.ag.ohio-state.edu/~aged885/Glossary/GLOSSARY.htm.

The purpose of research is to build new knowledge and theory about our world. Therefore knowledge societies value and depend on research. They are characterized by communities of practice and scholarly networking through which research findings are documented and communicated and new knowledge is created. CPUT describes the aim of research as "to create and sustain a learning community through increased research outcomes in collaboration with strategic partners, with an emphasis on the development of new knowledge, innovation and applied research that benefits society" (CPUT, 2006). The rise of new technologies has changed traditional scholarly communication patterns. There is an emergence of university networks modeled on research networks. Knowledge is expanding rapidly and diversifying through the establishment of new multi-disciplinary communities organized in the form of networks around international symposia and specialized research journals, which are springing up in increasing numbers alongside the old generalist reviews. Learning societies are losing their national character and are assimilated into international organizations (UNESCO, 2005: 92).



Academic librarianship

Academic libraries are attached to universities and serve the teaching and research needs of students and academics. The purpose of academic libraries is to provide for the educational needs of students, support academics in their teaching role, and provide for research in both higher-degree work and the research activity of academic staff. The standard texts on academic librarianship all stress the role of the academic library in supporting academic staff in conducting research. However, it seems agreed that the most difficult part of the academic libraries' function is providing for research needs (Feather and Sturges, 1997: 3). Although some researchers feel that funding the library should be a top priority for their institution, librarians in some studies reflect that securing top-level support is not always easy:

"Limited funding emphasizes the tension between competing demands for library resources: many researchers perceive that libraries give greater priority to support for teaching and learning rather than to research, something that many librarians acknowledge" (*Researchers' Use Of Academic Libraries & Their Services*, 2007.)

New information and communication technologies (ICT) have led libraries to adapt their services as researchers choose to access digital information from home or their offices. Different disciplines have different behaviours. Research has shown that arts and humanities researchers put a high value on the services provided in library buildings, which social science and science researchers hardly ever visit.

1.5 Research problem

In today's society, it has become more and more important to conduct research, in order to compete globally. In order for South Africa to become a knowledge society, more research needs to be conducted. A knowledge society is "a society that creates, shares and uses knowledge for the prosperity and well-being of its people". In the Department of Education report in 2005 on research output statistics, CPUT is rated quite low. As already stated, the reason for this is that previously the Technikons were focused on teaching and experiential training. CPUT academics thus face the challenge of conducting more research in order to build a research culture. Once a research culture exists at CPUT, it will become a competitive partner in higher education, as well as contributing to the knowledge society. Research will contribute to South Africans building a stronger, more knowledgeable nation.

The research project investigates CPUT's academic staff use of and perceptions of the role of the academic library in conducting research. It is accepted that academics traditionally visit the library to browse the shelves, do inter-library loan requests, and consult librarians over book orders. But it seems from the international research that the role of the library as a "place" in researchers' working lives is becoming very different from what it was. Another factor in the research problem is possible differences in research behaviour between researchers in different disciplines (*Researchers' Use of Academic Libraries and their Services*, 2007). My purpose is to ask the question what do researchers need, want and expect from an academic library? Key research questions are:

- How are CPUT academics using the Library at present in their research?
- What does the CPUT research community need and want from the Library to do their research?

Chapter 3 of this dissertation will elaborate on these questions and describe the data-gathering methodology that aimed at answering them.

1.6 Chapter outline

The structure of the dissertation follows the recommendations of standard textbooks for postgraduate students (for example Mouton 2001). Chapter 1 has introduced and explained the purpose of the study and its conceptual framework. Chapter 2 surveys the research already conducted in researchers' views on the role of library in supporting research needs. Chapter 3 gives the research questions and explains the data gathering methodologies to answer the research questions. Chapter 4 summarises and analyses the findings. And Chapter 5 interprets the findings in the light of the study's research questions. Chapter 6 reflects on the success and limitations of the study. It includes some recommendations for CPUT Library and for academic libraries in general.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

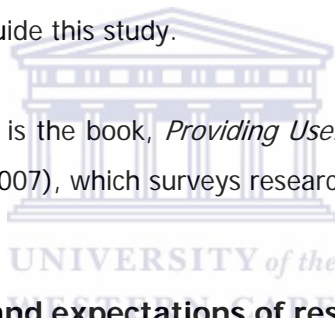
The following chapter looks at the literature relating to my topic. The chapter describes studies across the world, UK, Australia, Hong Kong, Tanzania and South Africa.

Aspects of the topic identified in the literature are:

- Information needs of researchers to be met by their institutions' libraries
- Library services to support research in their institution
- Competencies of the research librarian.

The aim of this chapter is to give a clear indication of what research has been done and its outcomes, which can perhaps guide this study.

A useful source for this chapter is the book, *Providing Useful Library Services For Research* (Webb, Gannon-Leary & Bent, 2007), which surveys research in this area.



2.2 Information needs and expectations of researchers

The Research Support Project team at the University of Newcastle (2001) investigated researchers' priorities in terms of the library. Paper questionnaires were sent out to 123 researchers across faculties. Library staff also ran focus groups at academic research committee meetings. It was found that the most important services for researchers were:

- Access to electronic journals
- Having an up-to-date collection and a wide range of special materials available
- Access to archives and special collections
- Document delivery services
- Specialist help and advice in tracing resources, as well as keeping up-to-date with the latest information.

The main reason for the project was to develop new services and to integrate them with existing services. This study gives an overview of what researchers need and want from the library in terms of library research support.

Robertson and Young (Webb, Gannon-Leary & Bent, 2007: 29) used a similar survey in 2003 in their study of researchers' needs at the Queensland University of Technology (QUT), Australia. The maintenance of printed resources as well as increasing access to electronic resources were the two main concerns highlighted. Researchers like to create a "nest", surrounding themselves with all the resources they need when they are busy with a study. This brought up the issue regarding policies and the centralization of resources and loan period management. Because QUT library is committed to remaining involved in the research process of researchers, they have accommodated the temporary assembly of resources in research offices. This study which was conducted two years after the study at the University of Newcastle identified similar needs of researchers. What came out strongly in this study was the demand for dedicated space with the necessary resources available there. The RISC centre at CPUT that was described in Chapter 1 is an example of a dedicated research space. This unit will be discussed later on in my study.

The study by Houghton, Steele and Henty (2004) in Australia made use of in-depth interviews and workshops involving 75 Australian-based researchers. The process involved 40 interviewees and 35 workshop participants to find out what information sources researchers preferred. It was found that 75% of researchers interviewed mainly worked in project teams. It was noted that researchers hardly ever worked on research studies on their own. Refereed journals, books and conference papers were highlighted as very important. There was a shift towards electronic resources for current information. Two-thirds of researchers viewed Google as an essential source and 60% was scored for peer-reviewed electronic journals. It was noted that researchers in the Social Sciences, Humanities and Arts depended less on electronic sources than did scientists and medical researchers. It was concluded that a new mode of knowledge production was emerging. Research activities are more diverse and the focus is more on problems than techniques. The trend is towards collaborative work and informal modes of communication. Some of the recommendations made in this study are:

- Creating a coherent structure of incentives through reforms to research evaluation for the creation, production and distribution of research information
- Providing the infrastructure and tools to support collaborative research activities in both traditional and new modes of research
- Enabling access to necessary information access mechanisms and resources, and equipping users with appropriate skills to enable their use.

This study identified that there is a shift from the traditional way of doing research to more collaborative research. It is also noticed that the interest mainly lies in electronic resources. However, with that comes the need for researchers to be trained on how to access electronic resources. This is where librarians, who have the skills and expertise, can arrange training workshops for researchers. The other concern, which is very important, is having the proper ICT infrastructure in place in order for the accessing of electronic resources to run smoothly.

Dulle et al (2001) examined whether agricultural libraries in Tanzania were accommodating the information needs of researchers. Questionnaires were sent to 321 selected researchers at 13 agricultural research stations. Respondents were randomly selected at research stations where there were more than 30 researchers. In this study, researchers were defined as individuals with a BSc training level that were involved in agricultural research. There were 245 responses completed and collected, a 76.3% response rate. Respondents had to rank the journals in their institutions' library in order to assess its adequacy of the journal collection. Out of 234 respondents, only 23.1% ranked their collections at their institutions as adequate. Access to scientific information was queried and 230 respondents claimed to face problems. Based on the results and observations on researchers' usage of various libraries, it is evident that the majority of the respondents had no reliable means to access scientific information because of distance and inadequate ICT infrastructures. Thus they had to make use of the literature at their disposal regardless of its quality. It was concluded that the majority of researchers found their institutional libraries inadequate in providing information they needed. With a result, the quality of research as well as researchers' output are greatly affected due to the unavailability of timely and reliable information. The following recommendations were made:

- Better current awareness services
- Resource sharing – document delivery services among libraries
- The need for information technology developments to facilitate resource sharing
- User education is needed to improve library users' capacity.

The outcome of this study shows how important it is that the library has a good print and electronic collection. It does determine the outcome of research output. This study

identifies the vital role that the library plays in research support. Once again the ICT infrastructure and training needs were highlighted as vital for researchers.

The report commissioned by the Research Information Network and the Consortium Research Libraries (*Researchers' use of academic libraries and their services*, 2007) highlights the current position and future trends in a UK study on researchers' use of library services and what research support they are receiving. The focus is mainly on the relationship between academic libraries and their institution's researchers. There is a constant build-up of pressure between the daily demands of researchers and the changes taking place within libraries to meet the research needs. Some of the challenges that academic libraries face in their services to researchers are the explosion of digital information, specialized collection building and the growth of informal scholarly communications.

The study highlighted the difficulties libraries were facing due to the changing needs and demands of researchers. However, it gave libraries an overview of what researchers want and need in terms of research support. The study suggests areas for academic libraries to work on to meet the needs of researchers so that academic libraries can contribute to the building up of the research culture.

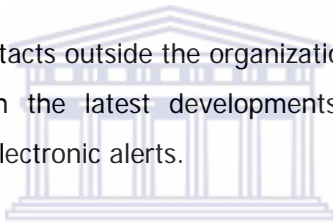
Miller (2008) investigated the research information needs, behaviour and source preferences of academic researchers at the Charles Sturt University in Australia who were engaged in a public policy research project. The method used for gathering data was by means of in-depth interviews conducted with three public policy oriented academic researchers. The motivation for the study was an increased need to develop and support academics so that they can demonstrate the quality and impact of their research projects in both academic and non-academic contexts. Miller worked with the researchers in their natural context and not according to the beliefs held by information professionals about how researchers behave or should behave. Miller felt that research librarians would benefit greatly by stepping into the shoes of researchers to develop the emotional intelligence to provide a service that is responsive to researchers' cognitive needs. Miller's research, unlike the other studies in this chapter, identifies different information needs at the different stages of the research process. At the proposal development stage, researchers need for example:

- Access to electronic current awareness information services to ensure the continuing relevance of the research.

- Information on research funding opportunities which match their research questions and needs.
- Personal interaction like informal discussion with academic colleagues to develop research questions and increase the potential impact of their research.

Miller also identifies a number of motivating and demotivating factors for researchers. For example the following motivating factors were identified:

- Having reliable research assistance is a motivating factor for researchers as it saves them time and energy.
- The availability of research funding opportunities that match issues or questions of interest
- Having good background knowledge and knowledge of authors and researchers in the area of interest
- A reliable network of contacts outside the organization or community
- Keeping up-to-date with the latest developments in the areas of interest and subscribing to personal electronic alerts.



The following demotivating factors were identified:

- Information overload and the difficulties in finding relevant information within the electronic environment
- Intellectual and geographic isolation - the lack of face-to-face informal research discussion
- The time-consuming nature of information seeking for research, particularly demotivating in the time-pressured academic environment.
- The time needed to learn how to use electronic databases and the problem that arises from re-learning them when they change from year to year.

Miller claims that his research on motivators and demotivators provides useful information to improve information services and sources. He also highlights the need to develop the information literacy and "research literacy" of researchers and information professionals. Once again ICT and current awareness are highlighted as strong motivators for researchers.

2.3 Library services and collection development in the support of research

Van Zijl (2005) used case studies to examine collection development and management practices, policies, guidelines and standards to meet the information needs of researchers. The study involved Universities of Technology in South Africa and New Zealand. It was found that South African standards and guidelines needed to be upgraded. Funding for the purchasing of information resources in South Africa are lagging behind those found at the New Zealand University of Technology. There is a need for South African libraries in Universities of Technology to bring their collections up to standard with that of similar institutions worldwide. This means that the goals and objectives of collection development need to be adapted. The outcome was that a model Collection Development Policy was drawn up to assist with the process of developing and managing research collections at South African universities of technology.

This study focused on the importance of building up adequate collections to support research as this has an impact on the outcomes of research conducted. As mentioned in the study by Dulle (2001), it is crucial that library collections are kept up to date otherwise it will have a negative impact on the research output. It is highlighted that both print and electronic resources are vital to researchers.

Mgobozi and Ocholla (2002) researched the use of electronic journals by scholarly communities at the Universities of Natal and Zululand. The role that academic libraries play in the provision of these journals was also explored. A scholarly community in this study refers to academic staff, postgraduate students and library staff. A survey research method was used and the population was sampled using the stratified random sampling technique. A sample of 10% of the postgraduate students, 20% academic staff and all professional librarians were used in the study. It was found that electronic journal use at both universities was very low. However, perceptions of electronic journals were positive. It is evident that ICT infrastructure needs enhancing at both universities. An important recommendation was that library management should market electronic journals to the management in order to gain both moral and financial support from the university. The position of electronic resources librarian needs to be established. User education in the use of electronic journals is also needed.

The study identified the importance of library marketing services and resources offered. Once again current awareness is highlighted as vital in the lives of academic staff and researchers. It is evident that with this goes the need for training so that researchers can access information relevant to their research.

Ortiz-Repiso (2006) studied researchers' use of the Online Public Access (OPAC) at the largest research institution in Spain, called the Spanish Council for Research. A questionnaire was sent out to 12 network libraries and altogether 528 responses were received. The results show that researchers were confronted with information seeking problems such as information overload and errors in subject searching. It is found that researchers mainly use the OPAC to access print materials as well as connecting to electronic resources subscribed by the libraries. It was recommended that catalogues developed in a web environment, should find a way to implement more efficient search mechanisms than those based on Boolean operators and exact hits. OPAC search results should be arranged and displayed according to relevance, as currently provided by Internet search engines. It is important that OPAC becomes the libraries' overall information environment interacting with other information systems. Once again this study highlights the importance of access to relevant print and electronic resources. Training is vital in the enhancement of information seeking behavior of researchers.

The Research Libraries Consortium (RLC), a Carnegie Corporation Project which is currently taking place between the libraries of the Universities of Cape Town, Kwazulu-Natal and the Witwatersrand, has a project aimed at transforming and enriching support to researchers. The RLC points out that, because South African researchers often lack confidence, experience, and the ability to develop effective research strategies, they need more than just sophisticated access to the widest range of content in their disciplines (2007). The project has three parts: the building of a research portal, the enhancing of the skills of librarians and the creation of a physical space called the Research Commons. The research portal will provide access to a wide range of international and local electronic content for postgraduate students and academics. It will also provide powerful tools to search multiple kinds of information and the ability to personalize access to organized content. According to Hamblin (2005: 29), "portal technology offers academic libraries the opportunity to group their electronic resources together and users to search these through single point of access. The benefits of providing a seamless search interface for users has yet to be fully documented, but early signs indicate that users are accessing more electronic resources and with greater frequency". Therefore it is important that existing librarians receive state of the

art training in order for them to acquire the expertise, research knowledge and support skills that are needed. The research commons acts as a “one-stop shop” for postgraduates and academic staff who need assistance with research, where the portal and skilled library staff are available. Again the project highlights the importance of dedicated research spaces like CPUT’s RISC in the library that was established in 2006.

Fan (2005) did a study at Hong Kong University libraries to investigate the role they play in supporting research. The method used was to study all university websites around the world in order to see what research support was made available to postgraduates and academic staff. Academic staff at Hong Kong universities are under enormous pressure to publish papers covered by the Science Citation Index (SCI) and the Social Science Citation Index as these are indicators for assessing academic and research performance as well as deciding the status of their universities. The question that Fan (2005: 49) pointed was: “how can university libraries offer a service to support the research of young professors and PhD students”? After investigating university library websites around the world, it was found that many have a “Research Guides” section which describes how to select topics, gather research information (especially from electronic journals and databases) and list subjects according to category. Electronic journals are listed alphabetically on library websites to make searching easier. Research guides in addition helps postgraduates and researchers with their studies. The Hong Kong University Library provides an “Online Resource Guide” on the library website. It includes a column consisting of “writing essays, reports and research papers”, which recommends references, lists books relating to writing research papers available in Hong Kong University Library and introduces web resources. It was found that Newcastle University Library also provides research information on the library website and offers a wide range of resources and services in support of research. Included in the research information are links to “How can I get something translated” and “How can I disseminate my research”. It is noted that university libraries can offer a variety of services in support of research. Fan (2005: 49) believes that “as university libraries become more and more digitized, they play an important role in offering a greater support service for young professors and PhD students which will help in the development of their academic careers”.

Garner (2006) conducted a study on the research support at university libraries in Australia. He browsed the library websites to investigate what research support was being offered. It was found that research support services such as scholarly resources, training, support for grants, research commons, postgraduate reading rooms and private study rooms, were

being offered at university libraries in Australia. Included in the research support found on websites were research consultations and research output services. It was found that more and more university libraries were establishing research services units. The purpose of a research services unit at the Curtin University of Technology is to “proactively support research activities by providing relevant resources, strengthening research processes, facilitating scholarly communication and promoting research output”. Some of the activities taking place in the research services unit are:

- Facilitating mandatory submission of electronic theses
- Development of an institutional repository
- Collection management guided by a new Collection development policy
- Mastering research resources series of training on database searching
- Academic staff reading room
- Building relationships across the university's research community with the research & development committee, office of research & development and the graduate studies committee
- Citation searching for researchers
- A wiki used as a communication and collaboration tool for the research services team
- Senior librarians offices located in the faculties to ensure maximum contact with researchers and postgraduate research students.

ICT is changing the research process and this means that academic libraries need to adapt their support services accordingly. A new research practice has emerged in Australia called e-research. According to Garner (2006) e-research means “research activities that use a spectrum of advanced ICT capabilities and embraces new research methodologies”. The question is whether academic libraries will be able to support this new form of research as it focuses on primary data not published. There is a concern that this transformation of scholarly practice may not match the traditional research support offered by academic libraries. An Australian e-Research Strategy and Implementation Framework is in the process of being finalized by Government in order to deal with the challenges that academic libraries may face. It is highlighted that innovative and advanced ICT needs to be used to produce high quality research outcomes in a range of activities such as skills development in e-research and data management. Academic libraries in Australia need to be able to respond flexibly and innovatively to these latest directions. New skills will need to be acquired by university librarians and a close collaboration between academic libraries, offices of research

and development and ICT units needs to be established. Garner (2006) concludes that “academic libraries must respond to these changes in higher education and develop and understanding of the emerging new processes of scholarly practice and not assume a continuation of research services based on traditional models of scholarly communication”.

2.4 Competencies of the research librarian

The previous sections have identified the pressures on academic libraries to support research and to keep up with changing research processes. The implication is that their staff needs specialized expertise in two areas: research methods and subject knowledge. In 2000, the American Association of Southeastern Research Libraries (ASERL) produced a list of the competencies needed by a research librarian.

They include the following:

- Good ICT skills
- The ability to work in diverse teams and to partner with faculty
- Specialised subject knowledge according to the researcher he/she works with
- The ability to build specialized collections
- Knowledge of and expertise in research procedures and theories.



Existing services are evaluated and assessed by the librarian to ensure that user needs are met. Librarians need to be innovative and take up new opportunities and challenges as well as adapt to changes. They need to understand the context of higher education..

ASERL claims that research librarians connects people to ideas as well as providing free and open access to information. Librarians are committed to literacy and learning, and respect individuality and diversity. Librarians support freedom of expression, preserve the human record and provide excellence in service.

The CPUT research study does not aim to confirm whether CPUT librarians have these skills. However, these skills can help with the questions asked of my respondents. Questions are asked on whether the respondents have experienced the services mentioned in the competencies list.


2.5 Conclusion

This chapter concentrated on what existing research says about researchers' needs of the library in terms of research support. The main aspects identified in the literature are:

- The importance of adequate print and electronic resources to support research
- The improvement of ICT infrastructure ensuring quick access to relevant information
- The value of dedicated research spaces in libraries
- Current awareness services
- Training on electronic resources
- The importance of libraries keeping up to date with the changing needs of researchers
- The specific competencies of Research Librarians

A quote from Webb, Gannon-Leary & Bent (2007: 130) is a useful way to end this chapter.

Their words explain the reason for my research project...



"While it is vital to listen to researchers and ensure that the library responds to their needs, we must do more than listen and react. Many researchers are unaware of the potential services and resources available to them and will only ask for what they already know about. This ignorance could easily compromise the quality of the research output. How much better might their research have been if they had been better informed? This is an area where librarians can demonstrate their value to the community is as well informed as possible is the responsibility of the library and its staff and we have to find as many ways as we can to achieve this" (Webb, Gannon-Leary & Bent, 2007: 130).

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter returns to the research problem and formulates the research questions that come from it. It then describes the design and methodology which gathered the data to answer the questions. There are two methods of gathering data discussed: interviewing the Research Librarian and an email survey of researchers.

The methodology is similar to the studies conducted in recent years by other universities, for example the study of the University of Newcastle described by Webb, Gannon-Leary and Bent (2007).

3.2 Research problem statement and questions

As stated in Chapter 1, CPUT is rated quite low in South African university rankings. The reason is that previously the Technikon was focused on teaching and experiential training. CPUT academics thus face the challenge of conducting more research in order to build a research culture. One of the central goals of CPUT Library is to provide services to support research and to contribute to the building of a research culture. However, before it can do this, it needs to know more about its researcher community.

The research project investigates how CPUT's academic staff use the library in their research and how they perceive its role. Also it asks what they would like from the library to do their research. Research is needed to find out if the Library and researchers are in synch. The fundamental research question is: What do researchers need, want and expect from an academic library?

The research problem leads to the following research questions:

- How much and what kind of research is being conducted by academic staff at CPUT?
- What programmes does the library have to meet the needs of the researcher?
- How do academic researchers use the library at present?
- What do researchers see as the inhibiting and encouraging factors for their research with regard to library services?
- How do they perceive the role of the library in their research?

3.3 Research design and methodology

The study overall is a quantitative survey, although it has qualitative aspects. There are two methods of gathering data in my study. Firstly, an open-ended interview with the Research Librarian, early in 2009, aimed at finding out what services the Library is offering to researchers at present. It also asked for his views on various issues in the literature such as the education of research librarians. Then a questionnaire survey was conducted of academics and researchers at CPUT.

One of the reasons for using different methods is that it allows “inferences or “leads” drawn from one data source to be followed up by another” (Bryman, 1988: 47). It is a strategy build-up that leads to answering the research questions.

The data gathered were summarised and analysed on an EXCEL spreadsheet.

3.4.1 Interview with research librarian

The Research Librarian runs the Research and Information Support Centre, known as the RISC unit, which was established in the Library in 2006. He says with pride that it was the first Research Commons in the Western Cape. Its aim is to provide a specialised research support service. The interview protocol is attached in Appendix B.

A structured interview can be used to simultaneously collect quantitative and qualitative data (Bryman, 1988: 128). The main aim of interviewing the research librarian is to find out, from a librarian’s point of view, what research support is currently being offered and how to improve on this. RISC is a fairly new centre but the numbers of users have increased tremendously over the past three years. A total of 11 questions was asked, largely informed by the reading of the literature described in Chapter 2. The interview covered the following issues:

- details of his work
- the history of RISC and its functions and services in relation to other research centres at CPUT
- the role of the library in research

- attributes of a Research Librarian – as informed by the international literature such as the list of competencies provided by the Association of South-Eastern Research Libraries (2000).
- the use of the RISC unit
- its short-term and long-term goals
- new services that could possibly be introduced to support research. The research librarian has experience of the RISC unit and so knows what is needed to improve services.

The interview also gave the Research Librarian the opportunity to comment freely or highlight any aspects that were not covered during the interview. His concluding comments were important to my study.

The analysis of the answers to these questions is discussed in Chapter 4.

3.4.2 Survey of researchers at CPUT

It was decided that the best way to answer the research questions was a questionnaire survey of CPUT researchers. A questionnaire was drafted and piloted in two academic departments, at the University of the Western Cape and the University of Cape Town. Comment was received back and a few changes made. The final version is attached in Appendix C. Although the questionnaire was sent out by email to all CPUT academic staff and researchers, the aim was a stratified sample with adequate representation of all faculties. So after three weeks the questionnaire was sent out again. The final sample is shown in the following section.

According to Matthews (2007: 62), a descriptive survey is used to “explain the characteristics of a population of interest, estimate proportions in a population, make specific predictions, and test for possible relationships in the data”. And according to Powell (1997: 58), an exploratory survey is a method of establishing priorities for future research, identifying new problems, and gathering information for practical applications. The best means of having a well planned service for research is to ensure that one really knows what the research community wants and needs from the library service. “The best way is to ask”! Therefore, libraries have learnt that surveys are effective and valuable ways of understanding research needs (Webb, Gannon-Leary and Bent, 2007: 126).

3.4.3.1 Questionnaire design

A questionnaire was designed as it was deemed an efficient way of collecting data from the six faculties across eight campuses. As recommended in research textbooks, for example Powell (1997: 58), it has a mix of questions: closed, dichotomous, multiple choice and scaled. It gathers mostly quantitative data although its last section asks for open-ended comment. Most of the questions have their roots in the review of existing research studies that were described in Chapter 2 and the preliminary interview with the Research Librarian suggested others specific to CPUT. The questionnaire is provided in Appendix C.

Section A of the questionnaire gathers data on respondents' personal and research profiles. It documents personal information such as faculty, age, gender, home language and highest qualification. It also documents respondents' research profiles by asking about:

- their present studies for formal postgraduate degrees
- their research projects
- their research grants
- their research publishing, specifically that in accredited peer-reviewed journals.

Section A's variables were deemed possibly useful for any cross tabulation across questions and for future statistical analysis.

The questionnaire's Section B (Questions 18 to 31) changes to a focus on respondents' use of and perceptions of the library in their research. It asks about:

- their use of the research support units across CPUT
- their use of the library and its various research support services
- their contacts with library staff in the course of their research.

It also asks respondents to rate library services in support of their research – from “non-existent” to “indispensable”. A key question that is modelled on some of the international studies asks respondents to rate the desirability of a list of possible research services. The Likert scale statements in Questions 25 to 32 probe respondents' views and perceptions of the library's research support services and towards research at CPUT. Some of these

questions overlap with earlier questions. It was thought that comparing across questions would serve as a form of triangulation to confirm or contradict possible findings.

Section D gave respondents the opportunity to voice their own comments. The aim was to allow room for any burning issues not covered in previous questions.

3.5 Sampling procedures

A stratified sample was aimed at to get fair representation across all six faculties. Postgraduate students who are not on CPUT staff lists are excluded in this study. Because responses to library questionnaires have been found to be low in the past, it was decided to send the questionnaire to the entire population of 602 academic staff, and then analyse the numbers. Having done this, a second round of questionnaires was sent out three weeks after the first.

Table 2 shows the final sample. The population consists of 602 permanent academic staff members across eight campuses of CPUT. The advantage of emailing a survey to academics and researchers is that it is an efficient way of collecting data from the six faculties across eight campuses. The disadvantage is that there might be a low response rate (Powell, 1997: 91). If the replies are too few, the data will be meaningless.

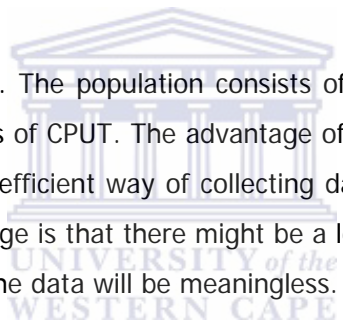


TABLE 2: Study sample

FACULTY	NO. OF STAFF IN EACH FACULTY	NO. OF RESPONDENTS	PERCENTAGE of faculty total	Percentage of sample
Applied Sciences	68	5	7%	5%
Business	160	18	11%	18%
Education	74	14	19%	14%
Engineering	150	23	15%	23%
Health & Wellness	40	12	30%	12%
Informatics & Design	110	22	20%	22%
OTHER		8		
Total	602	102	17%	94%

A total number of 102 responses were received. Overall, the sample includes 17% of academic staff at CPUT. The figure is reasonable and comparable with many surveys of this nature (Leedy, 1985: 221).

But it is clear that the sample is uneven. The Applied Sciences Faculty is especially under-represented. The uneven spread means that attempts to cross tabulate variables and to measure for significant differences across faculties will have limited validity.

3.6 Conclusion

The chapter has focused on the design and methodology of this study. It explains the reasons for the methods used. Two methods of gathering data were used, namely a preliminary interview with the Research Librarian at CPUT and a questionnaire survey of academic staff and researchers across eight campuses. The following chapter summarises and analyses the data findings.



CHAPTER 4

SUMMARY AND ANALYSIS OF DATA

4.1 Introduction

This chapter summarises and analyses the data collected. The summary and analysis are divided into three sections, namely: the preliminary interview with the Research Librarian; summary and analysis of the largely quantitative data gathered in the first two sections of the questionnaire; and analysis of respondents' responses to the questionnaire's final open-ended question. The preliminary interview was the first stage of collecting data and many of the questions in the questionnaire were based on it. It gives a picture of what is happening in the library with regards to research support, from the Research Librarian's viewpoint. The questionnaire data, on the other hand, give insight into academics' perceptions of and use of the library research support services.

4.2 Preliminary interview with Research Librarian

The interview in early 2009 with the Research Librarian at CPUT Libraries, Cape Town Campus, and head of the library's Research and Information Support Centre (RISC), aimed to get his views on the research support needs of researchers. The interview protocol is provided in Appendix A. RISC was established after a study was done by the library to find out what extra support was needed by the CPUT community. RISC was then set up for postgraduate students and anybody doing research. The numbers of users have increased tremendously since it began three years ago.

Analysis of the interview transcript identifies nine themes, which are listed with supporting quotations in Table 3.

TABLE 3: Themes identified in the interview transcript

SELECTED QUOTATIONS	THEMES
<p>We maintain collaboration with the research unit on campus. Pg1 RISC find it essential to retain good relationships with both these units. Pg2 Co-operation with the postgraduate support centre so that their services are physically present at RISC. Pg3</p>	<p>Collaboration is essential</p>
<p>CPUT is a young academic institution. Pg1 Fast track research at CPUT. Pg2</p>	<p>At CPUT research is an imperative</p>
<p>Fast moving change in technology have meant that the way research is done and presented has changed. Pg2 Should look at a "virtual research environment", shifting all RISC services online. Pg2 Staff should therefore be geared more towards technology. Pg2</p>	<p>ICT has changed research patterns</p>
<p>I am always busy with research, I constantly scan new pathways to academic information. Pg3 My permanent engagement in research however does not include any formal academic qualifications. Pg3 Librarians doing research is particularly important. Pg3 I would not expect a research librarian to have anything less than a PhD. Pg3</p>	<p>Librarians should be researchers</p>
<p>The role of the faculty librarian is quite similar. Pg1 There is space for the extension of our training efforts, especially in the faculties. Pg3</p>	<p>The Faculty librarians have the same role as the research librarian. It is a whole-library responsibility.</p>
<p>Our primary duty is information supply. Pg2 We have provided space in RISC for the construction of Prof Burton's centre. Pg2 We must consolidate the service. Pg2 Research support was traditionally provided by subject librarians. Pg1 Research support goes beyond information support. Pg1 The library obviously have a wide area to support, there is no need to overextend themselves in terms of research support.</p>	<p>Nature of library role</p>
<p>Specific support is provided for postgraduate students. Pg1 Smooth the path of postgraduate students. Pg1</p>	<p>Postgraduate degree research is the core function of RISC</p>
<p>Provide guidance on how to construct research proposals, literature review and beyond. Pg1 Transfer knowledge to the local. Pg1 I produce research notes and publish regularly on the library website. Pg1</p>	<p>RISC functions: Research librarian attributes</p>
<p>Library management needs to support RISC correspondingly. Pg1</p>	<p>The important role of Library Management</p>

The Research Librarian claims that RISC was established in response to the pressure on CPUT to increase its research output. CPUT needs more young researchers, and students

need to be encouraged to pursue postgraduate studies. The nature of the role of the library in supporting research was an important topic in the interview. However, there were contradictions. At times the role was described as “providing information”. But later the librarian claims that the role goes beyond that. He talks of his “research notes” on the web site and, so on. Yet he also warns that the library should not overextend itself.

The point that research support is a “whole library” project and that faculty librarians are also research librarians, leads to the questions:

- What is the relationship of the faculty librarians to the Research Librarian position and to RISC?
- Who do CPUT researchers consult?

Another question comes from his description of the ideal research librarian. Would academics agree that research support librarians should have PHDs? And what discipline should the PHD be in?

The Research Librarian stresses that it is very important that the library collaborates with all research units of CPUT. The Postgraduate Support Centre, under the management of an academic, has recently been set up within the RISC unit but the interview provides no clear idea of how it will work with RISC.

The impact of new ICT on research production and communication is another theme. The Research Librarian raises concerns that the ICT infrastructure at CPUT needs rapid improvement if it wants to keep up with research trends. He claims that having a virtual research environment will be excellent for CPUT Libraries as they move forward. Researchers will be able to get research support from anywhere without having to visit physically the RISC centre.

As the researcher looks back on the interview, a gap is obvious. There is no mention of the Digital Knowledge Research Repository which as described in Chapter 1 is a project of the library for digitizing dissertations and CPUT research publications.

4.3 Summary and analysis of questionnaire

The literature review and research questions listed in Chapter 3 guided the design of the questionnaire. But the nine themes of the preliminary interview also raised some issues and pointed to some questions specific to CPUT. For example, are academics aware of the work of the Research Librarian and RISC?

Section A of the questionnaire gathers data on respondents' personal and research profiles. Table 4 shows the faculty breakdown of the 102 respondents. Only 7% of responses were received from Applied Sciences Faculty – the researcher does not know why.

TABLE 4: Q. 1
Respondents' faculties
N=102

FACULTY	NO. OF STAFF IN EACH FACULTY	NO. OF RESPONDENTS	PERCENTAGE of faculty total	PERCENTAGE OF SAMPLE
APPLIED SCIENCES	68	5	7%	5%
BUSINESS	160	18	11%	18%
EDUCATION	74	14	19%	14%
ENGINEERING	150	23	15%	23%
HEALTH & WELLNESS	40	12	30%	12%
INFORMATICS & DESIGN	110	22	20%	22%
OTHER		8		
Total	602	102	17%	94%

Figure 1 depicts the positions or job titles of respondents. It can probably be said to match CPUT staffing patterns, with 44% of the 102 respondents "lecturers". One anomaly is the 11 who point out that they are HODs and do not fit in the other categories provided in the question.

FIGURE 1: Q. 3
Respondents' position
N= 102

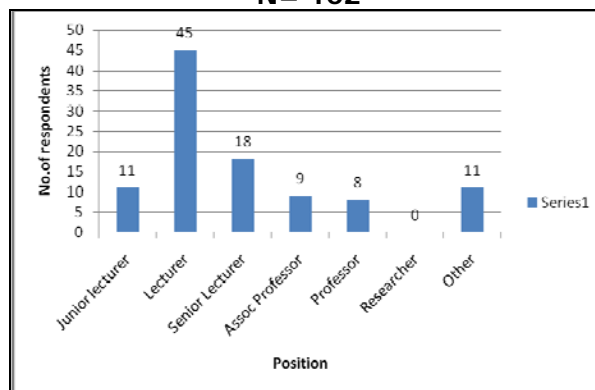
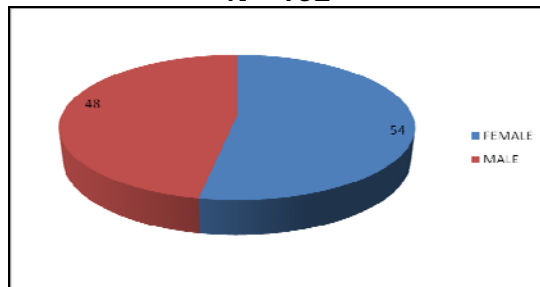


Figure 2 Shows that numbers of male and females are about even.

FIGURE 2: Q. 4
Gender
N= 102



Answers to Question 4 show the median age of respondents to be 50 years. This might be relevant to the Research Librarian's comment that CPUT academics are aging and that new young staff members need to be encouraged to conduct research.

Table 5 reveals that English is the most dominant home language by far. The low number of isiXhosa speaking respondents might reflect patterns among academics and researchers throughout South Africa. As mentioned in Chapter 1, research in South Africa is dominated by middle-aged white men.

TABLE 5: Q. 6
Home language
N= 102

AFRIKAANS	29
ENGLISH	54
ISIXHOSA	4
OTHER	15
TOTAL	102

Figure 3 depicts respondents' highest formal qualifications.

FIGURE 3: Q. 7
Highest formal qualification
N= 102

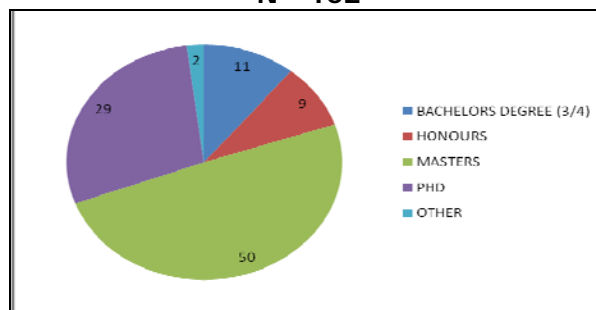


Figure 3 shows that 49.5% of respondents have a Masters degree and 28.7% of respondents have a PhD. Since CPUT is trying to improve its research culture, it is important to know whether the respondents who do not have a Masters or PhD degree are currently studying towards it. Table 6 show that 42 of the 100 respondents who answered the question are studying for higher degrees. And Figure 4 gives the breakdown of what they are studying for. This is significant for CPUT's progress as a new University of Technology as Masters and PhD work involves rigorous research and will lead to publications. There is a discrepancy of one between respondents claiming to be studying (Q8) and what they are studying (Q9). Perhaps one of the respondents who indicated that they are not studying, answered Question 9.

TABLE 6: Q.8
Studying towards a formal qualification
N= 100

YES	42
NO	58
TOTAL	100

FIGURE 4: Q.9
Qualification being studied
N= 43

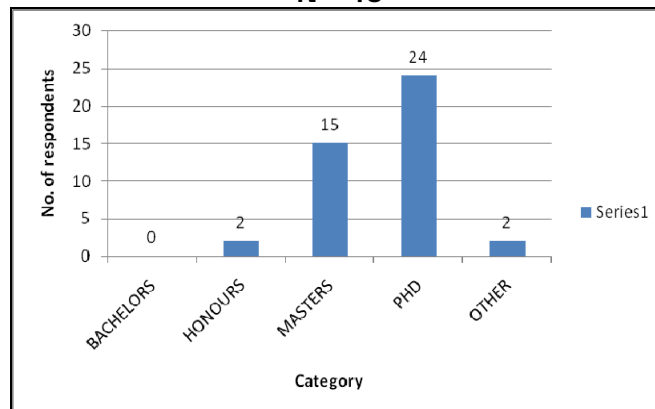


Table 7 provides a sharper analysis. Through cross tabulation of Questions 7 and 8, it shows that 26 respondents who have a Masters degree are studying towards a formal degree. It is noted though that only four out of the 11 respondents who have a Bachelors degree are studying towards a formal degree.

TABLE 7: Q. 8
Studying towards a formal qualification
N= 42

	YES
BACHELORS	4
HONOURS	8
MASTERS	26
PHD	2
OTHER	1
(BLANK)	1
GRAND TOTAL	42

Questions 10 and 11 investigate at which institutions academic staff are studying and the reasons for their choices. The highest amount of 28 is studying through CPUT. Table 8 indicates that the University of Cape Town falls in second place and Stellenbosch University in third.

TABLE 8: Q.10
Where are you studying?
N= 43

CPUT	28
UCT	7
SUN	4
UK	1
UKZN	1
RHODES	1
(MANCOSA) Management College of South Africa	1
TOTAL	43

As a new university trying to build a stronger research culture, it might be important to know more about these choices; so Question 11 asks for reasons. It had 23 responses. Figure 5 indicates that the majority of respondents not studying at CPUT claim that either the experts in their field are not based at CPUT or that the course is not offered at CPUT. Three acknowledge that “research prestige” might have been a factor in their choice. There is a discrepancy in the total in comparison to Question 10 but this is due to respondents being able to choose more than one reason in Question 11.

FIGURE 5: Q. 11
Reasons for not studying at CPUT
N = 23

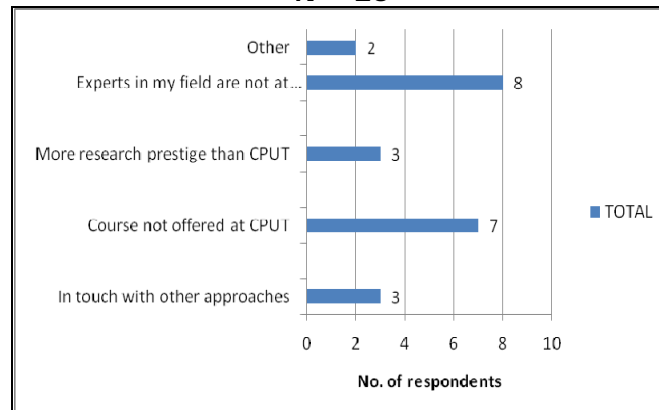


Table 9 summarises the answers to Question 12, which asks if respondents are currently involved in a research project. The fact that 77 respondents say “yes” is a positive reflection on the building up of the research culture at CPUT. The cross tabulation between this question and Question 1, given in Table 10, shows that 100% of the respondents who are engaged in a research project are in the Applied Sciences Faculty, 83% in Business Faculty and 82% are in Informatics and Design Faculty.

TABLE 9: Q.12
Engaged in a research project
N= 100

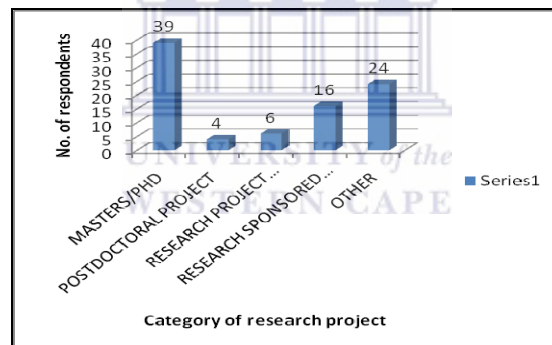
YES	77
NO	23
TOTAL	100

TABLE 10: Q. 1 & 12
Engaged in a research project
N= 102

	Yes	No	(blank)	Grand Total
Applied Sciences	5(100%)			5
Business	15(83%)	3(17%)		18
Education	9(64%)	4(29%)	1	14
Engineering	17(74%)	6(26%)		23
Health & Wellness	7(58%)	5(42%)		12
Informatics & Design	18(82%)	3(14%)	1	22
Not attached to one faculty	6(75%)	2(25%)		8
Grand Total	77	23	2	102

The next question asks for more information on the research projects. It differentiates, for example, between research projects that are part of a formal degree, those conducted purely for building up of knowledge and those sponsored by industry. The fact that respondents could tick more than one category explains why there are 89 responses, although only 77 respondents claim to be conducting a research project as shown in Table 9. It is noted that the highest number (39) represents research for formal degrees. The high number (24) for the category “other” points to a weakness perhaps in the question. For example one respondent mentions CPUT’s Research and Innovation Funding for Teaching and Learning (RIFTAL) and another refer to the Swedish government project, WILRU. For a University of Technology the low proportion of industrial-sponsored research is perhaps surprising.

FIGURE 6: Q. 13
What category of research project?
N = 89



An academic’s job comprises teaching, administration, community/professional work and research. A key question, Question 14, asks respondents to estimate how much time they spend on research in their working year. The average time percentage estimated to be spent on research per year is 23.4%, and the median is 20%. Thus, half of respondents claim to spend about one fifth of their working year on research. This figure has to be related to the fact that most of this research will be for formal degrees, Masters or PhDs, as found above. Several comment later in their responses to the final open-ended question that they just do not have time for research. Their workloads are too heavy.

Table 11 shows that 27 respondents have research grants. This lends support to the earlier finding in Figure 6 that 22 are receiving NRF or industry funds for their research. The cross

tabulation between Question 1 and Question 15 in Table 12 shows that the majority of respondents that indicate that they have research grants are in the Engineering Faculty.

TABLE 11: Q. 15
Receiving a research grant
N= 102

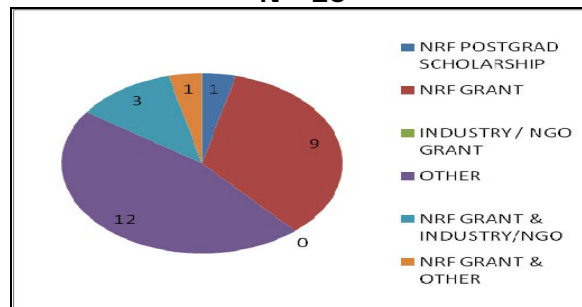
YES	27
NO	75
TOTAL	102

TABLE 12: Q. 1 & 15
Receiving a research grant
N= 102

	YES	NO	GRAND TOTAL
APPLIED SCIENCES	1(20%)	4(80%)	5
BUSINESS	3(17%)	15(83%)	18
EDUCATION	4(29%)	10(71%)	14
ENGINEERING	9(39%)	14(61%)	23
HEALTH & WELLNESS	2(17%)	10(83%)	12
INFORMATICS & DESIGN	5(23%)	17(77%)	22
NOT ATTACHED TO ONE FACULTY	3(38%)	5(62%)	8
GRAND TOTAL	27	75	102

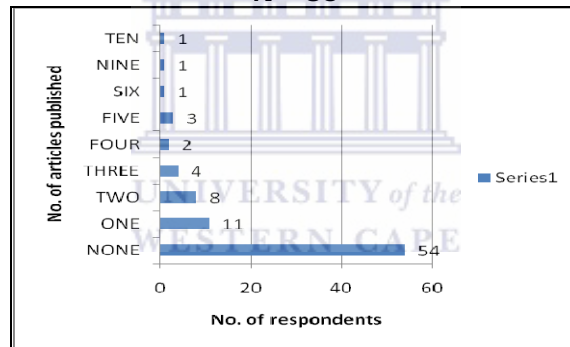
Figure 7 shows the sources of grants. It indicates that 12 respondents are receiving grants from other organisations, nine are receiving NRF grants and that four respondents are receiving two grants. There is a slight discrepancy of one in Figure 7, as in Table 12, 27 respondents indicated that they have research grants. One of the respondents chose not to specify the source of grant.

FIGURE 7: Q. 16
Specify the source of grant
N= 26



Question 17 asks respondents about their publications in the past three years. The question asks specifically about accredited peer-reviewed journal publications since these are traditionally a measure of quality in research and since they are important in university rankings. Thus it relates to the research questions in Chapter 3. Also, research findings have to be disseminated and published if they are to add to knowledge or impact on society. One or two comments added to questionnaires on other kinds of publishing might indicate a weakness in the phrasing of the question. It does not, for example, allow for accredited peer-reviewed monographs. Figure 8 shows that 65% of those who answered the question have not published any articles in accredited journals. Figure 8 summarise the responses to Question 17. The total of accredited articles published over the past three years is 87 – an average of just over one for each person who responded to this question.

FIGURE 8: Q. 17
Articles published in accredited journals
N= 85



The questionnaire's Section B (Questions 18 to 31) shifts to a focus on respondents' use of and perceptions of the library in their research. In the analysis of the questions, some cross tabulation of variables is provided so that a sharper comparative focus is obtained.

Table 13 indicates what research support services are being used at CPUT, in order of most use to least. More than one answer is possible. The Library has the most use it seems. However the Library's RISC, the focus of the first section of this chapter, is used less than Fundani and the Centre for Post-Graduate Studies, which were described in Chapter 3. The Digital Knowledge Research Repository is not included in the list of options. However, a later Likert Scale statement refers to this in Question 32.

TABLE 13: Q. 18
Research support services used
N= 89

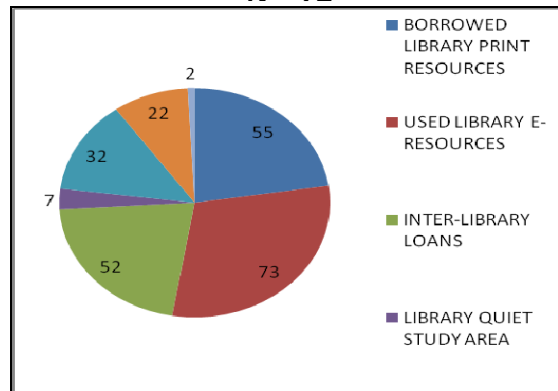
CPUT's RESEARCH SUPPORT SERVICES	RESPONSES
LIBRARY	81
FUNDANI	22
CENTRE FOR POSTGRAD STUDIES	19
RISC	14
OTHER	6
RESEARCH DIRECTORATE	5
TOTAL	147

Table 14 indicates what specific library services academic staff and researchers are making use of for their research. The most popular service is "access to databases and other e-resources " (73) with the borrowing of materials and interlibrary loan services next (55 and 52). Thirty-two claim to have approached a Faculty Librarian for advice on their research in the past year. Only 22 report attendance at a database workshop. The findings highlight the importance of electronic materials to CPUT researchers, as the Research Librarian emphasised in the preliminary interview.

TABLE 14: Q. 19
Library services used for research in the past
year
N= 92

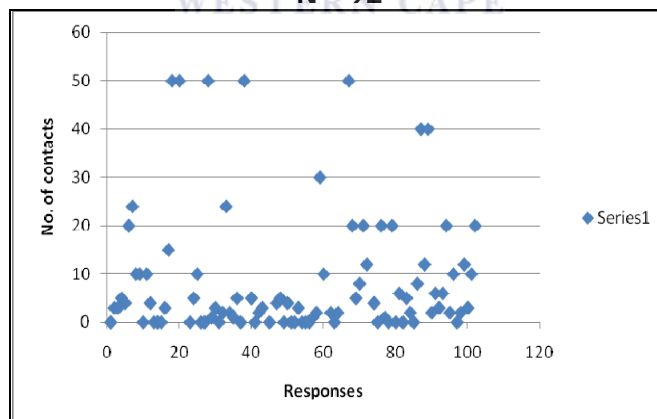
USED LIBRARY E-RESOURCES	73
BORROWED LIBRARY PRINT RESOURCES	55
INTER-LIBRARY LOANS	52
FACULTY LIBRARIAN'S SERVICES	32
ATTENDED A TRAINING WORKSHOP ON DATABASES	22
LIBRARY QUIET STUDY AREA	7
OTHER	2
TOTAL	243

FIGURE 9: Q. 19
Library services used for research
N= 92



Question 20 throws further light on the use of the library by researchers. It asks how often respondents have contacted the library in connection with their research in the past year. A total number of 92 respondents made contact with a librarian, not necessarily their Faculty Librarian, at least once for their research in the past year. Eight respondents made contact with a librarian more than 25 times in the past year. The median number of contacts is three (3). The scatter diagram in Figure 10 shows the pattern.

FIGURE 10: Q. 20
Contact with librarian for research support
N= 92

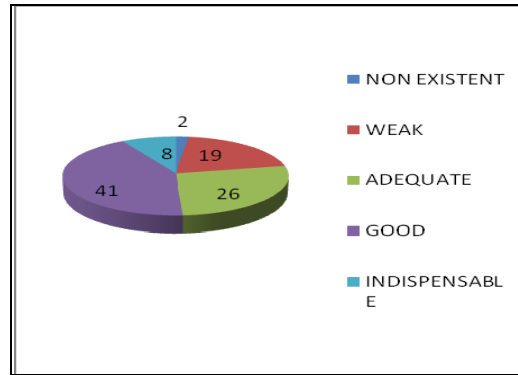


Question 21 asks how many books have been purchased by academic staff for their research for the library collection in the past three years. The average number of books is 13. However the median is 0, meaning that half the respondents bought none. One respondent claims to have bought 500 for his or her research unit, another 120, two 50.

Question 22 is a key question as it asks for a general rating of library support for respondents' research, from one to 10, with one being "non-existent" to 10 being

“indispensable”. Figure 11 summarises the results. Of the 96 replies, 51% (49) rated the library research support as good or indispensable, 27% (26) as adequate and 22% (21) as weak or non-existent. The average score can be calculated to be 5.8.

FIGURE 11: Q. 22
Rate library support for your research
N= 96



The cross tabulation between Question 1 and 22 in Table 15 below shows that 37% of the “non existent” and “weak” ratings came from respondents in the Informatics & Design Faculty and 30% from Engineering Faculty. However, 44% of the “good” and “indispensable” scores came from the Engineering faculty. Eighty-five percent of the respondents in the Education faculty rate the library as “good” or “indispensable”

TABLE 15: Q. 1 & 22
Rate library support for your research
N= 102

	NON EXISTENT	WEAK	ADEQUATE	GOOD	INDISPENSABLE	TOTAL OF RESPONDENTS IN FACULTY
APPLIED SCIENCES		1(20%)	1(20%)	3(60%)		5
BUSINESS	1(6%)	2(11%)	6(33%)	7(39%)	1(6%)	18
EDUCATION		1(7%)		9(64%)	3(21%)	14
ENGINEERING		7(30%)	4(17%)	8(35%)	2(9%)	23
HEALTH & WELLNESS		1(8%)	6(50%)	3(25%)	1(8%)	12
INFORMATICS & DESIGN	1(5%)	7(32%)	6(27%)	7(32%)		22
NOT ATTACHED TO ONE FACULTY			3(38%)	4(50%)	1(12%)	8
GRAND TOTAL	2	19	26	41	8	102

Question 23 asks the group who gave weak ratings for reasons for their low scores- providing a choice of eight possible reasons. The respondents had the option of choosing more than one reason, this explains why there is a total number of 60 responses here compared to only 21 respondents who rated the services as weak and non existent in Question 22. Table 16 indicates that the three main reasons for the weak rating are:

- Network / databases are too slow
- Collections are not adequate
- Inter-library loans services take too long.

TABLE 16: Q. 23
Reasons for weak & non existent rating
N=24

NETWORK / DATABASES TOO SLOW	14
COLLECTION IN MY AREA IS NOT ADEQUATE	12
INTER-LIBRARY LOAN SERVICES TAKE TOO LONG	10
LIBRARIANS LACK SUBJECT KNOWLEDGE	7
OTHER	7
FACULTY LIBRARIANS ARE TOO BUSY	4
LIBRARIANS KNOW VERY LITTLE ABOUT RESEARCH	3
LIBRARY ACQUISITION BUDGET IS TOO SMALL	3
TOTAL	60

Question 24 offers respondents a list of possible research support services. It asks them which they would like or find useful, on a scale of very important (1), useful (2) and not important (3). Adding up scores gives a picture of respondents "wish-lists". Table 17 summarises the results. The scores are calculated in such a way that the least score indicates what respondents found as most important and the larger scores are indicated as not important. "Ongoing updates on information resources" seems to be viewed as the most important library research support service, receiving a total score of 222. A total score of 296 indicates that respondents don't see "advice on research proposal writing" as important. A score of 288 shows that respondents do not want advice on their research topic, perhaps they perceive that librarians lack the subject knowledge as indicated in Question 23.

TABLE 17: Q. 24
“Wish list” of library research support services
N= 98

RATE IMPORTANCE OF LIBRARY SERVICES	SCORE
OTHER	20
ONGOING UPDATES ON NEW INFORMATION RESOURCES	222
MAINTAINING OF RESEARCH REPOSITORIES	236
DATABASE TRAINING	242
PROVIDING A READING LIST ON MY TOPIC & PROVIDING ADVICE ON MY LITERATURE REVIEW	256
ADVICE ON BIBLIOGRAPHIC REFERENCING	269
ADVICE ON MY RESEARCH TOPIC	288
ADVICE ON RESEARCH PROPOSAL WRITING	296
TOTAL	661

Section C, Questions 25 to 31, provides a series of Likert scale statements which are designed to delve into respondents' views on the library and their research. Their analysis serves to corroborate or contradict some of the findings of the earlier questions.

The first Likert statement, Question 25, tries to find out if respondents are satisfied with the library collection in terms of their research. Figure 12 shows that about 67% disagree with the strong statement that the CPUT Library collection and resources cannot support research. A few added rather vague comments such as:

“I am a strong supporter of the library as a resource for research “(Qr 48).

“I think the library and the services it offers is extremely useful and important to encouraging post-graduate studies” (Qr 60).

17% indicate that they agree with the critical statement, another 15% are undecided.

FIGURE 12: Q 25
“CPUT library collection & resources cannot support research”
N= 99

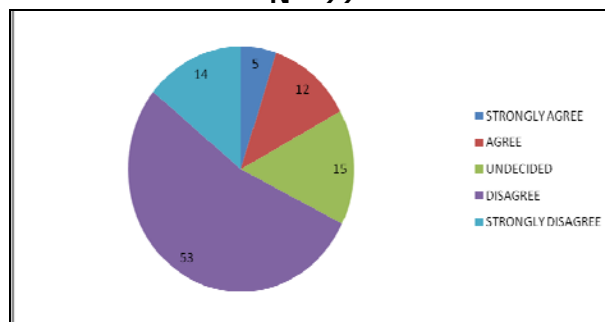


Figure 13 shows that 54% of respondents disagree that librarians do not have the subject knowledge to help with their research. However, 27% of respondents agree, which is quite a high percentage. The cross tabulation between Question 1 and Question 26 in Table 18 shows that the Engineering Faculty has the most respondents who agreed with this statement. It is perhaps confirmed in Question 23 that librarians lack the subject knowledge, as 7 respondents, which is the 4th highest rating, felt so. Perhaps it means that most experience researchers are based in the Engineering faculty, or perhaps they are unaware of the librarians' role.

FIGURE 13: Q. 26
“Librarians do not have the subject knowledge to help with my research”

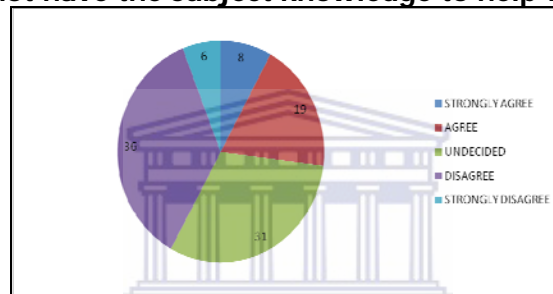


TABLE 18: Q1 & 26:
“Librarians do not have the subject knowledge to help with my research”
N= 102

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE	(BLANK)	GRAND TOTAL
APPLIED SCIENCES	1		1	3			5
BUSINESS	1	2	2	11	2		18
EDUCATION		2	4	5	2	1	14
ENGINEERING	3	7	7	4	1	1	23
HEALTH & WELLNESS		4	4	3	1		12
INFORMATICS & DESIGN	2	3	10	7			22
NOT ATTACHED TO ONE FACULTY	1	1	3	3			8
GRAND TOTAL	8	19	31	36	6	2	102

Figure 14 shows that 57% of respondents disagree with the statement:

“I source information directly from the Internet and so no longer need the library” in Question 27.

One of the respondents who agreed with the statement gave a reason why:

“I teach cutting edge technology. The Internet gives me the latest information” QR37.

FIGURE 14: Q. 27
“I source information directly from the Internet & so no longer need the library”

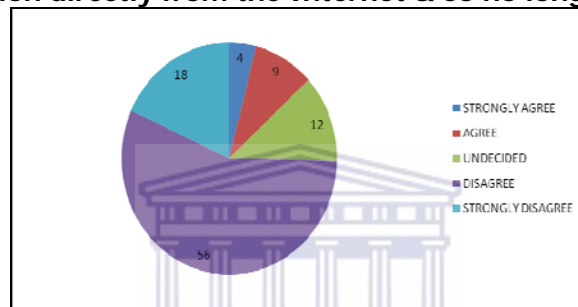
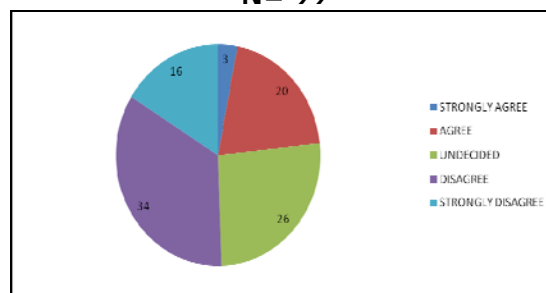


Figure 15 shows that 34 respondents disagree that CPUT librarians are updating them on the latest information for their research. However, 26 of the respondents are undecided and 3 respondents chose not to answer. One of the respondents' comments were:

“no advice on my literature analysis is needed (experienced researcher)” QR85.

However, the information in Question 24 confirms that the majority of respondents (67) rate “ongoing updates on new information resources” as very important.

FIGURE 15: Q. 28
“CPUT librarians are updating me on the latest information for my research”
N= 99



The next statement, Question 29, tries to find out if respondents still feel the library is useful when there are so many electronic resources. Figure 16 shows that 56% of respondents disagree with the statement: "Now that I use e-resources, I don't need to visit the physical library". One of the respondents who did agree gave a reason why:

"Finding the information myself via the Internet is instructive in itself and often easier than trying to explain to someone else what I am looking for. (Maybe I don't quite know myself until I find it!)" QR37.

In contrast to this, one of the respondents who disagreed said:

"I like to go and sit and leaf through journals – much more convenient" QR52.

It is confirmed in Question 27 that 57 % of respondents disagree that they source information from the Internet rather than use the library.

FIGURE 16: Q. 29
"Now that I use e-resources, I don't need to visit the physical library"
N= 99

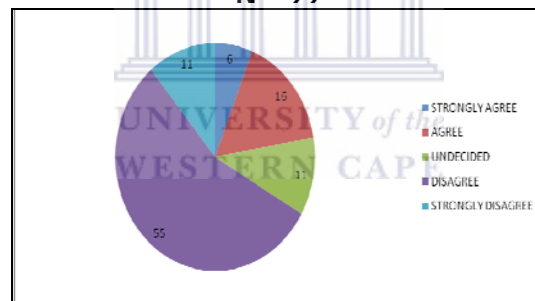


Figure 17 shows that 92% (92) of respondents strongly agree or agree in Question 30 that research is essential to their job. One of the respondents' comments confirms this:

"I have to be constantly updating my knowledge of my subjects because the technology changes so quickly" (QR37).

The finding is confirmed in Question 24 where 50 % (49) of respondents rated the provision of a reading list on their research topic and advice on their literature review as very important.

FIGURE 17: Q. 30
“Research is essential to my job”
N= 100

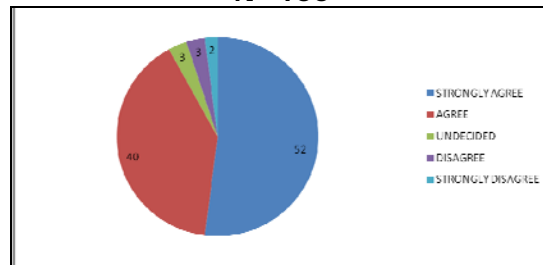


Figure 18 shows that 91% of respondents strongly agree or agree in Question 31 that CPUT needs to build a stronger research culture. This information is confirmed in Question 24 as 51% of respondents find that advice on their research topic useful.

FIGURE 18: Q. 31
“CPUT needs to build a stronger research culture”
N= 100

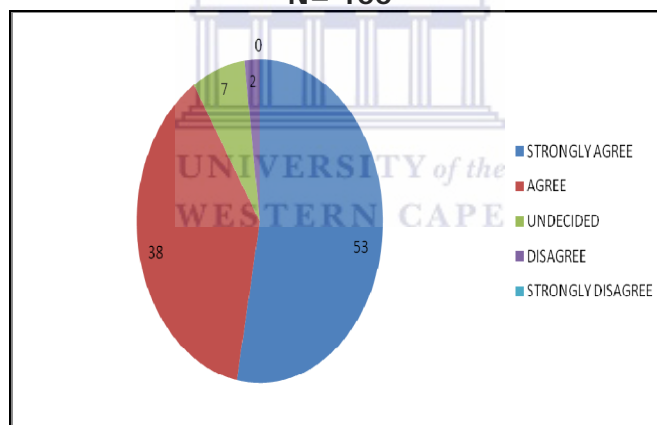
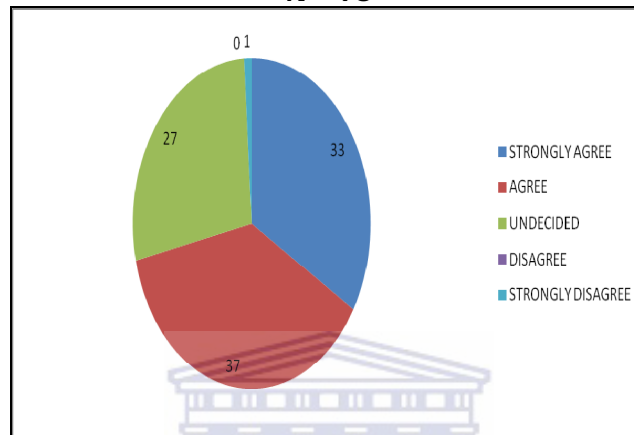


Figure 19 shows that 70% of respondents in Question 32 agree or strongly agree with the statement in Question 32: “The Digital Knowledge Repository at CPUT is a very important service and resource”. However quite a large percentage (27%) of respondents are undecided perhaps because they are not aware of this service that is being offered by the library. The following added comments suggest this interpretation:

“DIGITAL KNOWLEDGE- do not know what this is/ e-journals? If journals then yes”
 QR52.

"I am not even aware of the Digital Knowledge Research repository!! The library should show case and or advertise these resources" QR4. "DIGITAL KNOWLEDGE - I never heard of this – what is it?" QR14.

FIGURE 19: Q. 32
"The Digital Knowledge repository at CPUT is a very important service and resource"
N= 98

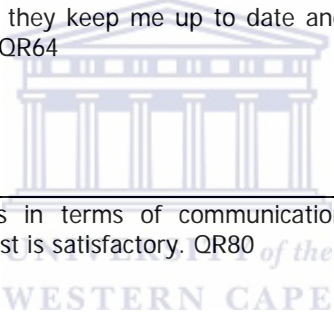


4.4 Respondents' responses to final open-ended question

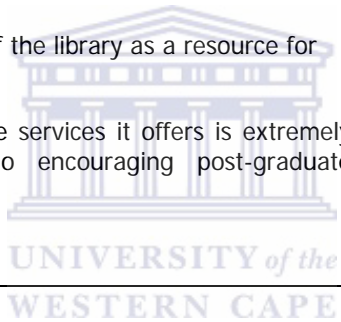
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This section highlights and analyses the comments that respondents gave in answering the last question, Section D, which asks for any further or general comment. The qualitative data analysed here serve to support earlier findings or to fill in any gaps. It has to be stated that only 31 answered this question. But all comments, suggestions, opinions and perceptions are important to enrich the research project. The comments are tabulated below.

TABLE 19: Themes identified from comments in questionnaire

	RESPONSES TO SECTION D	Themes or units of meaning
1	<p>I am not even aware of the Digital Knowledge Research repository. QR4</p> <p>DIGITAL KNOWLEDGE - I never heard of this. QR14</p> <p>I hadn't really known what was available before; I was also not aware of the help and services that as a researcher I could request – for example, help with bibliographies, searching for journals and sources. QR25</p> <p>Make everybody aware of all the services that the library offer – not all staff go to the trouble to access the intranet and the library website, which they should be urged to do. QR48</p> <p><i>You should interview us about our usage of the lib resources. You would need to get a measure of our own ignorance as to what is available as well. QR52</i></p> <p>[x and y] are my "rocks", they keep me up to date and are always willing to help. QR64</p> 	Awareness of LIS services
2	<p>We need more resources in terms of communication networks, otherwise the rest is satisfactory. QR80</p>	ICT communicative networks
3	<p>The research that we must do adds to the heavy load that we already have. QR9</p> <p>Agree library and research important – teaching equally important. There is not enough time allocated to do both adequately. QR13</p> <p>I would love to do formal research, but the requirements of our industry stakeholders means that a specialist like myself needs to be in the classroom because there is no backup to teach my subjects. QR37</p>	Heavy workloads
4	<p>We have a very dedicated and competent librarian helping researchers. QR16</p> <p>[X & Y] are my "rocks", they keep me up to date and are always willing to help. QR64</p> <p>Librarians in general should put into effect acceptable interpersonal skills. QR69</p>	Perceptions of librarians positive and negative
5	<p>There is too little sharing of research at CPUT. Often other researchers are not interested in what other colleagues are doing work on if it does not fall within their own realm of speciality. They do not even show an</p>	Need for more collaborative research and knowledge sharing

	<p>interest.QR35</p> <p>I work in the Research Directorate. Library generally doing a good job, especially RISC – I work with [Research Librarian] a lot, and ILL. QR65</p>	
6	<p>I have to add that I do frequently recommend my students to visit the library, at least once in their project. QR14</p> <p>I think that lecturing staff have to encourage students to visit the library more and make them do searches from journals, books, etc. instead of just the internet. qr22</p> <p>I do my best to ensure that my staff have every opportunity for research and to improve their qualifications. QR37</p>	Importance of motivation to use library services from academics and management
7	<p>I use the Interlibrary-Loan service as well as some of the electronic databases and I find them adequate for my requirements. QR5</p> <p>I am a strong supporter of the library as a resource for research. QR48</p> <p>I think the library and the services it offers is extremely useful and important to encouraging post-graduate studies. QR60</p>	Quality of library services



The seven themes or units of meaning are”

- Awareness of LIS services: it seems that many researchers just might not be aware of existing services
- ICT communicative networks: weak infrastructure is a crucial issue that perhaps affects the entire CPUT community. Collaboration between CPUT library management and the university is perhaps an option to deal with ICT infrastructure.
- Heavy workloads : – Identified as a problem amongst faculty.
- Perceptions of librarians: there are clearly some respondents with very positive views on the services provided by librarians but others who are more cool.
- Need for more collaborative research and knowledge sharing
- Importance of motivation to use library services from academics and management – Students and staff are being encouraged to make use of the library support services.

- Quality of library services – Positive feedback from academics and researchers builds up the quality of library services, as quality assurance is vital.

4.5 Conclusion

The first section of this chapter dealt with the analysis of the preliminary interview with the Research Librarian at CPUT Libraries. The main aim of the interview was to identify the existing library research support services. Nine major themes, which informed the subsequent questionnaire design, were highlighted such as:

- Librarians should be researchers
- The faculty librarians have the same role as the research librarian. It is a whole-library responsibility
- Postgraduate degree research is the core function of RISC.

The analysis of the questionnaire responses gives an overview firstly of respondents' research profiles and then of their perceptions of and attitudes towards the role of the library with regards to research support. The main findings highlighted in these sections are:

- 52% of respondents strongly agree that research is essential to their job and that CPUT needs to build a stronger research culture.
- PhD and Masters degree research dominates.
- For a University of Technology the low proportion of industrial-sponsored research is perhaps surprising.
- The average time percentage spent in a working year on research is 23.4%. Several comments in the final open-ended question point to heavy workloads.
- 65% of respondents have not published any articles in accredited journals in the past three years.
- 57% of respondents do not agree that they source information directly from the Internet and so no longer need the library.
- Most respondents, 95, make use of the library for research support. However, RISC is not their number one choice for research support. RISC is perhaps underused. The

three library services being extensively used by respondents are e-resources, borrowing print resources and Inter-library loan services. Quite a high number of respondents, 27 (28%), are undecided whether the Digital Knowledge Repository at CPUT, a library project, is important to them. However, comments in the final open-ended question indicate that respondents are unaware of this service.

- The number one on researchers' wish lists for library research support services is to be kept informed of new research in their field – thus the traditional current awareness services of libraries.
- The ICT infrastructure has been highlighted as critical. The main reason for low rating of the library is that the network / databases are too slow.
- There seems to be fairly strong doubt that librarians have adequate subject knowledge to support research with 27% agreeing that librarians lack subject knowledge.
- The cross tabulations suggest that there might well be some differences among faculties in terms of responses. But statistical tests of significance would be needed to confirm this suggestion. One problem might be the low representation of the Applied Sciences Faculty.

This chapter's summary and analysis will be used in the following chapter to examine the research questions.

CHAPTER 5

INTERPRETATION OF FINDINGS

5.1 Introduction

This chapter tries to explain what the findings mean and tries to answer the research questions stated in Chapter 3. The way the findings are interpreted will determine whether the research questions can be answered. The research questions are:

- How much and what kind of research is being conducted by academic staff at CPUT?
- What programmes does the library have to meet the needs of the researcher?
- How do academic researchers use the library at present?
- What do researchers see as the inhibiting and encouraging factors for their research with regard to library services?
- How do they perceive the role of the library in their research?

5.2 How much and what kind of research is being conducted by academic staff at CPUT?

The study provides only limited answers to this question. Ideally, a bibliometric study could have added another dimension by giving a breakdown of the research work and output of CPUT. This was decided to be beyond the scope of a mini-dissertation study.

Responses to two Likert scale statements show that about 91% of respondents agree that CPUT needs to improve its research culture and that research is an essential part of their job. The findings of some of the other questions reveal a gap between these beliefs and the actual situation. The following findings highlight how much and what kind of research are being conducted by academic staff:

- 77% of the sample of 102 academics were involved in a research project at the time of the questionnaire
- 42 % of the sample are studying towards formal degrees, which explains why there is not much publishing taking place.
- 65% of respondents have not published an accredited journal article in the past three years. This indicates surely “not much” publishing in the past three years.

- 26% of respondents are receiving research grants, of which the Engineering Faculty is receiving the most grants in this sample.
- The average percentage of work time spent per year on research is 23.4%.
- There is some evidence that research activity and output varies significantly across faculties. A bibliometric study would throw more light on this evidence.

It seems that very little research is being published from CPUT. Perhaps it is because respondents are busy with Masters or PhD projects that they are not publishing. Several comments suggest that another explanation could be heavy teaching workloads, for example:

- The research that we must do adds to the heavy load that we already have. QR9
- Agree library and research important – teaching equally important. There is not enough time allocated to do both adequately. QR13

It seems as well that some teachers of specialised subjects cannot be replaced in the classroom, as one points out:

- I would love to do formal research, but the requirements of our industry stakeholders means that a specialist like myself needs to be in the classroom because there is no backup to teach my subjects. QR37
- For a University of Technology the low proportion of industrial-sponsored research is perhaps surprising. As mentioned in Chapter 2's literature review, Miller's research (2008) finds that researchers are motivated by having access to reliable research assistance, which saves them time and energy, and to research funding opportunities that match their research interests. He suggests that an important library function is to provide information on where to look for research funding.

In Chapter 2, it was identified that there are new ways of doing research. Houghton, Steele and Henty (2004) mention that research activities are more diverse. Miller also stresses the growing value of networking and informal communication with colleagues. Personal interaction like informal discussion with academic colleagues is needed to develop research questions and increase the potential impact of their research. The trend is towards collaborative work and informal modes of communication. This project did not attempt to

identify collaborative research and how researchers communicate among themselves. However, three collaborative projects were mentioned by respondents in passing.

5.3 What programmes does the library have to meet the needs of the researcher?

The answers to this question come from the preliminary interview with the Research Librarian, who is the manager of RISC. Other answers come from some answers to the questionnaire.

RISC offers researchers a dedicated research space with networked computers. It aims to enhance knowledge sharing at CPUT by giving researchers an opportunity to network with colleagues and fellow researchers. It provides researchers with information and guidance on literature reviewing. The Research Librarian raises concerns that the ICT infrastructure at CPUT needs rapid improvement to keep up with research trends. He claims that having a virtual research environment will be excellent for CPUT Libraries as they move forward. Researchers will be able to get research support from anywhere without having to visit physically the RISC centre. This comment is similar to the recommendation by Mgobozi and Ocholla (2002) after their study at the Universities of Natal and Zululand that was mentioned in Chapter 2.

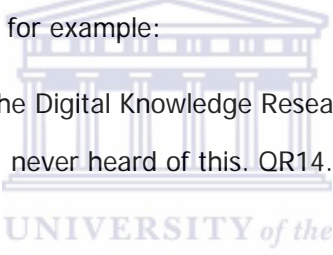
The Research Librarian also mentions that he produces "research notes" that are published on the library's website. As mentioned earlier in Chapter 2, Fan (2005) discovers in his study that many university libraries have research guides available on their library websites. They include, for example, links to "How can I get something translated?" and "How can I disseminate my research?" Fan (2005) believes that "as university libraries become more and more digitized, they play an important role in offering a greater support service for young professors and PhD students which will help in the development of their academic careers". These research support programmes fit in with the new ways of doing research, e-research and collaborative research. It can therefore be seen here that the RISC programmes fall in line with what has been identified in the literature.

However, the Research Librarian's point that research support is a "whole library" project and that faculty librarians are also research librarians, raised the question: What is the relationship of the faculty librarians to the Research Librarian position and to RISC? Chapter 4 has suggested that the services of the faculty librarians are in demand and that RISC is not in heavy demand by researchers who are CPUT staff.

Although he stresses how ICT will change research patterns, it is odd that the Research Librarian makes no mention of CPUT's new institutional research repository. This is a library project which was initiated by the Systems Librarian. It aims to store and provide online open access to CPUT research. Chapter 4 provides evidence that academics might not know much about the repository yet.

5.4 How do academic researchers use the library at present?

Answers to Question 18 indicate what research support services are being used at CPUT, including the Library and RISC. A number of 95 respondents made use of the library for research support in the past year- far more than the other research support units. This is a positive reflection on the library and it shows that the library perhaps is playing a significant role in supporting research. However, there is little mention of the use of RISC. It is indicated that RISC is less used than FUNDANI and the Centre for Postgraduate Studies. And comments confirm that very few respondents are aware of the newly established Digital Knowledge Research Repository, for example:

- 
- I am not even aware of the Digital Knowledge Research repository. QR4
 - DIGITAL KNOWLEDGE - I never heard of this. QR14.

The three library services most used for research in the past year are:

- the library's e-resources – used by 73 of the 102 respondents
- the library's print resources – borrowed by 55 respondents
- and the Inter-Library Loans services – used by 52 respondents.

This finding echoes some international research. For example, the research by the Research Support Project team at the University of Newcastle (2001) and by Miller (2008) conclude that the most important services for researchers are:

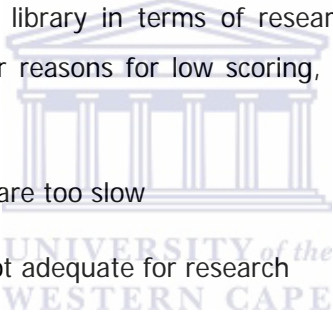
- access to electronic journals
- an up-to-date collection and a vast range of special materials available
- access to archives and special collections
- good document delivery services
- specialist help and advice in tracing resources, and
- being kept up-to-date with the research in their area.

Not many books it seems are being bought at CPUT for research purposes, with half buying none. It would have been useful to have asked for reasons since another question found that 45% believe the library collection to be inadequate for research. Perhaps Van Zijl's recommendation (2005) that Universities of Technology in South Africa should develop joint collection development policies should be acted on.

Question 20 shows that 92 respondents made contact with a librarian for their research in the past year at least once. Eight respondents made contact with a librarian more than 25 times in the past year. But only 22 attended one of the library's training workshops on databases.

5.5 What do researchers see as the inhibiting and encouraging factors for their research with regard to library services?

The overall rating given to the library in terms of research support is 5.8 – “adequate” nearing “good”. When asked for reasons for low scoring, there is fairly strong agreement that:

- 
- the network / databases are too slow
 - the library collection is not adequate for research
 - Inter-Library Loan services take too long.

Findings on the subject knowledge of faculty librarians are ambiguous. The Research Libraries Consortium (2007) , which includes another university in Cape Town, and which was discussed in Chapter 1, is focussing on upgrading the subject knowledge of its faculty librarians, because it feels that librarians lack credibility with researchers. The CPUT study shows that 42 respondents are satisfied with the subject knowledge of their librarians. But 27 are not and another 31 are “undecided”.

More positive perceptions of academic staff are highlighted in some added comments such as:

- We have a very dedicated and competent librarian helping researchers. QR16
- [X & Y] are my “rocks”, they keep me up to date and are always willing to help. QR64.

5.6 How do researchers perceive the role of the library in their research?

A strong majority of CPUT researchers (75%) believe that the library remains important to their research despite the Internet and only 13% claim that they no longer need to visit the library.

But, as already indicated, the rating of the library's research support services is mixed. The average score is 5.8. And also as already mentioned, the following library services are the most heavily used: library e-resources, library print resources, Inter-Library Loans.

Question 24 gave respondents the opportunity to respond to a "wish-list" of *possible* services. They were asked to rate the services on the list in terms of their importance to their research. The results echo the international literature that was mentioned earlier. The following three services were found to be the most desirable:

- ongoing updates on new information resources
- maintaining of research repositories
- database training.



The high value put on the second and the third services suggests that the library needs to market its new institutional repository better and its database training. The existing database training was rated rather low on the services used in the past year and only 38 respondents agree on the importance of the Digital Knowledge Repository. It could be that the name is just not familiar.

5.7 Conclusion

Overall the library is revealed as playing a significant role in research at CPUT. Most researchers believe that the library remains important. The rating of library's research support services is not bad. An average score given by respondents is 5.9.

The following findings must be highlighted in terms of the need of CPUT to improve its research profile and the efforts of the library to support this:

- Most research is being conducted for a formal degree.
- Not much publishing is taking place at CPUT, perhaps because academic staff are too overworked with teaching duties.

- Most respondents agree that research is essential to their jobs.
- Researchers want to be kept informed of new research.
- They want increased access to e-resources.

There is a strong thread of positive comment about individual librarians in the open comment at the end of the questionnaire. However, slow networks, slow Inter-Library Loans services, delay in the ordering of new books and librarians' s lack of subject knowledge are identified as negative factors.



CHAPTER 6

RECOMMENDATIONS AND REFLECTIONS

6.1 Introduction

The purpose of the study was to investigate what researchers need, want and expect from an academic library, using the case of the Cape Peninsula University of Technology. Research support is a crucial part of the academic library mission, as stated in Chapter 1. On the whole the study succeeded. The sample was a reasonable size and the questionnaire gathered pertinent information. There are some limitations which will be discussed below.

6.2 Recommendations arising from the study

The study's findings lead to certain recommendations for CPUT Library management and staff. Also it is hoped that they might apply in other situations and will be of interest to other academic libraries in South Africa.

Improving ICT infrastructure

Problems with ICT infrastructure was highlighted in the study as a great concern by the Research Librarian and academics who indicate their frustration with slow networks / databases. Perhaps what CPUT libraries need is their own Information Technology Department and a separate Internet line. This way there would be dedicated staff available at all times to deal with network problems. By having a separate line from the university will allow for faster Internet connectivity, eliminating the frustration academic staff and researchers are experiencing.

Improving current awareness and alerting services

What came out strongly on academic staff's "wish-lists" was "ongoing updates on new information resources". As in some of the international studies, CPUT researchers are faced with huge amounts of information and they need specialist and focused information services. Perhaps faculty librarians need to look at different ways of addressing current awareness service. Perhaps the library should consider alternative channels to communicate this kind of information, for example mobile technology.

The need for specialist alerting services implies that library staff have subject knowledge and are in touch with researchers' work. The study raises questions over the expertise of library staff in terms of advanced research support. Perhaps library management need to

consider the list of competencies from the Association of Southeastern Research Libraries that was mentioned in Chapter 2.

Perhaps faculty librarians can improve their knowledge by, for example, attending first year classes. Another way of improving subject knowledge is by introducing mini seminars within the library whereby librarians present to colleagues any new developments in their subject area as well as communicating the information to faculty. It is a way of building up knowledge and building on the research culture at CPUT. It was mentioned in the literature that librarians should have their office within the faculty.

There was an occasional comment from respondents on the lack of communication skills among library staff. Perhaps customer services workshops could be run quarterly so that library staff are constantly aware of improving themselves in the workplace.

Improving the visibility of the Digital Knowledge repository

Many researchers admit that they do not know what the Digital Knowledge research repository is. It is a fairly new service offered at CPUT Libraries, however it is evident that it is not being marketed enough. Library management should look at new ways of marketing new services at CPUT. Or perhaps faculty librarians should arrange to have presentations within the faculty, bringing the service to them.

Improving the speed of document delivery and inter-library loans services

This service was rated low in the questionnaire by academic staff and researchers. Library management should look at ways of improving inter-library loans services. Perhaps the patterns of requests need to be studied, and perhaps faculty librarians together with academic staff can discuss the purchasing of items being heavily requested. Perhaps the procedure of requesting items needs to be looked at, perhaps there is room for improvement so that items are received timeously. Perhaps more staff is needed in the Inter-library loans department so that response time of dealing with a query can be met.

Improving collection development processes

Responses indicate that academic staff are not happy with the delay in the purchasing of books. They therefore purchase valuable research books from their own funds. These books are not available to the rest of the CPUT community. Perhaps if the Acquisitions and Cataloguing departments were split according to faculty, the flow of materials could be speeded up. The median number of books purchased for research for the library collection in the past year is zero. This is low for a library trying to improve its collection for

researchers. As reported in Chapter 2, international studies show that researchers want specialised high-power collections. Faculty librarians should be more proactive in scanning for new materials.

6.3 Limitations of the research study

The study had a few limitations. The survey left the researcher with some questions. It would have been useful to conduct some follow-up interviews. A bibliometric study of CPUT publishing output would have provided more depth and background to the survey.

It only focused on one institution. If its findings were able to be compared with other similar institutions, it would be more meaningful. Postgraduate students who are not staff members were excluded from this study. The library should do a similar study of these students.

Another limitation is that so far no statistical analysis has been done to compare responses across status, faculty, gender and other variables.

6.4 Recommendations for future research

These limitations already identify some future studies. Further studies will give more meaning to this study, for example:

- A more qualitative study, interviewing a small number of academic staff and researchers, like Miller's study of three Australian researchers in 2008, that was described in Chapter 2. This might give more depth to the findings.
- A study focusing on postgraduate students is needed..
- A study comparing other institutions in the Western Cape, or a comparison between Universities of Technology Libraries in South Africa. It will give more meaning to this study.

6.5 Conclusion

The first chapter in this dissertation places the project in the context of South Africa's need for more and better research. If South Africa is to progress to a knowledge society, its universities will have to increase research output. Universities of Technology have a particularly important role to play as South Africa urgently needs scientific and technological research. Therefore their libraries have a special responsibility to support their efforts to improve their research culture and production.

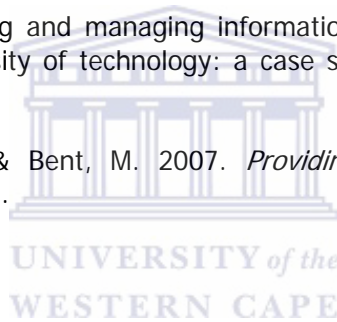
It is hoped that this study will contribute some insight into how University of Technology libraries might enhance their research support.

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APPENDIX A

INTERVIEW PROTOCOL: RESEARCH LIBRARIAN

1. Could you describe to me what your job entails?
2. The Research and Information Support Centre is fairly new, why do you think CPUT set it up?
3. What do you think the role of the library should be in supporting research at CPUT?
4. There are other people at CPUT that deal with research support, for example the head of the Research Directorate and the research unit on the Bellville campus. How does your role differ from them or do you collaborate with them?
5. Based on trends, statistics and pure observation, what are some ways research needs at CPUT have changed?
6. Have you noticed any changes in the number of people who visit the Research Support Centre?
7. What are some of the short-term and long-term goals for RISC?
8. What services are being offered to researchers at the centre?
9. What new services do you think could be introduced that can support research?
10. Are you currently busy with research?
11. Is there anything else you would like to say that I might not have touched on?

APPENDIX B

LETTER OF INTRODUCTION TO ACADEMIC STAFF AND RESEARCHERS

18 August 2009

Dear Academic Staff and Researchers

I kindly ask you for some minutes of your time to answer the attached questionnaire. I am currently completing my Masters in Library & Information Science at UWC. As part of my course, I am required to produce a mini-thesis which involves conducting an investigation. My investigation is facilitated by means of a questionnaire sent out to all academic staff and researchers at CPUT. After five years of experience working at CPUT Libraries, I wish to explore academic staff perceptions of the library in terms of their research. My research project is titled **ACADEMICS' EXPERIENCE OF AND PERCEPTIONS OF THE ROLE OF THE ACADEMIC LIBRARY IN RESEARCH AT THE CAPE PENINSULA UNIVERSITY OF TECHNOLOGY.**

Dr. E. Chiware, Director of CPUT Libraries, has given permission for the study to be conducted.

The success of this study relies on the information that will be gathered by means of the attached questionnaire. Please be assured that the information gathered will be used strictly for the purposes of the study and confidentiality and anonymity are assured. Participation is voluntary. The study is done under the supervision of Prof. G. Hart from the Department of Library and Information Science, at the University of the Western Cape. Her email address is ghart@uwc.ac.za

Once you have completed the questionnaire, please return it to me via email by the **8 September 2009.**

Your participation in this regard is greatly appreciated.

Yours Sincerely
Lynn Kleinveldt
Librarian: Applied Sciences
CPUT: Cape Town Campus
(Tel): 021 460 3644
(Cell): 082 744 0567
kleinveldtl@cput.ac.za

APPENDIX C
QUESTIONNAIRE



**THE ROLE OF THE ACADEMIC LIBRARY IN RESEARCH AT THE CAPE PENINSULA
UNIVERSITY OF TECHNOLOGY**

All academic staff are invited to complete this questionnaire. Your anonymity is assured. All answers are confidential.

I am a Masters student investigating what academic staff and researchers need and want from the Library to help with their research. I hope that the outcomes of my study will be beneficial to CPUT libraries, academic staff and researchers. Please complete and return to me by the **8 September 2009**.

SECTION A: PERSONAL AND RESEARCH PROFILE

1. Please indicate your Faculty

Applied Sciences		1
Business		2
Education		3
Health & Wellness		4
Informatics & Design		5
Engineering		6
I'm not attached to one Faculty		7

2. Which department or unit do you belong to?

.....

3. What is your position?

Junior lecturer		1
Lecturer		2
Senior Lecturer		3
Assoc Professor		4
Professor		5

Researcher		6
Other(please specify)		7

4. Gender

Female		1
Male		2

5. Age

Years

6. Home Language

Afrikaans		1
English		2
IsiXhosa		3
Other (Please specify)		4

UNIVERSITY of the
WESTERN CAPE

7. Highest formal qualification

Matric		1
Post –Matric Certificate		2
National Diploma		3
Bachelors Degree (3 or 4 yrs)		4
Honours Degree		5
Masters Degree		6
PhD		7
Other (please specify)		8

8. Are you currently studying towards a formal degree?

Yes		1
-----	--	---

No		2
----	--	---

9. If yes to Question 8, please tick which of the following applies to you

Bachelors Degree		1
Honours		2
Masters		3
PhD		4
Other (Please specify)		5

10. If you answered yes to Question 8, where are you studying?

.....

11. If you are not studying at CPUT, please explain your decision. Tick whichever applies. You may tick more than one option as appropriate.

CPUT academic staff need to be in touch with other approaches (different viewpoints, research methodologies, course structures etc)		1
Course not offered at CPUT		2
I chose a university with more research prestige than CPUT		3
The experts in my field are not at CPUT		4
Other (please specify)		5

12. Are you engaged in a research project at the moment?

Yes		1
No		2

13. If yes, which of the following categories applies to you?

Masters/PhD thesis		1
Postdoctoral project		2

Research project sponsored by industry		3
Research sponsored by CPUT's NRF funds		4
Other (please specify)		5

14. An academic's job comprises teaching, administration and research. What percentage of your working year do you estimate that you spend on research?

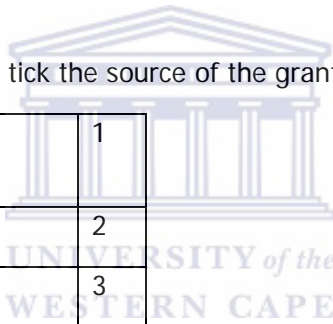
%

15. Are you receiving a research grant at the moment?

Yes		1
No		2

16. If yes to Question 15, please tick the source of the grant as appropriate.

NRF postgraduate scholarship		1
NRF grant		2
Industry / NGO grant		3
Other (please specify)		4



17. How many articles in accredited journals (which qualify for government subsidies) have you published in the past 3 years?

.....

SECTION B: THE LIBRARY'S ROLE IN YOUR RESEARCH

18. Which of the research support services at CPUT have you used in the past year? Tick as many as appropriate

1	RISC- Research Information Support Centre	
2	Centre for Postgraduate Studies	
3	Fundani	
4	Research Directorate	
5	Library	

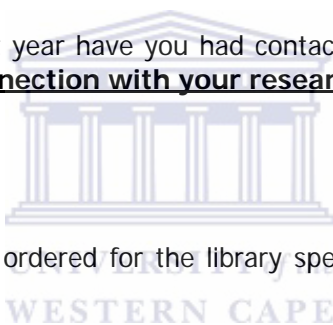
6	Other (Please specify)	
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19. Which of the following library services & facilities have you used for **your research** in the past year?

1	Borrowed Library's print resources	
2	Used Library's E- resources (e-books, online journal databases etc)	
3	Library's Inter-Library Loan & document delivery services	
4	Used Library's quiet study area	
5	Faculty librarian's reference/information services	
6	Attended a training workshop on E-resources or databases	
7	Other (Please specify)	

20. How many times in the past year have you had contact (in person, by phone or email) with a CPUT librarian **in connection with your research**?

times



21. How many books have you ordered for the library specifically for your research in the past 3 years?

books

22. How would you rate the library's support for your research? Tick as appropriate from 1 for non-existent to 10 for indispensable.

Non existent	Weak	Adequate	Good	Indispensable
1	3.....	5.....	710

23. If you rated it as lower than 5, please tick the following possible reasons as appropriate. More than one may be ticked.

Collection in my area is not adequate		1
Faculty librarians are too busy		2
Librarians lack subject knowledge		3
Network / databases too slow		4

Librarians know very little about research		5
Inter-Library Loan & document delivery services take too long		6
Library acquisition budget is too small		7
Other (Please specify)		8

24. Please rate the importance to you of the following possible Library research support services

A	Providing a reading list on my topic and providing advice on my literature review	Very important 1	Useful 2	Not important 3
B	Advice on my research topic	Very important	Useful	Not important
C	Ongoing updates on new information resources	Very important	Useful	Not important
D	Advice on research proposal writing	Very important	Useful	Not important
E	Advice on bibliographic referencing	Very important	Useful	Not important
F	Database training	Very important	Useful	Not important
G	Maintaining of research repositories	Very important	Useful	Not important
H	Any other? (Please specify)	Very important	Useful	Not important

SECTION C: LIKERT SCALE STATEMENTS

Please tick your views on the following statements. And add any comment.

25. The CPUT Library collection and resources cannot support research"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

26. "Librarians do not have the subject knowledge to help my research"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

27. "I source information directly from the Internet and so no longer need the Library "

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

28. "CPUT librarians are updating me on the latest information for my research"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

29. "Now that I use e-resources, I don't need to visit the physical library"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

30. "Research is essential to my job"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

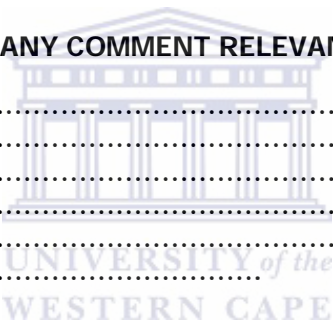
31. "CPUT needs to build a stronger research culture"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

32. "The Digital Knowledge Research Repository at CPUT is a very important service and resource"

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

SECTION D: PLEASE ADD ANY COMMENT RELEVANT TO MY INVESTIGATION



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Thank you for taking the time to complete this questionnaire

For more information contact me at 021 460 3644 / 082 744 0567 or email me at kleinveldtl@cput.ac.za

Lynn Kleinveldt

(Or my supervisor, Prof Genevieve Hart, ghart@uwc.ac.za)