

**Identifying marketing tools and strategies to provide a
platform to non-users in the use of library and information
services**

A Research Report

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requirements for the

**MASTERS DEGREE IN BUSINESS ADMINISTRATION,
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by

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DECLARATION

I, Shamila Ramjawan, declare that the work submitted in this thesis ***“Identifying marketing tools and strategies to provide a platform to non-users in the use of library and information services”*** to the School of Business Leadership, University of South Africa, is my own work. This thesis has not been submitted previously for any other degree at this university or any other university.

All sources in this study have been referenced and appear in the comprehensive list of references.



Shamila Ramjawan

9 May 2011

Date

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I am glad that I undertook the plunge into studying for an MBA and I believe that it is an experience that will benefit me throughout my life both in the business and personal aspects. The hard-work, dedication, sacrifices and commitment was a small price to pay for this incentive.

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***“I shall be with you, wherever you are, guarding you
and guiding you. March on, have no fear”.***

- Sri Sathya Sai Baba

EXECUTIVE SUMMARY

Researchers rely on information - so that they do not repeat what has already been researched and so that they could continuously build and expand the body of knowledge that ensures progress. Library and Information Service (LIS) professionals have served as intermediaries in the process of finding and disseminating existing information for a very long time. That role is, mainly due to technology and the products that make use of technology, rapidly and continuously changing. LIS professionals therefore have to ensure that they truly add value to the research process and when they become aware of the fact that their services and products are not being used, the matter needs investigation.

This study covers some of the issues relating to marketing strategies and tools that can be used to attract non-users of LIS and the associated products. The reason for this study arose from the fact that the information services staff of The Council for Scientific and Industrial Research (CSIR), one of the largest research organisations in Africa, had become aware that the names of some senior researchers had not, during the past year appeared on the service usage statistics. With having a success rate of 94% in customer satisfaction surveys conducted during the same period, it is apparent that the information supplied by the information specialists was of value to other research staff. The question then was: why were these senior staff members not approaching the CSIR LIS staff for assistance?

The aim of the study was to establish what the reason(s) were and to then, if they are truly non-users, make recommendations regarding strategies to follow to ensure that the senior researchers are reached.

The research was broken down into three objectives:

- To identify and recommend tools and strategies that could be used to reach non-users of services and products,
- To equip librarians and information professionals with advice regarding specific strategies to follow within their context, and
- To investigate actual reasons for non-use at the CSIR.

Key findings from the investigation:

- It was revealed that the researchers are capable of getting their own information for research purposes as they are qualified and have experience in acquiring research material due to their high qualifications.
- It was found that the most common tool that the researchers use is the internet, especially Google for their searches. The two main reasons being that it is quick which saves a lot of time and information is easily accessible.
- The unavailability of required material as well as time constraints were the most common frustrations experienced by the researchers in information seeking. The researchers felt that there was a lot of time being wasted on searching for relevant material and when they eventually found information, they had limited access.

Several recommendations were made, sub-divided into different categories and the key recommendation from each category can be summarized as the following:

- Announcements for training should be compiled every quarter so that the researchers can plan in advance; provide adequate information on the content of the training so that the researchers can then assess whether it will be worthwhile or not to attend; and encourage training to suit the researchers' busy schedule where the information specialists consults with him and asks him which dates and times would suit him.
- According to the analysis in chapter 5, 54% of the researchers perceive library and information services as "paper", whereas CSIRIS is mainly driving "electronic". Awareness should be created by advising the researchers of the aims and strategies of CSIRIS on their intentions as outlined in the strategic business plan. This could be done by creating hard copy posters which are randomly placed at the various business units or electronic posters which can be sent via email.
- The CSIR needs to find alternative sources of funding so that they can buy appropriate journals which are causing frustrations by the researchers as they cannot access certain journals.

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LIST OF ABBREVIATIONS AND ACRONYMS

BSC	The Balanced Scorecard
B2C	Business-to-Consumer
CSIR	The Council for Scientific and Industrial Research
CSIRIS	The Council for Scientific and Industrial Research Information Services
ILL	Interlibrary Loans
IMC	Integrated Marketing Communications
KM	Knowledge Management
LIS	Library and Information Services
OPAC's	Online Public Access Catalogues
PR	Public Relations
PRISA	Public Relations Institute of Southern Africa
ROI	Return on Investment
SERVQUAL	Service Quality
SMART	Specific, Measurable, Achievable, Realistic and Timely
VBM	Value Based Management

KEYWORDS

Service quality, SERVQUAL, customer satisfaction, marketing communication and CSIRIS.

"The aim of marketing is to know and understand the customer so well the product or service fits him and sells itself".

Peter F. Drucker

CHAPTER 1: BACKGROUND AND PROBLEM STATEMENT

1.1 TOPIC

Identifying marketing tools and strategies to provide a platform to non-users in the use of library and information services

1.2 INTRODUCTION

The smooth flow of daily operations in a library depends to a large extent on the competencies of its general library workers, known as librarians, information professionals, library assistants, cybrarians or webrarians, or any number of other professional titles. These workers are the people who perform tasks that vary between administrative, technical tasks and then the more professional tasks – depending on the needs of the clients (Meyer, 2010). Previously, training used to be given to library workers as the need arose. However, as conditions and demands with the library environment have changed, library services depend increasingly on learning institutions to offer a variety of learning programmes that will deliver a “work-ready” workforce (Meyer, 2010).

Rao and Babu (2001), sums up the changing role of the librarian by stating that traditionally a librarian was known as a person located in the library building carrying out various tasks such as acquiring, organizing, preserving printed documents and helping the readers in locating information that they needed. In the last decades of the twentieth century this picture has rapidly changed under the influence of advances in computer and communication fields. Instead of paper; networked, computer resident, user searchable collections like bibliographic databases and Online Public Access Catalogues (OPACs) are being accessed. With digitization of an ever increasing number of collections and advances made in computer/communication hardware and software, seamless access to digitized information located in geographically diverse locations has become a reality (Rao and Babu, 2001:25).

Librarians, who have been information providers for centuries, now have the opportunity to empower their clients by teaching them to use modern tools as well as to provide users with quicker, more complete and more sophisticated services. According to Rao and Babu (2001:26) the environment in which librarians work is changing in terms of greater access to a range of information, increased speed in acquiring information, greater complexity in locating, analyzing and linking information, constantly changing and adapting technology, lack of standardization of both hardware and software, continuous learning for users and staff, as well as with the management of financial investment for technology.

Research librarians specifically, also have to be highly skilled in the research process and possess a unique knowledge of information resources in various subject specialties. By facilitating access to information, where they find it, by analyzing information, synthesising it and packaging it for the user, librarians could also play an important and critical role in the information creation process. Rao and Babu (2001) affirm that “teams within an organisation should have an information professional who is responsible for the information gathering skills of the team”.

However, the same technology that allows librarians to perform at new service levels appear to have also created a disconnect between the researcher and the librarian responsible for serving his/her information needs. The direct face-to-face interaction, when a library user visited the physical library, is no longer an everyday occurrence. Direct access to huge stores of information makes it very easy for research staff to bypass librarians and library type products. Hence they start using information inefficiently and librarians begin to appear obsolete. This research investigates causes for non-use and as well as marketing tools and strategies that can be used to attract non-users of library and information services.

1.3 PROBLEM IN CONTEXT

According to Tahir, Mahmood & Shafique (2008) the present era of human development is called the “Information era.” Information has become the most important element for ensuring progress in society. To thrive in this modern era, one needs a variety of information, no matter how well versed one is in a field or profession. Simultaneous technological development has caused an explosion of information – making it very difficult to ensure that all relevant information of quality is being accessed. Farnham (2002:238) encourages managers to accept the challenge of implementing technology, to remain globally competitive and to ensure transformation. Similarly, librarians also need to understand the influence technology has on their role and responsibilities.

In today’s environment of easily available information from user-friendly web search engines and conveniently accessed, accessible internet sites, libraries can no longer continue to solely rely on traditional roles and models of service delivery (Connaway, Radford & Dickey, 2008:28). As pointed out by Connaway, *et al.* (2008:25) because of their elusive nature, the information-seeking behaviour of non-users of library systems and services is rarely addressed directly in the library and information science literature. They further add that most research concludes that libraries are not usually the first choice of people looking for information. It stems from the radical impact of the internet on people’s ability to find information themselves.

This study is an attempt to identify the behavior of non-users and was conducted at the Council for Scientific and Industrial Research (CSIR) which is referred to as “the company”. The CSIR website (CSIR, 2011), states the following:

The CSIR is one of the leading scientific and technology research, development and implementation organisations in Africa. Constituted by an Act of Parliament in 1945 as a Science Council, the company undertakes directed and multidisciplinary research, technological innovation as well as industrial and scientific development to improve the quality of life of South Africa’s people.

The CSIR is committed to supporting innovation in the country to improve national competitiveness in the global economy. Science and technology services and solutions are provided in support of various stakeholders, and opportunities are identified where new technologies can be further developed and exploited in the private and public sectors for commercial and social benefit.

The CSIR's shareholder is the South African Parliament, held in proxy by the Minister of Science and Technology. Further information on the CSIR's profile is substantiated in Annexure A (Focus on the Council for Scientific and Industrial Research).

In such an organisation you would expect all researchers to use LIS but apparently they are not and therefore this study covers some of the issues relating to apparent non-users of services offered by the Council for Scientific and Industrial Research Information Services (CSIRIS).

As part of a previous research conducted by Botha, Erasmus & van Deventer (2009) it is stated that "the mission of the service (CSIRIS) as a whole is to manage the delivery of appropriate information, preserve intellectual property and to facilitate tacit knowledge connectivity by, for example connecting knowledge workers". In addition, CSIRIS regularly initiates a review process where, besides looking at the mandate, vision and strategy it also gains a better understanding of the actual impact it has on its parent organisation (Matroko, 2011).

It stands to reason that the CSIR would not want to suffer from lower quality research because researchers prefer to use easily accessible but low quality input data when they do not have access but are not utilising services and products at their disposal. In addition, the company needs to maximise its return on investment (ROI) when it comes to the utilisation of the commercial electronic products.

1.3.1 VISION, MISSION AND VALUE PROPOSITION OF CSIRIS

As is stated in their value proposition: CSIRIS (2011b), “through its staff and information rich resources, is uniquely positioned to add value to the organisation”. Throughout the research process CSIRIS staff enables researchers by facilitating access to resources, providing training where necessary and in playing an intermediary role in complex information retrieval efforts. As an internet age information service, CSIRIS provides knowledge navigation by employing professional skills and a variety of tools to guide users through the myriad of information resources available in either open-access or targeted commercial resources. The challenge is how to ensure that all researchers are aware of the resource at their disposal.

Besides facilitating access to information, staff members are also “curators and facilitators who use tried and tested methodologies and standards to ensure continuous access to the institutions intellectual output”. Table 1 shows the vision, mission and value proposition of CSIRIS.

Table 1: Vision, mission and value proposition of CSIRIS
(Source: CSIRIS, 2011b)

Vision	A trusted, innovative and embedded information service that : <ul style="list-style-type: none">• Enables research and eResearch,• Advises and guides the organisation on access to and the curation of data and information, and• Facilitates knowledge networking
Mission	To effectively facilitate access to relevant and high-quality scientific resources as input to the research cycle and to ensure long term accessibility to the outputs of the research process. Our mission is therefore also to : <ul style="list-style-type: none">• Use our knowledge about the multi-disciplinary subject fields of CSIR and to add value,• Create and continuously improve information management systems and strategies,

	<ul style="list-style-type: none"> • Preserve and curate information and data sets, and to • Increase the visibility of CSIR research outputs globally.
Value proposition	<p>We see ourselves as “catalysts” in the research process – making R&D process run more efficiently. CSIRIS, through its staff and information rich resources, is uniquely positioned to add value where it is most needed by</p> <ul style="list-style-type: none"> • Facilitating cost effective access to reliable resources through negotiated contracts , using advanced skills and tools, • Ensuring that the CSIR’s intellectual output is made accessible to the research community, • Curating and preserving explicit research outputs, • Selecting and recommending suitable and focused information resources, • Enabling researchers through appropriate training when and where required, and by • Playing an intermediary role in complex research retrieval efforts.

The service’s core mandate makes provision for a variety of stakeholders. These are discussed in more detail below.

1.3.2 STAKEHOLDER FRAMEWORK OF CSIRIS

According to Botha, *et al.* (2009), the stakeholder framework (Figure 1) puts into perspective the fact that many stakeholder groups, the CSIR included, are affected by CSIRIS. The impact that CSIRIS has upon the researcher and the research process, will therefore also indirectly have an effect on other stakeholders, such as the CSIR’s research funders.

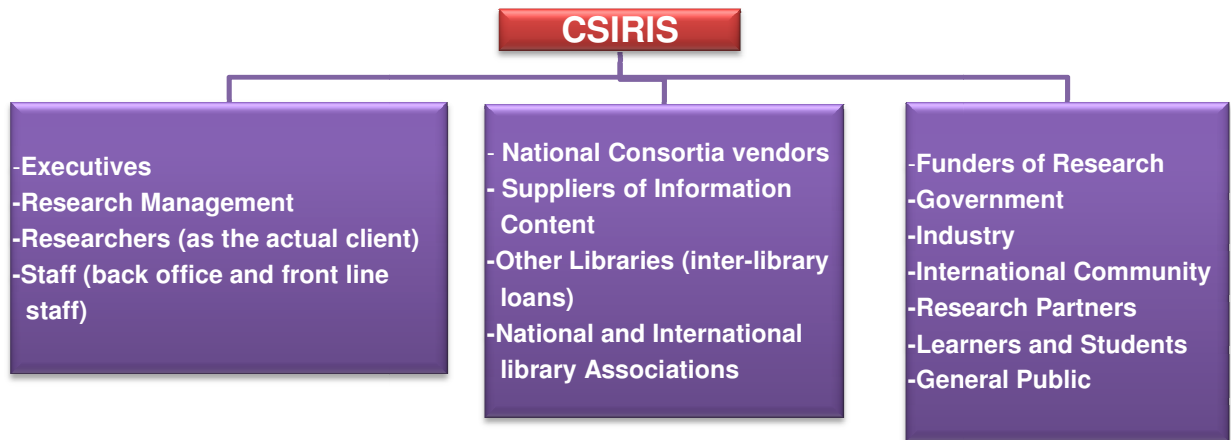


Figure 1: Stakeholder framework of CSIRIS
(Source: Botha, *et al.*, 2009)

Positioning CSIRIS as a core research and development (R&D) service within the CSIR organogram reflects this impact correctly (refer to the CSIR management structure for 2010/11 in Annexure B). This study will however, rather be focusing on the CSIRIS internal structure (specifically, the information specialists) as per Figure 2 and their involvement and relationship with their customer (the “researcher”).

1.3.3 CSIRIS INTERNAL STRUCTURE

Although there is a parallel structure that reflects back office staff (those in the more traditional library-type services) it is especially the front line structure that is of importance here. “Front line” is a phrase used to describe those staff members who are, or should continuously be, in direct contact with line staff (the researchers).



Figure 2: CSIRIS internal structure for front line staff
(Source: CSIRIS, 2011)

CSIR employs information specialists (externally known as “librarians” and “information professionals”) whose principal accountabilities relate to the information needs of the researchers (referred to in the study as the “customer, client, user or non-user”). Their responsibilities are to:

- Provide value-added information services to line (research) staff on both pro-active and reactive basis;
- Liaise with clients regarding their detailed scientific, business and management information requirements and translating this into suitable search strategies that allow for accurate retrieval of relevant information. Search results are evaluated before compilation into literature review reports;
- Conduct information and knowledge assessments to establish new client information needs, gaps and opportunities;
- Selectively disseminate scientific information from journal and online databases to ensure the client has access to the latest scientific and innovative advancements in specialized technology areas;

- Continue towards a successful implementation of Knowledge Management (KM) practices throughout the institution by assisting in the implementation of KM strategies for the respective operating units;
- Contribute to digital data curation, data archiving, digital preservation, management and appraisal of data and encourage and implement the use of Virtual Research Environment (VRE) practices and tools;
- Conduct bibliometric research to measure researcher performance;
- Support and promote the CSIR policy regarding the dissemination of research outcomes. This includes advising researchers on Open Access publishing initiatives, the selection of suitable accredited publications in which to publish as well as the monitoring of publication output within the units/centres;
- Ensure that all CSIR generated publications are captured, managed, preserved and accessible based on acceptable meta-data standards, policies and procedures to preserve the organisation's corporate memory and research knowledge are not lost;
- Empower line staff through training in the use of electronic information resources as well as the critical evaluation and selection of authoritative information resources;
- Assist in the development and implementation of strategies for the promotion and utilization of information resources and services to optimize CSIR ROI;
- Build and maintain relationships with the designated unit/s to ensure continued awareness of researchers' needs as well as to improve service delivery (CSIR, 2011).

It is against this list of responsibilities that client satisfaction is measured.

1.3.4 CLIENT SATISFACTION SURVEYS CONDUCTED BY CSIRIS

CSIRIS regularly conducts surveys to determine the client satisfaction rate of the users of library and information services.

The survey process is as follows:

- The information specialists submit monthly statistics on services provided to specific researchers;
- From these statistics a CSIRIS staff member, not in the information specialists section, randomly selects at least two clients/ researchers per information specialist;
- These selected researchers are then contacted telephonically and requested to complete a short questionnaire (Appendix D);
- Care is taken that individual researchers are not contacted more than once in a specified time period;
- The responses are captured and returned to the team manager responsible for calculating the monthly client satisfaction rating;
- Lastly, the Portfolio Manager: Information and Knowledge Management Services then documents the cumulative statistics per financial year.

The following information in Figure 3 refers to client satisfaction surveys that were conducted monthly for a 3 year period, from April 2008 to Feb 2011. The information for March 2011 was not available at the time of collating this information.

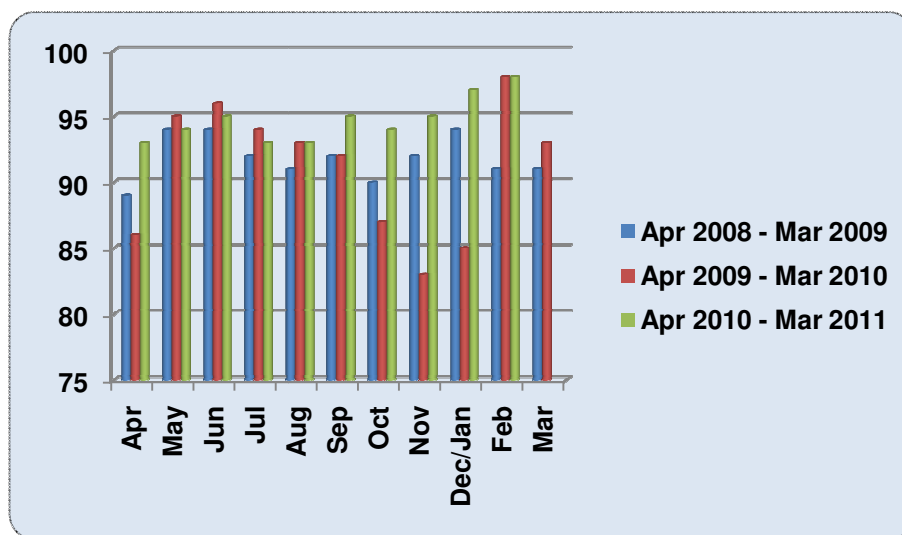


Figure 3: CSIRIS customer satisfaction surveys for a 3 year period
(Source: CSIRIS, 2011)

As reflected in Figure 3, the average client satisfaction rate for the period April 2008 to February 2011 is above 90%. One could deduce from these statistics that researchers who do not make use of the services feel that library and information services have a positive impact on the research process. This leads to a question as to the reasons for such an impressive score.

The study conducted by Botha, *et al.* (2009) indicated that researchers felt that the most important indicators of impact are:

- Higher success in research,
- Time saved in information search and delivery,
- Enlargement of the scope of resources used,
- Better knowledge of how to seek information, and
- Information overload (reduce or increase).

One could then only assume that these impact factors are being addressed successfully. However, from analyzing the monthly statistics submitted by the information specialists it has become clear that some very successful senior research staff members are apparently not making use of the services of the information specialists. In view of the client satisfaction rating and the process followed, non-use is not predictable and the reasons for non-use cannot be easily discovered. The main purpose and aim of this study is to therefore identify the needs of the apparent non-users of CSIRIS library and information services and to gain answers to the following questions:

- Why the identified individuals are not utilizing the services available to them?
- How, when and where does the researcher gain access to information if it is not through the formal channels?
- How does the researcher determine that the information used is reliable?
- How does the researcher ensure that he/she has access to the information in the future?
- Why are they, of the opinion that they no longer need information services (if indeed they are)?
- What are the information needs of the non-user?

- What does the non-user read?
- What are the non-user's information retrieval / sourcing related habits?
- How does the non-user collect and store information?
- How could the information specialists market and promote their services to reach the non-user?

Techniques to surface the 'non-user' and tactics to market the services to researchers will be central in this study. It is anticipated that the results of study will assist the CSIR as well as other research-based organisations with tools and strategies to market and improve the reach of their LIS services. In addition marketing strategies, relationship management, service quality, communication and customer satisfaction are key factors to consider in this study.

In short, the problem in context has raised a number of issues that form the background against which CSIRIS will have to face the challenge to adopt marketing tools and strategies to specifically attract non-users of LIS services. This challenge is reviewed in more detail in the section that follows.

1.4 PROBLEM REVIEW

According to CSIRIS (2011b), from previously documented client feedback it is apparent that researchers are not always aware of all the resources available. Therefore, ongoing marketing and being visible in "the researcher's space" remains both the challenge and the opportunity when it comes to marketing CSIRIS services and resources.

In view of this, a number of emerging themes have been identified in the problem in context which includes:

- Marketing strategies,
- Communication,
- Relationship management,
- Service quality, and

- Customer satisfaction.

The general perception amongst information specialists is that a significant number of researchers do not visibly take full advantage of the services on offer (Matroka, 2011). The purpose of this research is to discover if that is in the fact the case and if so, what the reasons are for the non-use.

Advances in technology are making everything possible online and this may have altered the perception of the researchers as to what the CSIRIS has to offer. If the library and information service is to maintain its relevance with the needs of the researchers, CSIRIS must adapt and change too. Listening to the needs of those who apparently do not use the services is one way of being responsive to that change.

1.5 PROBLEM STATEMENT

CSIRIS must be able to justify its existence as an enabling support service. In doing so, their major tasks are serving the customer optimally so that they could remain globally competitive. Evaluating the marketing tools and strategies to convince non-users to make use of the products available will aid in achieving this objective. Therefore, the research question established is:

What marketing tools and strategies would convince non-users to make use of available library and information service products?

1.6 RESEARCH AIMS AND OBJECTIVES

The general aim of this study is to explore the level of non-use of library and information services at CSIRIS and to ascertain the reasons why some researchers are not engaging with the information specialists. To address this aim it is essential that the objectives of the research are made transparent.

Objectives are normally set by using the SMART (Specific, Measurable, Achievable, Realistic and Timely) principle. The SMART principle focuses on outcomes rather than activities and allows one to measure success. Because objectives form the constituent parts of the research question, this principle was kept in mind when setting objectives for this study. Therefore, the following three primary objectives proliferate from the problem statement:

Objective 1:

To identify and recommend tools and strategies that could be used to reach non-users of services and products.

This objective would essentially identify and recommend marketing tools and strategies as to how an organisation can penetrate the market and reach non-users of services and products. In doing so, they will be able to attract non-users of their services and products and gain a competitive advantage. This is typically the game of survival and growth in business.

Objective 2:

To equip librarians and information professionals with advice, regarding specific strategies to follow within their context.

The special librarian retains a vital information filtering role and to be successful in fulfilling that role depends on the expertise at selecting, evaluating and implementing electronic information products. It is imperative that the special librarian is fully trained and knowledgeable and is continually acquiring skills so that he/she can assist professionally in the research process.

The results and analysis of information gathered to address this objective will, in the first instance, determine and evaluate marketing strategies that are already in place at CSIRIS. Currently, the main strategies are personalizing service delivery (CSIRIS, 2011) by:

- Thematic information retrieval,
- Enabling research staff through training,
- Evaluation and promotion of relevant services and products, and
- Embedding librarian services where relevant.

Service attributes are described as being:

- Proactive,
- Visible,
- Enabling,
- Responsive,
- Innovative, and
- Accessible.

It also is important that disseminated information is of the highest quality. The brand and reputation of the organisation is of utmost importance as they are one of the largest research organisations in Africa.

Objective 3:

To investigate actual reasons for non-use of CSIRIS products and services.

An investigation into the actual reasons of non-use remains central to this study. The outcome of the investigation will provide knowledge as to why the information specialists are being under-utilized or not used at all by the identified senior researchers. The analysis of these factors (refer to chapter 5) will provide leads as to what activities and initiatives could be implemented to effect change in behavior of non-users. Without proper investigation it is only possible to speculate what the reasons for non-use could be.

1.7 IMPORTANCE OF THE RESEARCH

Marketing to users of your products and services is easy! Attracting new users is a matter of using strategies to sell and convince an individual. When a user is knowledgeable and should understand the importance of a product or service and yet does not appear to be using that product or service, the challenge is considerably more difficult.

The research topic will lead to some investigation into important and significant issues with regards to the researchers not making use of the library and information services provided by the information specialists. Particular focus will be placed on the needs of the researchers, communication, customer satisfaction, relationship building and service quality.

The outcome of this study will produce various benefits and information to CSIRIS and other libraries to best position themselves and their products in the market – especially when targeting non-users. Thus, there will be guidance on various significant contributions towards the future approaches as to how information professionals will be able to reach non-users of library and information services, equip these professionals in assisting non-users by being key players in the research process and will identify marketing tools and strategies in which to market the services to the non-users. It is anticipated that current marketing strategies may have to be revised to ensure a high level of customer attraction, customer satisfaction and customer retention.

1.8 ASSUMPTIONS AND DELIMITATIONS

The sample size will be relatively small and the research will be limited to CSIRIS (a research library). The generalization of the findings must therefore be considered with caution.

Due to the time constraints placed on this study, only senior researchers who are apparent non-users of library and information services of CSIR were interviewed. The researcher acknowledges that their opinions and behaviour might differ from other non-users outside CSIR and even from CSIR staff at different levels of seniority. The assumption is that the respondents did answer the questions truthfully but further research to cover all the other areas will have to be commissioned to ascertain results that could be extrapolated to include all researcher groupings.

The researcher does not have a background in library and information science. As a result the interpretation of findings may be interpreted differently by those who do have that background.

1.9 OUTLINE OF THE STUDY

Figure 4 below outlines the chapter breakdown.

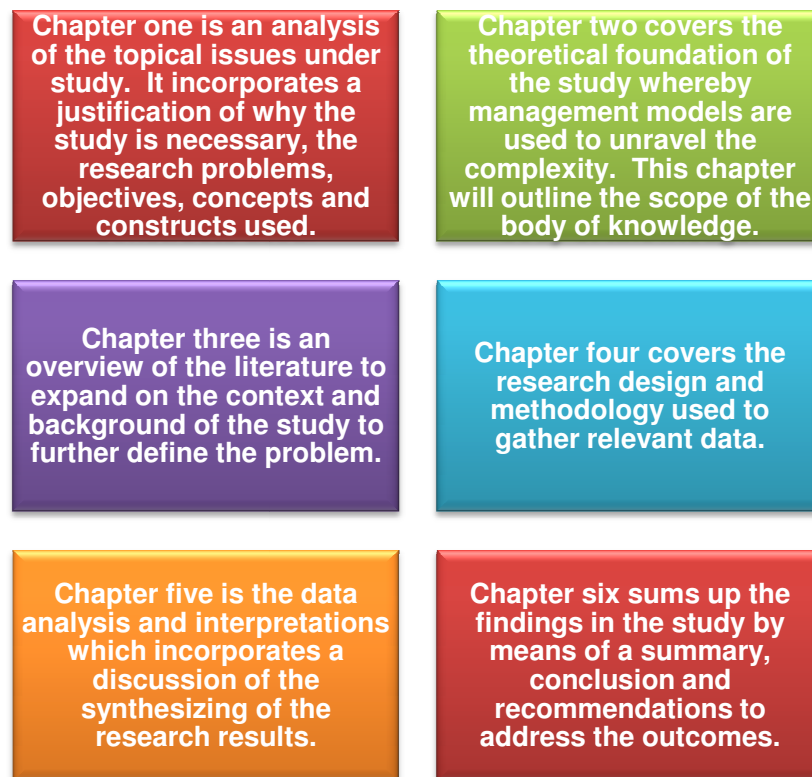


Figure 4: Outline of the study

1.10 SUMMARY

With the issues described in the problem review and followed through in the problem in context, it is apparent that there is a definite need to delve deeper into the issues on hand. This is attempted in Chapter 2, where the problem analysis/theoretical considerations, theory and management models are illustrated and exploited to gain a better understanding of these issues.

CHAPTER 2: THEORETICAL CONSIDERATIONS

2.1 INTRODUCTION

In order to further explore the marketing strategies and tools that the CSIRIS will be able to implement, it is useful to examine and analyze the theoretical considerations underlying the objectives of the study. Theoretical business considerations are often embedded in models. Models also assist in understanding the problem in a broader context.

Models can help us clarify, broaden and deepen our analysis and thinking and to organize, manage and manipulate reality in our minds. “Models and frameworks do not make strategy. Strategy is about individuals thinking, exercising their judgment, taking risks and making choices” (Segal-Horn, 2006:42). Very importantly, Harding and Long (1998:222) state that “models should be used as tools in analysis and never as ends in themselves. We should start with the organisational problem, not with the model that we think should apply”. We should use models to break down the problem domain or analysis into manageable chunks that we can then manipulate and develop in our thinking into meaningful internal conceptual associations, or mental models. They further elaborate by saying that we should use management models to help us order and link information and elements of organisation-related activities and processes.

The broad dimensions of this study pertain to links between strategy, marketing strategy, marketing communications, relationship management and service quality which includes customer expectations, customer perceptions and customer satisfaction. The theory and models used in this research are appropriate to the objectives as outlined in the previous chapter. Each of the aspects mentioned above is discussed in detail in 2.2 – 2-5 below.

2.2 STRATEGY

According to BusinessDictionary.com, corporate strategy is defined as “the overall scope and direction of a corporation and the way in which its various business operations work together to achieve particular goals” (2011).

The successful implementation of strategic goals and corporate strategies is dependent on the extent to which the different tactical (both senior and middle) managers integrate and implement their various tactical goals and strategies (Rossouw, Le Roux & Groenewald, 2003). Usually all management levels in an organisation such as the CSIR are involved in the implementation of the strategic goals and corporate strategies.

Models depicting strategy and that will be discussed here are the Balanced Scorecard (BSC) and McKinsey 7-S Models. The McKinsey 7-S model is used to ensure that all the factors (as shown in Figure 6) are coordinated to optimize conditions for growth in times of change.

2.2.1 PERFORMANCE MANAGEMENT

Globally organisations are currently encountering a revolutionary transformation. Rossouw, *et al.* (2003:198) posits that “industrial age competition is being replaced by information age competition”. During the industrial-age, organisations were successful by capitalizing on benefits derived from economies of scale. Technology was used merely to improve production efficiency and mass production of standard products. Measuring tools that were previously successful are no longer valid. The quest for a new approach to the evaluation of value creation associated with the information age has led to the development of the BSC.

The BSC method started off as an operational tool and was designed to measure and help improve operational performance. It was discovered by Kaplan and Norton (1998) and is a strategic approach and performance management system that enables organisations to translate a company's vision and strategy into implementation, working from four perspectives as shown in Figure 5.



Figure 5: The Balanced Scorecard perspectives
(Source: Rossouw, *et al.*, 2003:202)

- *The financial perspective*: Concentrates on historical issues in terms of the company's financial results and would examine how the key financial stakeholders view the organisation. Typical financial goals include profitability, growth and shareholder value. While it is true that CSIRIS does not drive "profitability, growth and shareholder value" it would be possible to clearly identify who their financial stakeholders are. It is also quite possible that the stakeholders and the clients are not the same set of people (as is often the case in service organisations).

- *The customer perspective:* This is the most important perspective in relation to how customers see the company and examines meeting and exceeding customer expectations and this includes the service quality and customer satisfaction. It is imperative for the CSIRIS to become the customer's supplier of choice through building partnerships with them and to develop innovative products and services tailored to meet customer needs. It is also important to note that if customers are not satisfied, they will find other ways to meet their needs and demands.
- *The internal business processes perspective:* It is what the company must excel at and focuses on current processes to ensure these are efficient and effective based on output. Managers need to focus on internal operations that enable them to satisfy customer needs. After all, excellent customer performance derives from processes, decisions and actions occurring throughout CSIRIS.

The intense global competition requires that the company make continual improvements to their existing services and processes and have the ability to introduce entirely new services with expanded capabilities. This ability to innovate, improve and learn ties directly to the CSIRIS's value and this is only if they have the ability to launch new products and services, create more value for customers and improve operating efficiencies continually.

- *The innovation and learning perspective:* examines the ability of the CSIRIS to sustain itself in the future by developing future capabilities. Most importantly though is the employee training. People are the main resource in any organisation. Knowledge workers must be in a continuous learning mode and sustain their ability to change and improve. This aspect should obviously not be confused with training provided to the client.

Table 2: Possible benefits and problems of using the BSC at CSIRIS
(Source: Cameron, 2008)

Benefits	Problems
Improved organisation alignment.	Data is often not available through the system in a timely manner.
Improved communications – both internally and externally.	Difficult to translate top-level aims into clear action on individual performance plans.
Linked strategy to objectives.	Information on individual contributions to performance has to be maintained manually – increasing costs and paper.
More emphasis on organisational results in line with strategy.	Cascade into performance plan is seen as a form filling exercise.
Provides management with a clear picture of business operations.	Difficult to quantify and measure all aspects of performance especially in the staff quadrant.
Cooperation from team members in helping one another succeed.	
Initiatives are continually measured.	
Usable results whereby action can be taken.	
Aid understanding of financial and internal performance through the views and opinions of customers and staff.	

As reflected in table 2, the BSC serves as an effective tool for driving continuous improvement as it incorporates all the aspects of achieving and meeting the objectives and targets of the company through a few key performance measures. This tool can highlight possible strengths, weaknesses, opportunities and threats at a glance by reviewing the stakeholder perspectives. In order to achieve the best results it is essential to review and update targets regularly, update measures as performance improves, change measures according to strategy and use the measures to monitor the success.

With CSIRIS operating in the knowledge economy space it appears that the BSC would be an appropriate model to use for evaluation purposes.

2.2.2 GUIDING ORGANISATIONAL CHANGE

McKinsey 7-S Framework as shown in Figure 6, will best explain superior performance with regard to the implementation of strategies at a company. This is a Value Based Management (VBM) model that describes how one can effectively organise a company in a holistic and effective way.

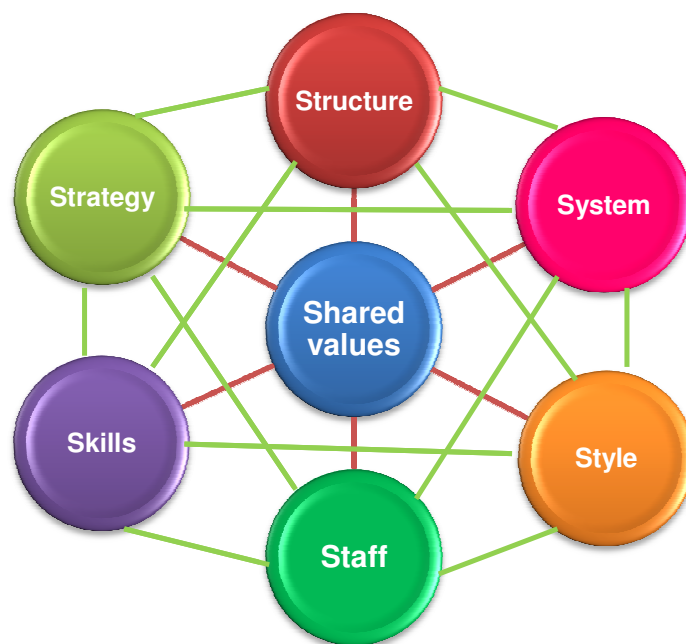


Figure 6: The McKinsey 7-S Framework
(Source: Rossouw, *et al.*, 2003:151)

This model comprises of seven interdependent strategies that determines in which an organisation operates and managers should take these factors into account to ensure successful implementation of strategies. Once the strategy (shared values which is what the company stands for and what it is) has been designed, the McKinsey framework suggests that top managers focus on the other six components to ensure effective execution.

At CSIRIS the main focus is on the upper 3 “S’s”, strategy, structure and systems of this model. The major strength of this model is that it guides organisational change.

The McKinsey 7-S model can be applied to almost any organisational effectiveness issue. If there is something within CSIRIS that is not working, the chances are there is inconsistency between some of the elements identified by this model. Once these inconsistencies are revealed, the internal elements can be aligned to make certain that they are all contributing to the shared goals and values of the CSIR.

The process of analyzing these elements is beneficial and in doing so, taking this analysis to the next level and determining the state of the factors, can take the CSIR forward. This model can lead the CSIR to surmountable success as it helps to analyze and improve existing processes, identifies gaps and aligns departments or can be used to determine how best to implement the organisations strategies. It can be used at CSIRIS where highlighting inconsistencies of approach may be beneficial.

2.3 MARKETING STRATEGY

Marketing strategy is a “written plan (usually a part of the overall corporate plan) which combines product development, promotion, distribution, and pricing approach, identifies the firm's marketing goals, and explains how they will be achieved within a stated timeframe. Marketing strategy determines the choice of target market segment, positioning, marketing mix, and allocation of resources”. (BusinessDictionary.com, 2011).

The five C’s of marketing strategy (12manage, 2011) in Figure 7 provides a checklist on some important things to consider when crafting a marketing strategy:

- **Customer needs:** This covers the needs that CSIRIS has to satisfy. Figure 11 - Kano-model of customer satisfaction provides an outline on customer satisfaction.
- **Company skills:** This refers to the competencies that CSIRIS possess to meet those needs.
- **Competition:** Who competes with CSIRIS in meeting those needs?

- **Collaborators:** Who should CSIRIS enlist to help them and how do they motivate them?
- **Context:** What cultural, technological and legal factors to name a few, limit what is possible?

The 5C's of marketing strategy is the strategic framework for understanding where CSIRIS's skills intersect with their customer needs.



Figure 7: 5C's of marketing strategy
(Source: 12manage, 2011)

The marketing mix is a conceptual framework that helps to structure the approach to each marketing challenge. There are many different approaches to the marketing mix and the principle, one being the 4P's.

According to 12manage (2011) the marketing mix includes every communication tool that is available to the organisation.

Although many factors affects an organisation's marketing strategy, all the marketing decision-making can be classified into the marketing mix. Usually this is referred to as the four P's which is **p**roduct, **p**lace, **p**rice and **p**romotion (Stapleton, 2007). They reflect a producer-driven view of marketing, with little scope for customer involvement. The combination of these four factors is the foundation of any marketing plan. In view of CSIRIS, each one of the libraries products and services should have a marketing plan (Stapleton, 2007:25), "the 4P's approach was developed to reflect marketing situations in which the balance of power lies with the manufacturer or service supplier, and can still be usefully applied where these market conditions still apply".

Thereafter, the 7P's was introduced and this is an extension of the four P's to make them more suited to service provision. This includes **p**eople, **p**rocess and **p**hysical evidence. Similar to the four P's, this model reflects market conditions in which customer influence was limited (Stapleton, 2007).

The 7P's model which is shown in Figure 8 is well suited for CSIRIS as it is the extended marketing mix. The "people" includes the information specialists at CSIRIS who play an important role in adding significant value to the service offering. "Process" which includes the procedure and flow of services is an essential element in the marketing strategy. Whilst, "physical evidence" portrays the service delivery and customer satisfaction which is central in CSIRIS' business plan.



Figure 8: 7P's marketing model
(Source: 12manage, 2011)

2.4 MARKETING COMMUNICATIONS

To communicate effectively, every stakeholder needs to understand how communication works. Figure 9 depicts the communication process.

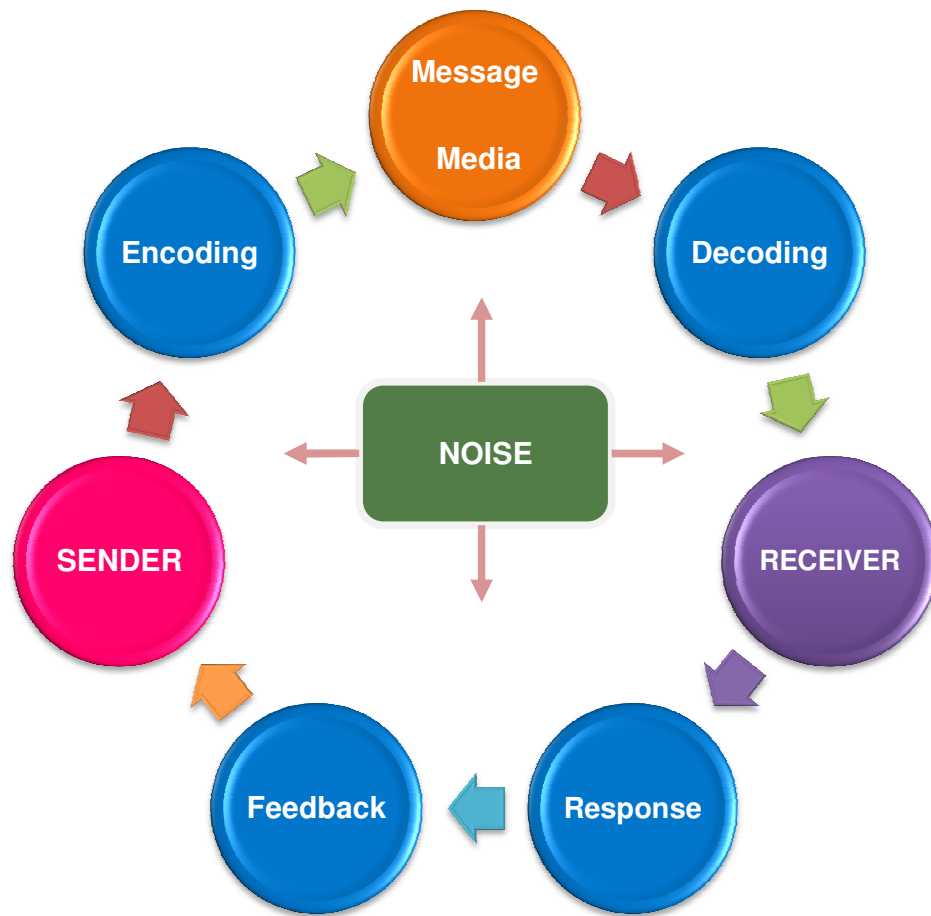


Figure 9: The communication process
(Source: O'Sullivan, 2010:34)

Communication involves the nine elements which are shown in Figure 9. The sender and the receiver are the major parties in a communication process. The other two are the message and the media. Primary communication functions include encoding, decoding, response and feedback. The last element is noise in the system.

- The *sender* is the party the sends a message to the other party and in this case would be CSIRIS;
- *Encoding* is the process of putting the intended message into a symbolic form. CSIRIS, information specialists assembles words and illustrations into an email that conveys the intended message to the researchers;

- *Media* is the communication channel through which the message moves from sender to receiver;
- *Decoding* is the process by which the receiver assigns meaning to the symbols encoded by the *sender*. The researcher reads the email and interprets the words and illustrations in it;
- The *receiver* is the party receiving the message. In this case it is the researcher;
- *Response* is the reaction of the receiver after reading the message. The customer acknowledges or does nothing with the message;
- *Feedback* is the customer's response which is communicated back to the sender;
- *Noise* is the unplanned static or distortion during the communication process which results in the receiver getting different messages from the one the sender had sent. The best messages are words and symbols that the receiver is familiar with.

To communicate effectively, the information specialist must understand the researcher's field of experience. This model signalizes the key factors in good communication. Senders need to know what audiences they want to reach and what responses they expect to get. In view of CSIRIS it is of utmost importance that the information specialists are aware of the researchers needs and knowledgeable in the researchers' field of expertise. This will ensure that the communication is effective and professional.

2.5 SERVICE QUALITY

Jordan and Prinsloo (2001) state that, “understanding how to manage service quality requires an understanding of the constructs of service quality, which are customer expectations and perceptions. These constructs are used to evaluate the quality of the service offering”. Customer expectations and satisfaction are key components of service quality and are discussed in detail below.

2.5.1 CUSTOMER EXPECTATIONS AND SATISFACTION

Customer expectations can be defined as “pre-trial beliefs a customer has about the performance of a service, that are used as the standard or reference against which the service performance is judged” (Jordan & Prinsloo, 2001:71). Parasuraman, Berry and Zeithaml’s model of customer expectations expands on this idea in Figure 10 and where they outline the five levels of customer expectations.

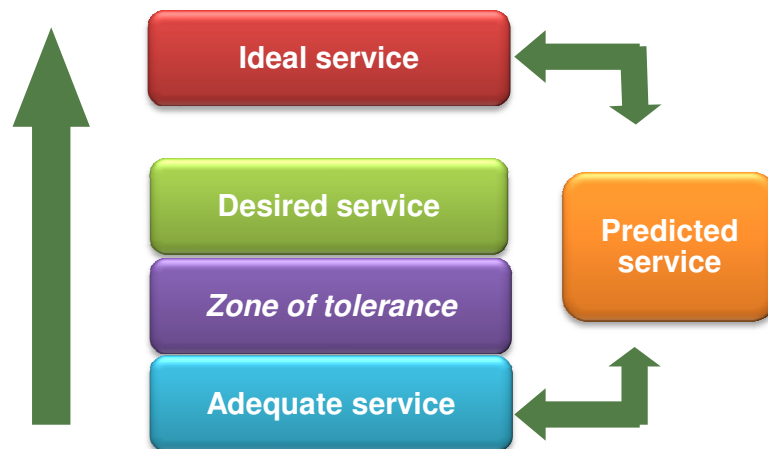


Figure 10: Parasuraman, Berry and Zeithaml's model of customer expectations
(Source: Jordan and Prinsloo, 2001:72)

This model indicates five levels of expectations (Jordan, *et al.*, 2001):

- *The ideal service*: this is the level of service that customers wish for and is a scenario where everything happens according to plan and works out perfectly;
- *The desired level*: this is the level that the customer wants and hopes to receive from the service. This is a mix of what the customer thinks can be and what should be. It also gives the customer an indication of the level of service from past experience;
- *The adequate level*: This level represents the minimum service level the customer will tolerate and accept without being dissatisfied;
- *Zone of tolerance*: The adequate and desired levels are divided by this level. It includes a range of service performances that the customer will consider as acceptable. Services below the adequate level and outside the tolerance zone will not be accepted by the customer. The zone of tolerance varies for each customer;
- *The predicted service level*: This is the level of service that the customer thinks will be and it is the customer's actual service expectation.

Factors that could influence customer's expectation levels and induce changes in their tolerance zone are personal needs, self-perceived service roles, implicit service promises, word-of-mouth communication and past experiences. It is imperative that the CSIRIS keeps to its promises made to customers.

The Kano-model of customer satisfaction in Figure 11 indicates customers' expectations of service and shows the categories which are the expected level, desired level and the surprising level. This model which is a quality management and marketing technique that can be used for measuring client happiness was developed by Noriaki Kano, a Japanese quality engineer (12manage, 2011). Kano proposed that services fall into three levels (expected level, desired level and surprising level) based on how they are perceived by the customer and by their effect on customer satisfaction.

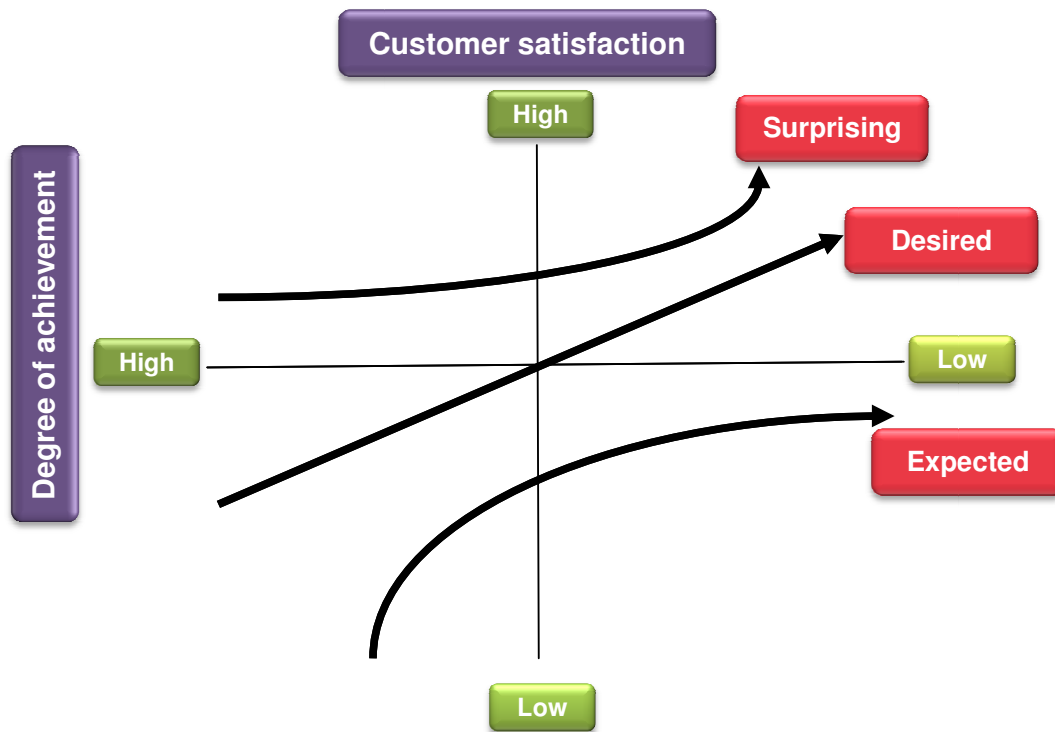


Figure 11: The Kano-model of customer satisfaction
 (Source: Jordan and Prinsloo, 2001:74)

Jordan and Prinsloo (2001) explain Kano's three levels of expectations:

- *Expected level:* This is the basic satisfactory level of service. "Expected" attributes represents the minimum requirement of the customer. Customers therefore regard expected attributes as important and are dissatisfied when they are not present. Therefore excellent performance on expected attributes leads to usually high levels of satisfaction;
- *Desired level:* This is similar to expected levels in expected attributes whereby customers are able to identify which desired attributes are important and comment on unsatisfactory performance. The key difference is that the relationship between the level of performance and the level of satisfaction is linear, as better performance levels lead to greater satisfaction and vice versa;

- *Surprising level:* Customers will not consciously consider these aspects as important, yet they will lead to high levels of customer satisfaction if present. This is the reason for being called the “surprising level”.

The Kano-model of customer satisfaction is a useful model to be used at CSIRIS as it classifies product attributes based on how they are perceived by the customers and their satisfaction levels. These classifications are useful for guiding design decision in that they indicate when good is enough and more is better. Identifying customer needs, determining functional requirements and analyzing competitive products and services are just a few project activities in which this model will be useful for CSIRIS.

Figure 12 outlines the customer satisfaction process (Jordan and Prinsloo, 2001:79).

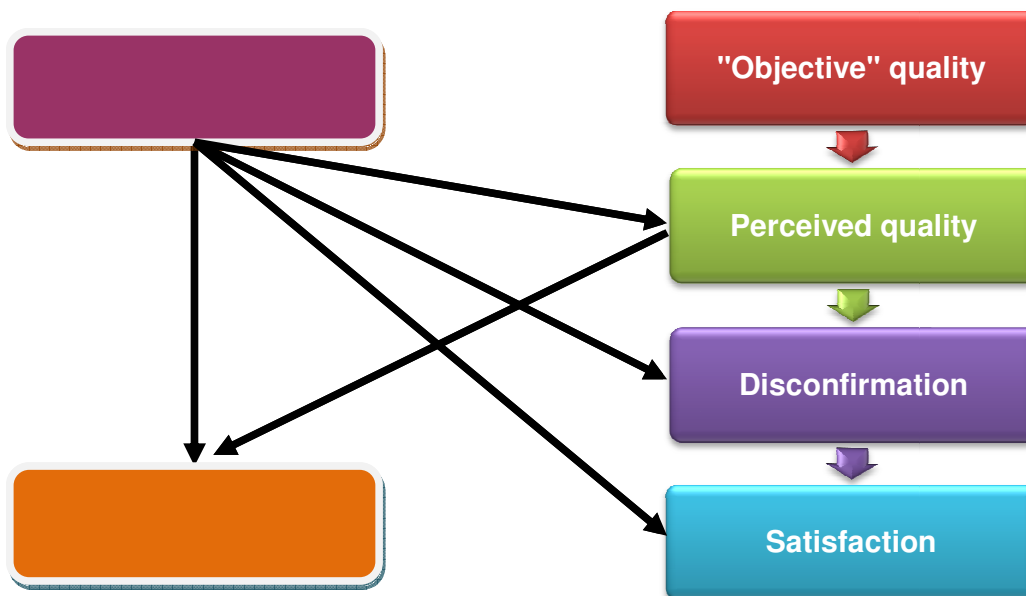


Figure 12: The customer satisfaction process
(Source: Jordan and Prinsloo, 2001:79)

2.5.2 MEASURING SERVICE QUALITY

Parasuramen, Zeithaml and Berry (1988), Service Quality Model (SERVQUAL) is a framework for the gap analysis of service quality. Service quality is potentially affected by a number of gaps that could occur between supplier and customer and is illustrated in Figure 13. This model is designed to measure customer's perceptions of service quality.

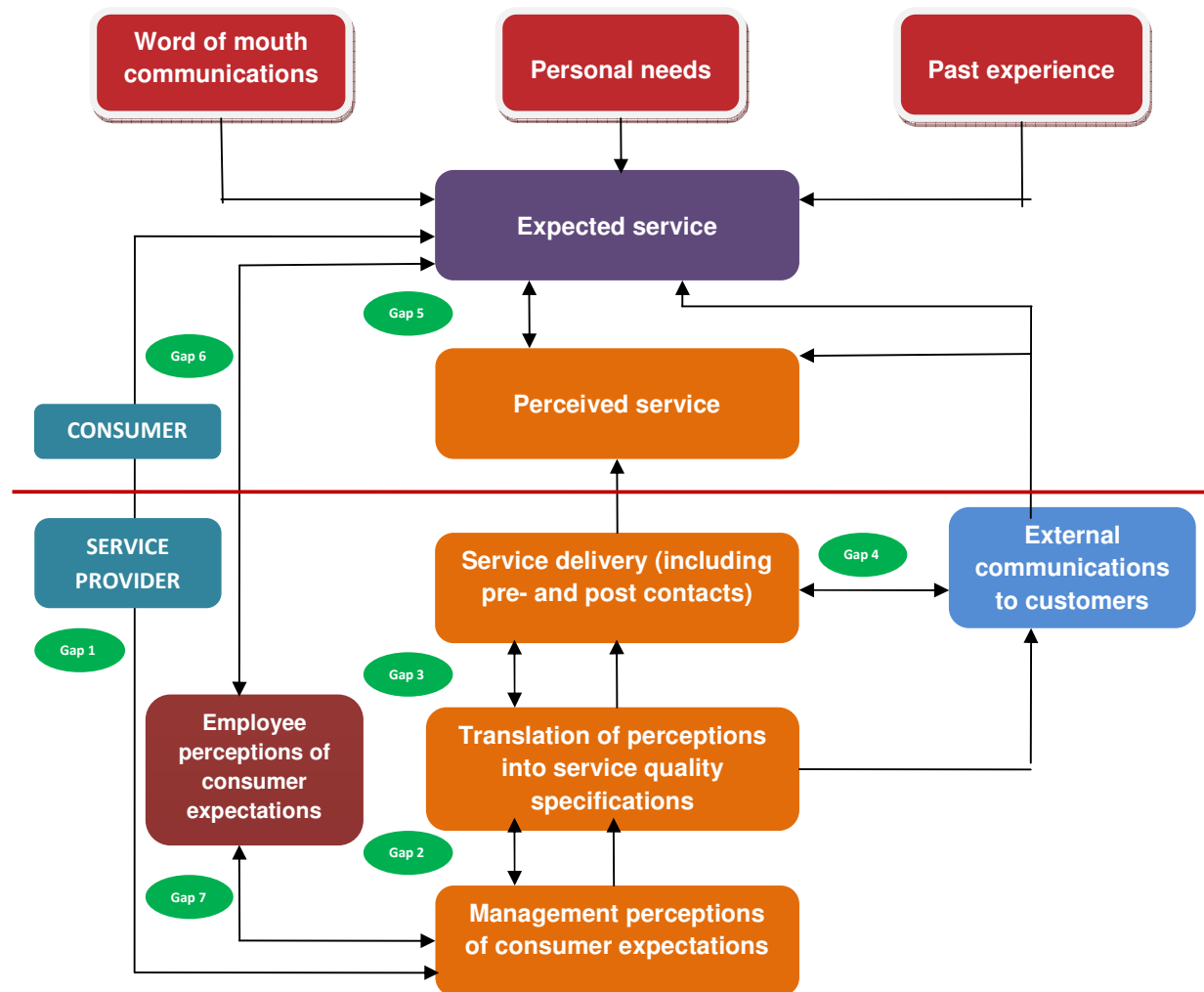


Figure 13: The SERVQUAL Gaps Model
(Source: Jordan and Prinsloo, 2001:81)

The SERVQUAL Gaps model generally identifies the following gaps between supplier and customer which can cause unsuccessful delivery as customers form service expectations from past experience, speculating on the customer service surveys held by the CSIRIS from time to time:

- *Gap 1:* This gap occurs between managers perceptions of the customer's expectations and the service expected by the customer. The client satisfaction surveys conducted by CSIRIS which has a rating of about 94% indicates that there are no major issues. Customers that use the services are content with the current offering and the information specialists are meeting their needs.
- *Gap 2:* This gap refers to manager's perceptions of the customer's expectations and the transition of services into service quality specifications.
- *Gap 3:* This gap links with what is designed and what is actually delivered.
- *Gap 4:* This gap lies between the delivery and what the customer is told about the delivery.
- *Gap 5:* This gap is between the customer's expectation of the services and the service the customer thinks they received. The customer satisfaction surveys suggest that there is no visible gap.
- *Gap 6:* This gap refers to the employees perceptions of customer expectations and the expected service by the customer.

This model will be used to measure the gaps between expected services and perceived service at CSIRIS; thus attempting to establish:

- The customer's perceptions of an ideal service provided by CSIRIS, and
- To measure the customer's perceptions of services by CSIRIS.

Figure 13 shows how a customer forms perceptions prior to receiving a service. The noted factors that impact on expected service at CSIRIS are:

- Word of mouth,
- Personal needs, and
- Past experience.

Customers usually rate a service by comparing what they expected and the perceived actual service received and therefore judge the service based on the five determinants of service shown in Figure 14.

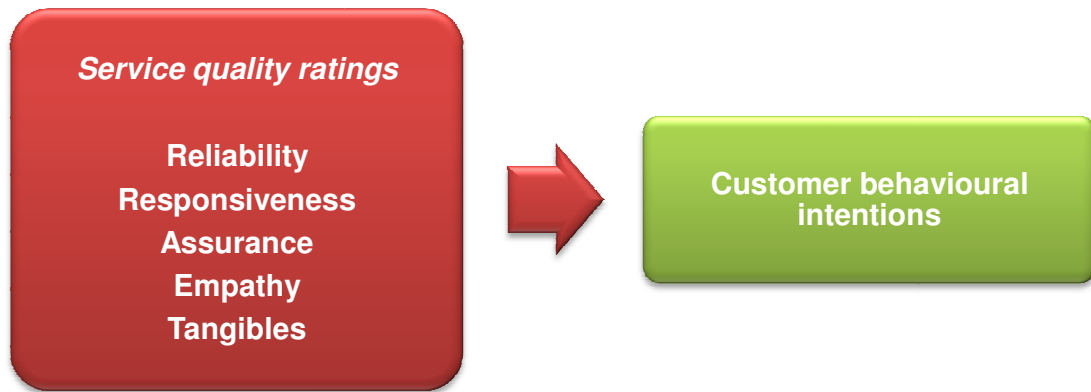


Figure 14: Determinants of service
(Source: Jordan and Prinsloo, 2001:81)

In terms of evaluating the service offered by CSIRIS, the analysis in Chapter 5 will provide insight as to whether CSIRIS is meeting the service levels according to the service quality ratings shown in Figure 14.

- Reliability
 - Are services being provided as promised?
 - Can the information specialists be dependable in handling customers' requests and service problems?
 - Are they able to perform services right the first time?
 - Do they provide the services at the promised time and meet timelines?
 - Do they keep the customers informed in the process about when the services will be performed?
- Responsiveness
 - Do the information specialists deliver prompt service to the customers?

- Are they willing to assist the customers?
- Are they ready to respond to customers requests?
- Assurance
 - Do the information specialists instill confidence in the customers?
 - Are the customers assured and feel safe in their transactions with them?
 - Are they consistently courteous to the customer?
 - Are they fully trained and equipped to be able to render their services adequately to the customer?
- Empathy
 - Do the information specialists give the customers individual attention?
 - Are they able deal with customers in a caring fashion?
 - Do they have the customer's best interest at heart?
 - Do they understand the needs and requirements of their customers?
- Tangibles
 - Does CSIRIS have modern equipment for the information specialists to carry out their duties?
 - Do the information specialists have professional appearances?
 - Are the business hours convenient for the customers?

Jordan and Prinsloo (2001) further elaborate on the five dimensions which include their definitions and the most likely questions that customers may raise in Table 3.

Table 3: Dimensions of service quality
(Source: Jordan and Prinsloo, 2001:84)

Determinants	Definition	Examples of questions that customers may raise
Tangibility	Appearance of physical facilities, equipment, personnel and communication material.	<ul style="list-style-type: none"> Does the organisation offer tangible evidence of the quality of the service provided? Does the organisation make use of modern equipment? Are the organisations' facilities, personnel and communications material attractive to the customer?
Reliability	The ability to deliver the promised service dependably and accurately.	<ul style="list-style-type: none"> How dependable is the organisation? Does the organisation perform its services right the first time? Does the organisation maintain accurate records pertaining to its transactions with clients?
Responsiveness	Willingness to help customers and provide prompt service.	<ul style="list-style-type: none"> How responsive is the organisation to customers' service requests? Does the organisation inform the customer exactly when the service will be performed? How willing are employees to assist customers?
Assurance	Knowledge and courtesy of employees and their ability to convey trust and confidence.	<ul style="list-style-type: none"> Does the organisation instill a feeling of confidence and security in customers? Are the organisations' employees courteous and are they knowledgeable as to the organisations offerings and possible problems?
Empathy	Caring, individualized attention provided by the organisation to its customers.	<ul style="list-style-type: none"> Can the organisation be regarded as sensitive towards the unique needs of its customers? Does the organisation serve its customers' best interests?

The SERVQUAL model uses 22 questions to measure the five quality dimensions as shown in Table 4.

Table 4: Service quality dimensions and its associated questions
(Source: Jordan and Prinsloo, 2001:85)

Tangibles	
1	The technical equipment ofis completely up-to-date
2	The physical facilities are visually appealing
3	The employees are well dressed and appear neat
4	Tools and instruments used to provide the service are attractive
Reliability	
5	Promises to perform the service within a certain time are always kept
6	Compliments and problems are solved with great concern and sympathy
7delivers the service correctly the first time round
8delivers the service at the time agreed upon
9	Record keeping such as orders and accounts are accurate
Responsiveness	
10	One cannot expect.....to inform customers as to the exact time of delivery
11	It is not realistic to expect prompt service from the employees of
12	Employees ofare not always willing to help customers
13	It is acceptable that employees ofare too busy to help customers immediately
Assurance	
14	The employees ofcan be trusted
15	Feeling safe in your transactions with the employees of
16	Friendly and courteous employees
17	Employees possess the knowledge to answer the customer's questions
Empathy	
18	Employees pay attention to each customer individually
19	Employees pay personal attention to each customer
20	Employees understand the specific needs of the customer
21	Employees have the customer's best interest at heart
22has convenient shopping hours

Of the five dimensions of service quality, research has repeatedly concluded that customers value *reliability* by keeping the services promise (Jordan and Prinsloo, 2001). Reliability largely deals with the service outcome or whether the promised service was delivered.

The remaining four dimensions relate more to the service process or how the service was delivered. Jordan and Prinsloo (2001:83) states that “customers view reliability as the service core and least tolerance of broken service promises”. The assumption about CSIRIS’ service is that the customer satisfaction survey reflects that the overall perception of customers is met. By making use of SERVQUAL, CSIRIS will be able measure customer evaluations of their service performance.

2.6 SUMMARY

Appropriate theory and management models to unravel the complexities of the issues in Chapter one were discussed in this chapter. Several applicable models were identified and discussed in detail.

The BSC is an appropriate tool that can highlight possible strengths, weaknesses, opportunities and threats at a glance for the four perspectives which are financial, customer, internal business processes and innovation and learning. Possible benefits and problems of using the BSC were also discussed. The McKinsey 7-S Framework explains the superior performance with regard to the implementation of strategies at a company. The 5C’s of marketing strategy was discussed which is the strategic framework for understanding where CSIRIS’s skills intersect with their customer needs. Thereafter, the 7P’s was discussed which is an extension of the 4P’s (product, place, price, promotion) to make them more suited to service provision. The three extra P’s are people, process and physical evidence. Similar to the 4P’s, the 7P’s model reflects market conditions in which customer influence is limited. Customer expectations and satisfaction being the key components of service quality as well as the SERVQUAL model was then discussed. CSIRIS’ quest to understand why their services and products appear not to be used/underutilized will be tested using these models.

The following chapter will provide a literature review describing theoretical perspectives and previous research findings pertaining to the research problem on hand.

CHAPTER 3: LITERATURE REVIEW

3.1 INTRODUCTION

The literature review describes theoretical perspectives and previous research findings regarding the research problem. Its function is to “look again” (re-view) at what others have done in areas that are similar, though not necessarily identical to, one’s own area of investigation (Leedy and Ormrod, 2005:64). Kruger (2006) asserts that the classic way to identify a research problem is to do a literature search. A literature review is an account of what has been published on a topic by accredited scholars and researchers (Coldwell and Herbst, 2004:31). Literature reviews are secondary sources, and as such, do not report any new or original experimental work. In discussing their findings (in research reports), previous researchers may have suggested ways of eliminating inconsistencies between their findings and those of others, or between their findings and a theory (Kruger, 2006).

The purpose of this chapter is to present and review relevant studies and publications in support of the issues stated in the research question:

What marketing tools and strategies would convince non-users to make use of library and information services?

Mainly journals, Open University study material, books via the UNISA Library and management research websites were considered for relevant material for the literature review.

The themes that emerged from the problem analysis, listed below were revisited, followed by a literature review based on this:

- Technology changes and innovation;
- Strategy and marketing communications strategy;
- Communication;

- Relationship management;
- Service quality.

3.2 TECHNOLOGY, INNOVATION AND THE ELECTRONIC ERA

Murdoch (2005) elucidates that the expectations of people today about the news they will get has changed vastly from the past, in terms of what news they will get, as well as when and how they will get it. Recent studies illustrate that consumers between the ages of 18-34 are increasingly using the web as a medium of choice for consumption. The internet and specifically internet portals are quickly becoming the favoured destination for news among young consumers.

The continuous changes in technology influences positive change in a postmodern era marked by numerous challenges in our personal and business lives. With regards to the library and information services the technological changes are exponentially high. Research tools are making it more user-friendly for new ideas to be disseminated and shared very quickly and easily. The change in behaviour of people is rife due to the latest technologies and innovations. With the latest digital technologies which have reshaped the way people think and behave, companies need to embrace new technologies to keep in pace with the changes they bring about. Managing and understanding the rapid mix of new technologies will be central to the future of the library and information service business.

Technological development has meant that some special libraries are already being called “virtual libraries”, (De Wet, 2006). More often than not though, these are hybrid libraries that need to face the challenge of managing both paper and electronic resources. More and more people are using electronic databases. The role of the librarian has developed on order to match the needs of the technological workplace. Librarians usually have sufficient experience of the new technology on hand to be able to collect, analyze and disseminate it proactively to the users.

Viney and Gleadle (2007:31) state that in the role of innovation, there are two reasons of interest:

- It can be a threat to the returns derived from existing products and services;
- It can be a source of advantage for innovating organisations and can cause radical shifts in industry structures.

Viney and Gleadle (2007) further added that it has become increasingly risky not to innovate. Consumers have come to expect periodic changes and improvements in products and services offered due to the continuous technological advancements (Rossouw, *et al.*, 2003). As a result of this, some organisations find it profitable to make innovation their grand strategy as this strategy involves the continuous improvement of products and services to stay ahead of the competitors.

There have been many studies on the relationship between the diffusion of electronic journals and the volume of interlibrary loan (ILL) transactions (Koyama, 2006). Koyama (2006) emphasises that some researchers have analyzed nationwide ILL statistical data and pointed out that the introduction of electronic journals resulted in the reduction of document delivery requests. According to the Koyama's study, (Tonta and Unal (2006) and Shin (2008), revealed that the deployment of electronic journal collections under consortia arrangements in Turkey and South Korea resulted in fewer ILL requests. In Koyama's (2006) study it is also revealed that other researchers argued that the expansion of electronic journal titles did not always lead to a reduction of ILL requests. Another researcher Jackson (2004) based a study by the Association of Research Libraries (ARL) and found that users made more ILL photocopy requests despite the increasing number of electronic journals. She identified the following factors which contributed to this increase:

- The ease of finding articles by searching on Google and bibliographic databases,
- The improvement in ILL services, principally the improvement in turn-around time, and
- Users lack of awareness of the existing institutional contracts with the journals they needed.

Garcia-Marco (2011) stated that special libraries are becoming information hubs, buying and interlinking services from a diverse number of providers in an ever-growing network. Their future seems also in their position as proximity information centres and as knowledge systems of their organisations.

3.3 LIBRARY AND INFORMATION SERVICES (LIS)

De Wet (2006) points out that “special libraries” and “information centres” offer one and the same type of service similar to a public or academic library and are staffed by subject specialists who interact proactively with the information needs of the client. The two most important characteristics of a special library are the limited user group (the special library usually serves only the members of the specific parent body) and the limited subject field (usually confined to the subjects relating to the functions of the parent body), (De Wet, 2006). Biven-Tatum (2010) remarks “for advanced research a librarian, who knows nothing about the topic itself, won't be very useful”.

De Wet (2006:108) believes that the following characteristics and functions pertain to special libraries:

- It has a specialised collection,
- It serves a specialised group of users,
- It is staffed by individuals with specialised training in a particular subject field or methodology, and
- It offers specialised, often personal, services.

Special library users are limited to the personnel, members or clients of the organisation to which it belongs. Finnerty (2002) in his study of library planning in the electronic era states that “in the early 80's, before the advent of the personal computer, special libraries were frequently staffed by a single information professional. A clerical staff supported the information professional and maintained a paper collection, which was sufficient to meet the needs of the parent organisation”.

According to De Wet (2006:110), the information needs are determined by the type of organisation and the individual users' role in that organisation and it is important for the special librarians to be aware of the types of information needs they may be expected to meet. De Wet (2006) says it is important to make personal contact with all the users and be attuned to their needs by building relationships and suggests that librarians should adopt other approaches such as:

- Visiting departments and attending meetings with users,
- Attending meetings where the future plans of the organisation are discussed as well as meetings that review current activities,
- Listening to talks by senior staff on work being done,
- Studying annual, progress and research reports,
- Taking part in training courses designed to give a better understanding of the organisations aims and activities, and
- Analysing records of enquiries and requests for documents and information.

The collections in special libraries may contain published and unpublished documents that are produced internally and externally. These could include scientific and technical journals, books, reports, externally produced databases, patents, data sheets, statistical publications market surveys and lots more. The type of information sources collected depend on the kind of organisation and may not include materials that are usually found in other libraries. De Wet (2006:113) posits that more and more emphasis is being placed on human networks and collaboration agreements in order to ensure a balanced collection of information.

Knowledge of the information needs and information-seeking behavior of users is vital for developing library collections, upgrading facilities, and improving services to effectively meet the information needs of users (Tahir, *et al*, 2008). Zhang (1998) emphasizes that a thorough understanding of user information needs and information seeking behavior is fundamental to the provision of successful information services. It is evident that the study of information seeking behavior is now a well-defined area of research.

Devadason and Lingman (1997) maintain that the understanding of information needs and information-seeking behavior of various professional groups is essential as it helps in the planning, implementation, and operation of information system, and services in work environments. If librarians are to serve the researchers they must recognize the needs of the people they serve.

Therefore, it is important to know and understand what the client really wants and needs. It is thus equally important to educate the librarians and advise the clients as to what is on offer.

3.4 STRATEGY

In today's turbulent world, globalisation is brushing away the market and industry structures that once defined competition (source). And being swept away with them are the definitive approaches to strategic management. Most of these changes could be assumed in error that the future can be paved from the experiences of the past. Strategy in its broadest sense should be ever-changing and should change constantly in order to postulate with external turbulences.

There is a wealth of literature about strategy, strategic management, strategic planning and strategy implementation.

However, Grant (2008) defines '*strategy*', in its broadest sense, as the means by which individuals or organisations achieve their objectives. By means, he refers to the plans, policies and principles that guide and unify a number of specific actions. In describing an organisation's strategy, Grant (2008) adds that strategy is communicated in the following ways:

- Vision – an aspirational view of what the organisation will be like in the future;
- Mission – a statement of purpose, what the organisation seeks to achieve over the long term;
- Business models – a statement of the basis on which a business will generate revenue and profit;

- Strategic plans – a firm's strategic plan documents its strategy in terms of performance goals, approaches to achieving goals and planned resource commitments over a specific time period.

On the other hand, Segal-Horn (2004) defines strategy as a creative and emergent process whilst Perry (2008) emphasises that '*strategy*' is a word with so many different interpretations that any collection of executives debating the issue could well be talking past each other. Perry (2008) goes on to say that there are five levels of strategy and that the ideal strategy process must move seamlessly from the one level to the next. At any point in time, a company might have to focus its strategic planning process on only one or two of these levels. Critical to successful implementation is having a clear view of which of these levels will be the point of focus.

Perry (2008) posits that these five levels of strategy are:

- Grand strategy – fundamental re-direction of the business;
- Getting the big picture into focus – this is the process of understanding market scenarios and deciding the shape of future opportunity;
- Creating innovative marketing initiatives – this is about creating propositions to the market and up-staging competition;
- Functional re-alignment of the organisation – a truly new strategy cannot be implemented with an obsolete organisation. The scope of functional alignment is broad and might include organisational restructuring, new pricing strategies or sales force re-design;
- New implementation excellence – this involves a wide variety of activities such as benchmarking against the competition and other industries, introducing new systems and getting third parties to understand their new role.

De Beer (2002), Viney and Gleadle (2007), Grant (2008), Pearce, *et al.* (2005), Rossouw, *et al.* (2003), Du Plessis, *et al.* (2009), Segal-Horn (2004) as well as Silbiger (2005), argues that strategic management is being seen as a gap which an organisation needs to bridge. This gap is located between the current situation and the envisaged situation of the organisation. The bridging of this gap is the future situation. Adjustments are therefore made to keep up with the changing environment which takes place regularly because the environment of an organisation changes constantly. Figure 15 illustrates the nature of strategic management.



Figure 15: The nature of strategic management
(Source: Rossouw, *et al.*, 2003)

Pearce and Robinson (2005:3) posit that “strategic management is defined as the set of decisions and actions that result in the formulation and implementation of plans designed to achieve a company’s objectives”.

Rossouw, *et al.* (2003:3) on the other hand, outlines the following advantages of strategic management and its importance:

- Strategic management gives direction to the whole organisation, and specifically, to what the organisation wishes to achieve;
- Strategic management makes management more aware of change, new opportunities and possible threats;
- Strategic management serves as a rational basis for managing the allocation of resources;
- Strategic management helps management to co-ordinate various decisions that are strategically related;
- Strategic management promotes a more proactive management style;

- Opportunities and possible threats can be identified in advance and adjustments can be made.

Therefore, it can be summed up that strategic management provides management with a substantial competition advantage so that it can achieve a leadership position in the market. There are however also pitfalls for strategy implementation.

Below are a few pitfalls of implementing strategy that Perry (2008) identified:

- Not clearly identifying which of the five levels of strategy mentioned previously the focus should be on;
- Increasing misinterpretation of the big strategic idea vision as it moves out of the executive level into the organisation;
- Not starting the process with a thorough unpacking of the detailed changes required to implement the new strategy;
- Inadequate realignment of company resources with the new strategy;
- Leaving the brand/product portfolio untouched.

Du Plessis, *et al.* (2005:1), believes that '*strategy*' requires an organisation to manage its resources through the selection of profitable markets in accordance with the changing environment and Pearce and Robinson (2003:12) argue that several behavioural effects of strategic management that improves the firm's welfare are:

- Strategy formulation activities enhance the firm's ability to prevent problems. Managers who encourage subordinates attention to planning are aided in their monitoring and forecasting responsibilities by subordinates who are aware of the needs of strategic planning;
- Group-based strategic decisions are likely to be drawn from the best alternatives. The strategic management process results in better decisions because group interaction generates a greater variety of strategies and because forecasts based on the specialised perspectives of group members improve the screening of options;

- The involvement of employees in strategy formulation improves their understanding of the productivity-reward relationship in every strategic plan and, thus, heightens their motivation;
- Gaps and overlaps in activities among individuals and groups are reduced as participation in strategy formation clarifies differences in roles;
- Resistance to change is reduced. Though the participants in strategy formulation may be no more pleased with their own decisions than they would be with authoritarian decisions, their greater awareness of the parameters that limit the available options makes them more likely to accept this decisions.

However, Robbins and Decenzo (2004) add that when an organisation attempts to develop a strategy, senior management goes through the strategic management process. Figure 16 indicates the nine-step process that involves strategic planning, implementation and evaluation.

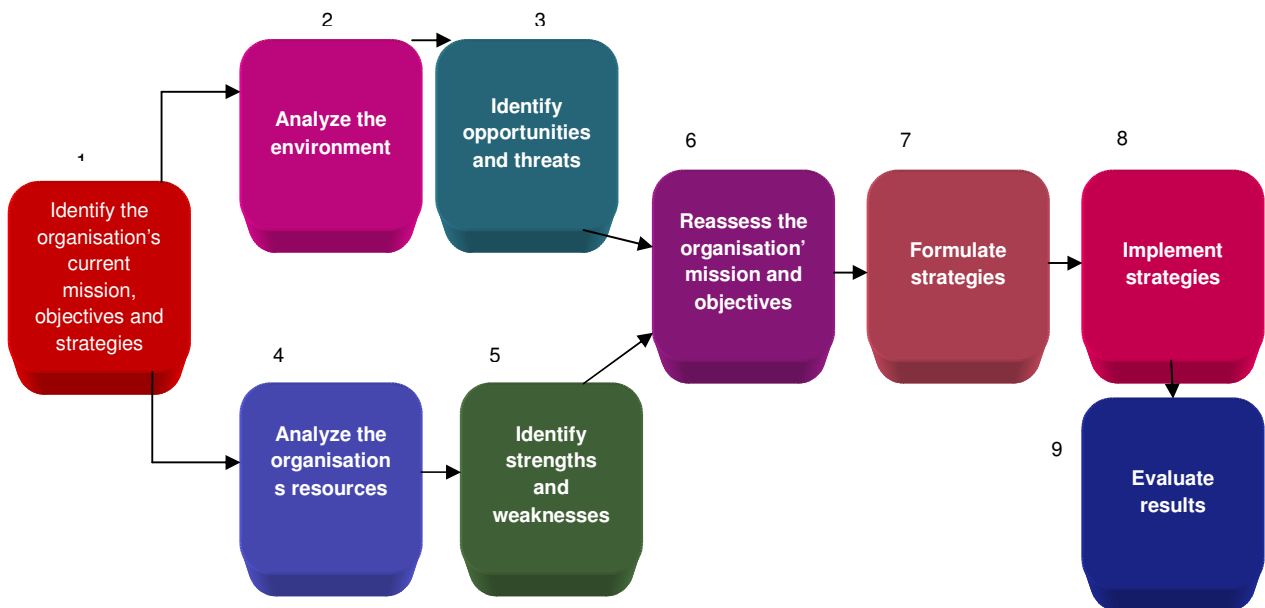


Figure 16: The Strategic management process
(Source: Robbins, *et al.*, 2004)

Robbins and Decenzo (2004) continue by stating that strategic planning encompasses the first seven steps but even the best strategies can go awry if management fails to either implement them properly or evaluate their results.

Table 5 reflects the seven 'S's framework addressed by McKinsey. This framework provides a useful visualisation of the key components managers must consider in making sure a strategy filters through to the day-to-day life of an organisation (Rossouw, *et al.*, 2003).

Table 5: The seven S's of the McKinsey framework
(Source: Rossouw, *et al.*, 2003:152)

'S's	Meaning
Strategy	A set of actions aimed at gaining a sustainable advantage over the competition.
Structure	The organisation chart and associated information that shows who reports to whom and how tasks are both divided up and integrated.
Systems	The processes and flows that show how an organisation operates on a daily basis (for example. Information systems, capital budgeting systems, manufacturing processes, quality-control systems and performance-measurement systems).
Style	What managers considers to be important by the way they collectively spend their time and attention and how they use symbolic behaviour – the way in which management believes is more important than what management says.
Staff	What organisations do to foster the process of developing managers and shaping the basic values of the management team.
Shared values	The values – shared by most of the people in the organisation – that go beyond, but usually include statement of goals and objectives in determining an organisation's destiny.
Skills	Those dominant attributes or capabilities that are possessed by an organisation.

It is evident that successful crafting, implementing and executing a strategy are a good sign of management.

3.5 MARKETING STRATEGY

This can be regarded as the organisations innovative, discovering and rule-breaking endeavours to create sustainable value for customers. Understanding the customer in its entirety is a requirement for the long term success of the marketing strategy (Du Plessis, *et al.*, 2005:10). The marketing concept of building an organisation around the profitable satisfaction of customer needs has helped organisations to achieve success in high-growth, competitive markets. However, to be successful in markets in which economic growth has levelled, a well developed marketing strategy is required. The East Sussex Community Information Services (ESCIS) iterates that they provide library services which meet the needs of individuals, recognising their particular requirements and wishes, in the context of a service that enriches communities. The key strands to their strategy are empowering staff, serving individuals and supporting communities. In serving individuals, they ensure that their services meet the needs of individual customers by increasing consultation, improving customer focus, increasing access to learning and skills and providing quality information in a range of format.

According to Van Wyngaard (2007), developing effective marketing policies and strategies requires you as the marketer to address several vitally important business aspects, such as how to maximise profits and attract new customers. He adds that the quickest way is to naturally know your customer, as in a world where personal or direct touch can sometimes just be impossible, knowing the customers means being disciplined enough to collect data on them and to put this into a system that will help understand who your best customers are, and then proactively work towards understanding what you can do to retain them.

3.6 COMMUNICATION

Communication is more than just a process of information transfer as it also involves subject, context, and direct, subliminal, verbal and non-verbal elements. It is not just about what is communicated, but also, how it is communicated, who it is communicated by and to, and how it is understood. This includes intentional and unintentional information (Cameron, 2006:11). O'Sullivan's (2010) communication process model in Chapter 2 (Figure 9) is a useful framework for understanding the nature of communication.

Robbins, *et al.* (2004) states that the importance of effective communication for managers cannot be overemphasised for one specific reason and that is everything that a manager does involves communicating. A manager cannot formulate a strategy or make a decision without information which has to be communicated in some way or the other. According to Wood (2004), managers need effective communication skills as ineffective communication skills can lead to a continuous stream of problems for the manager.

The essence of effective marketing communications relies on both the sender and the receiver being involved in the communication process. As per Figure 9 in Chapter 2, in the communication process, a number of interpersonal and intrapersonal barriers help to explain why the message decoded by the receiver is often different from that which the sender intended. The more prominent barriers to effective communication are indicated in Table 6.

Table 6: Barriers to effective communication
(Source: Robbins, *et al.*, 2004:343)

Barrier	Description
Filtering	The deliberate manipulation of information to make it appear more favourable to the receiver.
Selective perception	Receiving communications on the basis of what one selectively sees and hears depending on his or her needs, motivation, experience, background, and other personal characteristics.
Information overload	When the amount of information one has to work with exceeds one's processing capacity.
Emotions	How the receiver feels when a message is written.
Language	Words have different meanings to different people. Receivers will use their definition of words communicated.
Gender	How males and females react to communications may be different; and they each have a different communication style.
National culture	Communication differences arising from the different languages that individuals use to communicate and the national culture of which they are part of.

The suggestions to overcome barriers to effective communication in Table 7 should make communication more effective.

Table 7: Overcoming barriers to effective communication
(Source: Robbins, *et al.*, 2004:346)

Suggestion	Description
Use feedback	Check the accuracy of what has been communicated – or what you think you heard.
Simplify language	Use words that the intended audience understands.
Listen actively	Listen for the full meaning of the message without making premature judgement or interpretation or thinking about what you are going to say in response.
Constrain emotions	Recognise when your emotions are running high. When they are, don't communicate until you have calmed down.
Watch nonverbal cues	Be aware that your actions speak louder than your words. Keep the two consistent.

3.6.1 THE COMMUNICATIONS MIX

The communications mix is sometimes referred to as the promotional mix. (Van der Westhuizen, 1998) mentions that the following six elements is a careful blend of the marketing communications mix which is shown in table 8:

- Advertising,
- Personal selling,
- Sales promotion,
- Direct marketing,
- Public relations, and
- Sponsorship.

Table 8: Brief overview each of the six elements of the communications mix
(Source: van der Westhuizen, 1998)

Element	Description
Advertising	<p>Advertising is one of the most visible manifestations of a marketer's communication efforts. Messages are delivered in a wide spectrum of formats such as print, television, radio, outdoor and the internet. The distinguishing feature of advertising is that it is a one-way communication with targeted consumers referred to as the target audience.</p> <p>Advertising has four main purposes which are:</p> <ul style="list-style-type: none"> • To attract attention, • To inform, • To persuade, and • To remind
Personal selling	<p>This is a person-to person process by which the seller learns about the prospective buyer's wants and seeks to satisfy them by offering suitable goods and services and making a sale.</p> <p>Personal selling has many advantages as the customer can be approached in a unique way but this element can prove to be expensive.</p>
Sales promotion	<p>The author defines sales promotion as any activity that offers incentives for a limited time period to induce a desired response from other that are targeted.</p> <p>Sales promotion should be directed to three groups:</p> <ul style="list-style-type: none"> • Internal (sales force), • Members of the channels of distribution (retailers), and • Consumers.
Direct marketing	<p>An interactive system of marketing that uses one or more advertising media to effect a measurable response or</p>

	<p>transaction at any location.</p> <p>The most common criticism is that it makes use of direct mail which is consequently labelled as “junk mail”.</p>
Public relations (PR)	<p>PRISA defines PR as the management, through communication, of perceptions and strategic relationships between an organisation and its internal and external stakeholders.</p> <p>If used appropriately PR can significantly enhance organisations' marketing efforts.</p>
Sponsorship	<p>Defined as the marketing communications activity whereby a sponsor provides financial and other support to an organisation or individual in return for rights to use the sponsor's name and logo with a sponsored event.</p>

It is prevalent for each element of the communications mix to be integrated with other tools of the communication mix so that a merged message is invariably reinforced.

Danaher and Rossiter (2011) assure that marketing managers in the new millennium face a wide and diverse choice of media channels through which to send marketing communications to customers. Some of these include internet banner advertising, e-mail, blogs and mobile phone communications. The internet and e-mail have become an everyday part of the workplace and millions of people around the globe. Westmyer, DiCioccio & Rubin (1998) add that with the rapid and uptake of new electronic media channels, the traditional communications channels such as television, mail, telemarketing and door-to-door sales calls are expected to decline at a fast rate. It is evident that postal mail is most directly under threat from e-mail which is the fastest expanding new channel.

However, Crowther (2011) argues that marketing events provide practitioners with a distinct space from within which to connect with their market and stakeholders. This space is dissimilar to that offered by the other communications methods. Crowther (2011) further adds that marketing space is depicted as a transient reality where representatives of an organisation come together physically, and in a planned manner, with a gathering of existing and future customer's, clients and wider stakeholders.

3.7 RELATIONSHIP MARKETING

Gordon (1998) states that traditional marketing deals with market segments, whereas relationship marketing gives management more “bang for the marketing buck” by focusing effectively and efficiently on the ultimate market segment, the individual customer. Marketing attempts to generate as many sales transactions as possible across all groups of customers. Relationship marketing enables a company to improve profitability customer by customer by focusing on those who receive, and return, the best value. Relationship marketing is integrated into the business to create value for the company and its customers. Clare (2009) adds that relationships in the business to consumer (B2C) space become even more important than ever, given our economic challenges. Business has to go on and the clients' needs need to be understood and met. The organisations that have consistently been able to understand their clients' needs have developed strong relationship that will see them through the tough times ahead. Solidifying relationships is a strategic capability based on trust. Reid (2010:38) believes that managing a company's customer relationship is very different from simply deciding what should be the feature of the product, or its communication mix, its price of its distribution system. The activities performed by the marketer must be continuous and this builds the bonds, links and ties that comprise the substance of a relationship. Reid (2010) provides a list of these activities as follows:

- Communication,
- Defining and redefining the offering,
- Fulfilling the offering, and

- Monitoring performance.

In building relationships with B2C, Reid (2010) refers to the qualities according to Argyle & Henderson's (1984) study, which include four rules of friendship that are sometimes considered worthy of incorporation in a relationship marketing strategy:

- Respect of privacy,
- Look the other person in the eye (implies honesty),
- Keep confidences, and
- Do not criticise publicly.

Reid (2010:45) further adds that relationship-inducing tactics should contain elements which increase a person's liking for something or someone: to initiate a relationship, one of the parties has to offer an attractive proposition and crucially, they have to be liked. The elements involved are:

- Trust and warmth,
- Ease and frequency of interactions,
- Closeness,
- Similarity,
- Mutuality,
- Goal interdependence, and
- Peer group norms.

Clare (2009) sums up the three most important strategies for reinventing customer relationships as:

- Make customers your number one priority,
- Use two-way communication to strengthen relationships, and
- Turn customer data into customer information.

Crowther (2011) posits that all communication must be consistent and integrated to the customer, so as to constantly sustain and enhance relationships.

3.8 SERVICE QUALITY

For any organisation, while remaining competitive in the market the most common challenging task is to meet customers' needs. There can be no alternative for interaction between service and customers. The collective experiences of people make an organisations reputation for service quality.

Jordan, *et al.* (2001:69) defines service quality as “the ability of an organisation to correctly determine customer expectations and to deliver the service at a quality level that will at least equal those customer expectations”.

Even with service quality defined, the characteristics of services make it difficult for customers to evaluate service quality. Further explanation of quality follows under the three main categories by Jordan, *et al.* (2001) as shown in Table 9.

Table 9: Explanation of the three main categories of quality
(Source: Jordan, *et al.*, 2001:69)

Category	Characteristics	Examples
Search qualities	These are attributes that a customer can evaluate prior to purchasing a service.	These include color, fit, feel, smell and price. Tangible products are high in search qualities.
Experience qualities	These are attributes that customers can only evaluate during and after the consumption process.	Services high in experience qualities are catering services, entertainment, cosmetic surgery, gardening services and delivery services
Credence qualities	These are attributes	These services include

	that customers find difficult to evaluate after consumption.	consulting and accounting services, education, information technology and financial services.
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According to Jordan, *et al.* (2001) the difficulty customers experience in evaluating services arises from services being low in search qualities but high in experience and credence qualities.

From the discussion in chapter two, the SERVQUAL model is the most popular and standard tool used to measure service quality from the perception of the customer. It is commonly used for the assessment of customer observation of service quality in a service organisation.

3.9 SUMMARY

Given the rapid social, technological transformations taking place, special librarians have to evolve to function in a variety of environments with their mission to produce a constant flow of value-added, customized information services.

It is evident that communication, relationship building and service quality are all dependent upon and takes place within the context of marketing and in particular building and maintaining relationships. Communication is emphasized as a two-way communication process so it is critical to focus on the customer's feedback.

The previous discussions have contributed significantly to a clearer understanding of the issues in this study and the information gathered will be utilized to develop a method appropriate to achieve the objectives of the study which will be discussed in the following chapter.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter provides a discussion on the tools and methods of research which includes the research approach, the population and sample, sampling method, data types, data collection and analysis, reliability, validity and ease of generalization.

Business research is defined as the planning, collection and analysis of data relevant to business decision-making and the communication of the results of this analysis to management (Coldwell and Herbst, 2004:2).

According to Churchill (1992) and Christensen (2004), research design primarily refers to the outlines, plans or strategies specifying the procedures to be used in seeking answers to the research question. Research design specifies certain aspects of the collection and analyzes of data. This chapter covers the methodology that was utilized in conducting the research and provides the results of the research thereof.

When designing a research plan, one needs to decide how to define, operationally, the variables involved in the research problem. This means describing the variables according to concrete and observable behavior so that the other researchers know exactly what is meant by them (Kruger, 2006:16). The following decisions have to be taken:

- Whether to take specific action,
- How to carry out the action,
- How many people or groups to use in the research,
- How to select them,
- How to formulate the research hypothesis,
- What method to use in gathering information, and
- How to analyze the information statistically.

Together all the decisions above, represent a plan for carrying out the research and this is known as the research design. The research design must meet certain requirements to realize its goal.

4.2 RESEARCH APPROACH AND METHOD

The methodology utilised was qualitative in nature that is based on seeking in-depth, open-ended responses through one-on-one interviews with senior researchers at the CSIR.

De Wet (2006:25) identified the main differences between qualitative and quantitative research as reflected in table 10.

**Table 10: Differences between qualitative and quantitative research
(Source: De Wet, 2006:25)**

Qualitative	Quantitative
<ul style="list-style-type: none"> • Concepts can be interpreted in a number of ways. 	<ul style="list-style-type: none"> • Concepts have unambiguous meaning: new words with a unique meaning could never be introduced.
<ul style="list-style-type: none"> • Concepts and constructs are meaningful words that can be analyzed to gain greater depth of understanding. 	<ul style="list-style-type: none"> • Terms are identified precisely.
<ul style="list-style-type: none"> • Intuitive experience is used for labeling. 	<ul style="list-style-type: none"> • Can be operationalised in terms of measuring instruments.
<ul style="list-style-type: none"> • Reasonable degree of connotatively rich meaning. Researchers may conduct an etymological (history of facts relating to the development of word and meaning) analysis of a concept as part of their description of the phenomenon. 	<ul style="list-style-type: none"> • Strives towards complete denotative meaning.

Therefore, qualitative research was selected in this study due to its ability to allow respondents to speak freely about the chosen subject and its ability to obtain the widest possible responses. To increase the response rate, a message to guarantee the legitimacy and confidentiality of the research was included in the emailed invitation to the respondents. Reminders were sent a week before the commencement of the interviews to those that did not respond. Van Heerden (2011) assisted further by telephoning people that did not acknowledge or decline the invitation.

De Wet (2006:23) identifies the following characteristics of qualitative research:

- Qualitative research takes place in the natural setting of the phenomena to be studied (i.e. in the field rather than a laboratory). Qualitative researchers want to study the phenomenon in its natural context as this will add to their understanding of it;
- Qualitative research focuses on the unique characteristics and conditions of the case(s) being studied. The uniqueness of the case (individual person, group, community) is highlighted;
- Qualitative research is descriptive and is presented in narrative form rather than in the form of statistical tables. The narrative tries to capture the flavour or atmosphere of the setting;
- Qualitative research studies particular cases in depth, usually using intensive and time-consuming data collection procedures such as in-depth interviews or ethnographic observations (i.e. observing an individual or community over a period of time);
- Qualitative researchers are the main instrument of qualitative research. They use their senses, wits and human relation skills rather than instruments such as tests or questionnaires to come to grips with the phenomenon;
- Qualitative researchers do not observe from outside (keeping the traditional objective distance) but, rather, become immersed in the situation in which the behaviour occurred, as in participant observation;
- Qualitative researchers observe human behaviour as it happens. They do not intervene experimentally, but wait for the behaviour to occur spontaneously.

This means that they need patience and must be ready for the unexpected. Their observations are carried out in an unstructured manner;

- Qualitative researchers work with complex concepts, including constructs and categories that arise from the situations they study, without delimiting them beforehand by means of operational definitions.

Coldwell and Herbst (2005:48) outline the advantages and disadvantages of qualitative and quantitative research methods for business research as depicted in Table 11.

Table 11: Advantages and disadvantages of qualitative and quantitative research methods
(Source: Coldwell, *et al.*, 2005:48)

Qualitative	Quantitative
The aim is to classify features, count them and construct statistical models in an attempt to explain what is observed.	The aim is a complete, detailed description.
The researcher knows clearing in advance what he is looking for.	The researcher mainly only know roughly in advance what he is looking for.
Recommended during the latter phases of research projects.	Recommended during earlier phases of research projects.
All aspects of the study are carefully designed before data is collected.	The design emerges as the study unfolds.
The researcher uses tools such as questionnaires or equipments to collect the numerical data.	The researcher is the data gathering instrument.
Data is in the form of numbers and statistics.	Data is in the form of words, pictures or objects.
Objective – seeks precise measurements of analysis of target concepts. For example, uses surveys, questionnaires etc.	Subjective – individuals' interpretation of events is important. For example uses in-depth interviews etc.
Quantitative data is more efficient, able to test hypotheses but may miss contextual detail.	Qualitative data is more rich, time consuming and less able to be generalized.
Researcher tends to remain objectively separated from the subject matter.	Researcher tends to become subjectively immersed in the subject matter.

4.3 POPULATION OF THE STUDY

A population refers to all the events, things or individuals to be represented (Christensen, 2004:50). Coldwell and Herbst (2004) on the other hand, define a population as a group of people, items or units under investigation. Welman, Kruger & Mitchell (2005) elaborate on the definition and state that, the population is the study object and consists of individuals, groups, organisations, human products and events or the conditions to which they are exposed. A research problem therefore relates to a specific population and the population encompasses the collection of all units of analysis about which the researcher wishes to make specific conclusions.

The target population consisted of a probability sample of 187 senior researchers (non-users of library and information services), of whom, 125 were male and 62 were female, from 8 business units of CSIR. These non-users of library and information services were specifically selected from a database at CSIRIS, who were identified as apparent non-users of library and information services.

4.4 SAMPLE / SAMPLING METHOD OF THE STUDY

A sample refers to any number of individuals less than the population (Christensen, 2004:50). The way in which the sample of participants is selected depends on the goals of the research project. In order for the results to be easily generalized, the sample must be representative. This means that the sample has the exact properties in the exact same proportions as the population from which it was drawn but in smaller numbers.

There are two types of samples which are probability samples and non-probability samples. In the case of probability sampling, we can determine the probability that any element or member of the population will be included in the sample. In non-probability sampling by contrast, we cannot specify this probability. The examples of probability samples and non-probability samples are shown in Table 12.

Table 12: Examples of probability samples and non-probability samples
(Source: Welman, *et al.*, 2004:59)

Probability samples	Non-probability samples
<ul style="list-style-type: none"> • Simple random samples, • Stratified random samples, • Systematic samples, and • Cluster samples 	<ul style="list-style-type: none"> • Accidental or incidental samples, • Quota samples, • Purposive samples, • Snowball samples, • Self-selection samples, and • Convenience samples

Charlesworth, Lawton, Lewis, Martin & Taylor (2003a) state that sampling is helpful to us because we can investigate a sample (a part) of a larger population in order to learn not just about the sample but about the population from which it was drawn.

For the research in hand the target population consisted of a probability sample of 187 senior researchers, of whom, 125 were male and 62 were female, from various units of the CSIR. The non-users of library and information services were specifically selected from this list by CSIRIS staff. The total number of non-users was 109 or 58% of the senior staff members. To ensure that a representative sample of non-users was used from the parent population of 109 senior researchers, a random selection of 55 (50%) was made. The researcher ensured that at least two to four researchers per business unit were invited to be interviewed.

Face-to-face interviews were conducted by means of semi-structured in-depth interviews with a total of 22 individuals (20% of the target population) from various operating units at the CSIR as indicated in Table 13. One of these respondents was interviewed via video conferencing on Skype as he was in Bloemfontein at the time.

Table 13: Operating units at CSIR

Business unit	Sample count
Biosciences	3
Materials Science & Manufacturing	4
Natural Resources & the Environment	4
Meraka Institute	3
Modeling and Digital Science	2
Built Environment	1
Defence, Peace, Safety & Security	4
Centre for Mining Innovation	1
Total sample size	22

4.5 RESEARCH INSTRUMENT USED

The instrument that was used for this study was a semi-structured interview questionnaire (Appendix F). The questions asked from the questionnaire were based on the objectives of this study. Van Heerden (2011) reviewed the questionnaire to verify the content and to make sure that the questions being asked were appropriate to the study. Van Heerden (2011) also played an important role in ensuring that the context of the organisation (including the services provided) was reflected correctly. The layout of the questionnaire comprised of three sections:

- Section A - the profile of the respondent;
- Section B - understanding the respondents needs and information seeking behavior;
- Section C- determining the respondents awareness and opinion of the CSIR library and information services.

4.6 PILOT STUDY

Christensen (2004) defines a pilot study as a run-through of the experiment with a small number of participants. It is in fact a pretest of the experiment and should be conducted conscientiously as if data were actually being collected. The pilot study can provide a great deal of information.

The pilot study also gives the researcher experience with the procedure that is to be followed as well as the timing. Should there be alterations and amendments to the questionnaire, these can then be incorporated before the interview process to ensure a smooth process.

4.6.1 PILOT STUDY OF THE CURRENT RESEARCH

A pilot study was conducted using two participants from the researchers' organisation as well as two participants from the CSIR to test the questionnaire. The questionnaire was then reviewed and subtle changes were made to it.

4.7 DATA COLLECTION TECHNIQUES

Charlesworth, *et al.* (2003a:28) describes semi-structured interviews as a mixture of specific and broad questions which are worked out in advance. However, the interviewer still has the flexibility to change them during the interview, perhaps changing wording or order, leaving out or adding in other questions. Charlesworth, *et al.*, (2003a) recommend face-to-face methods as a good source for the collection of data. Semi-structured interviews were selected as a means of gathering the qualitative data for this study. As interviews can be time-consuming and difficult to compare, the questions included in Appendix F, was carefully designed to contain the interview in terms of both scope and time (Charlesworth, *et al.*, 2003a).

4.7.1 DATA COLLECTION TECHNIQUES FOR THIS STUDY

The semi-structured method was used in the interview process to ensure that the appropriate data could be collected. In addition to questions, there was also a list of key topics and prompts as guidance for the interviewer. There was still scope for the respondent to answer the questions in their own way but the interview was more contained both in terms of scope and also the length of time involved (typically 30 to 60 minutes). In total, 22 respondents out of a population of 55 responded to the invitation to be interviewed. This represents a response rate of 49%.

Documents can also be an important source for empirical data collection especially in qualitative research projects (Charlesworth, 2003a). Various secondary data sources which included CSIR website, CSIRIS business plan, CSIR strategic and operation plan and the internal job description of information specialists was reviewed.

4.8 DATA ANALYSIS TECHNIQUES

The process of data analysis generates meaning from the raw data in the form of interview and questionnaire responses collected during the research (Coldwell and Herbst, 2004). As it is always challenging when analyzing qualitative data, Silverman (2006) argues that qualitative analysis depends on very detailed textual analysis and points out that the data should be limited to what is needed to answer the research question. The primary focus in this study was to collect detailed responses which were qualitative in nature and to understand the different perceptions of the respondents. Charlesworth, Lewis, Martin and Taylor (2003b) iterate that analyzing qualitative data can be challenging.

4.8.1 DATA ANALYSIS TECHNIQUES FOR THIS STUDY

Before the interview process, permission was requested to record the interviews so that transcripts could be prepared after the interview process. Only one respondent refused to allow the researcher to record the interview.

The questionnaire was designed in line with the objectives that were identified in chapter 1. Categories were identified in the questionnaire, which equaled three sections. According to Silverman (2006) coding should be tested to ensure certainty, which can be done through pretesting, interviewer testing, using a fixed set of answers and checking reliability of codes on open-ended questions. Coding and detailed responses which were gathered during the interview process enabled the researcher to categorize the information into more manageable results from the categories. This enabled appropriate conclusions to be drawn in chapter 6.

The interview data was analyzed individually and were cross referenced with the objectives.

4.9 ETHICAL ISSUES AND CONSIDERATIONS

Ethics are an important consideration in research and are certain to have a strong bearing on the acceptance of the research during and after the study. Welman. *et al.* (2005:181) states that ethical considerations come into play at three stages of a research project, namely:

- When participants are recruited,
- During the intervention and/or the measurement procedure to which they are subjected, and
- In the release of the results obtained.

The researcher emphasized the assurance of confidentiality with regards to answering the questionnaire truthfully and this alleviated concerns they would have had about expressing their honest opinions.

Confidentiality was emphasized in the cover letter when the interview meeting request was sent as well as before the commencement of the interviews and maintaining the confidentiality of respondents was seen as essential.

4.10 VALIDITY, RELIABILITY AND GENERALISABILITY

According to Christensen (2004:201), “validity can be defined as the extent to which you are measuring what you want to measure”. Christensen (2004:203), further states “establishing the validity of the dependent variable involves obtaining evidence to support the hypothesis that the dependent variable actually measures the construct we want it to measure”. Düweke (2004:137) states that validity can be interpreted to mean: Is the study measuring what you think you ought to be measuring? Is the measure applicable, or is it not? The focus is thus on what is being measured.

Reliability refers to the “extent to which the same results are obtained when responses are measured at different times. It also refers to consistency or stability” (Christensen, 2004:201). The instrument used in this study is a validated instrument and is commonly used in Master’s theses. The reliability of the questionnaire measures what it is supposed to measure (Duweke, 2004).

4.10.1 VALIDITY, RELIABILITY AND GENERALISABILITY OF THE CURRENT STUDY

For this study Van Heerden (2011) assessed whether the statements used were the right ones to elicit a response on specific dimensions measured.

The data was collected by using a questionnaire which is regarded as a validated instrument therefore the data is regarded as reliable as all respondents were asked the same questions.

Of importance to note is that, based on the limited sample size received, generalization of results was not possible. Answers to questions were provided as summaries. It was therefore not possible to elaborate on the deeper understandings that may have been present.

The qualitative information from interviews could not be used in a descriptive sense. As such, themes were not identified, but rather responses were arranged according to pre-selected categories that were used in the questionnaire and in the literature review.

4.11 SAMPLE BIAS

Sample bias exists in this study as the selection was taken from apparent non-users of library and information services in the past year, all of whom were senior researchers, thereby excluding other researchers who are also non-users of library and information services at the CSIR.

4.12 LIMITATIONS AND DELIMITATIONS

This research project intends to understand the marketing tools and strategies that can be implemented to attract the non-users of library and information services.

Due to time constraints placed on this project the study was limited to a single organisation - thus restricting the research. The research findings can therefore not be considered representative of all library and information services in South Africa or globally.

4.13 SUMMARY

This chapter provides an introduction to the research methodology. Having established the knowledge base in the preceding chapters, it is important that the research instruments enabled a collection of valid and reliable data.

To identify and highlight marketing tools and strategies inherent to the study, the following gathering procedures were adopted:

- Primary data collection – this included a prepared questionnaire based on the objectives to streamline the interview process as well as twenty one, one-on-one semi-structured interviews and one interview conducted via Skype.
- Secondary data collection – CSIR website, CSIRIS business plan, CSIR strategic and operation plan and the internal job description of information specialists.
- Historical data – collected via a literature search using journals, publications and the internet.

The target population was 187 senior researchers and a sample of 55 was randomly selected from this population. Based on the limited sample size, generalization of the results was not possible.

The information gathered in the face-to-face interviews conducted will be synthesized and discussed in Chapter 5 which substantiates the identification of researchers' needs and preferences in relation to using library and information services at the CSIRIS and will form a basis on suggestive marketing tools and strategies to be implemented going forward.

CHAPTER 5: ANALYSIS OF RESULTS

5.1 INTRODUCTION

As discussed in chapter 1, this study focuses on marketing tools and strategies for librarians to market their services to non-users of library and information services. This chapter commences with reiterating the objectives and then providing descriptive results pertaining to the respondents. Thereafter, it sets the scene whereby the link between the results and the objectives are discussed. As a brief overview the research question and its objectives are as follows:

RESEARCH QUESTION

What marketing tools and strategies would convince non-users to make use of available library and information service products?

OBJECTIVES

- To identify and recommend tools and strategies that could be used to reach non-users of services and products (refer to chapter 3 and 6),
- To equip librarians and information professionals with advice regarding specific strategies to follow within their context (to be discussed in Chapter 6), and
- To investigate actual reasons for non-use at the CSIR (analyzed in this chapter). The sections that follow below provide the results from investigating the actual reasons why researchers appear not to be using the CSIRIS services.

To be able to reach these objectives it was first necessary to gain insight into the needs and behavior of the target market. The section that follows reports on the results obtained during in depth interviews.

5.2 DESCRIPTIVE RESULTS

The data was collected from semi-structured interviews that were conducted and a review of the CSIR website and company documentation pertaining to this study. Senior researchers from the CSIR participated in this process. The total number of respondents was 22 (21 of those were face-to-face interviews conducted at the CSIR premises and 1 was a video conferencing interview which was done via Skype).

CSIRIS followed an internal process to identify the perceived non-users. They then provided a list of 187 candidates to be interviewed from which interviewees could be selected at random. The request was that all operating units should be included in the investigation. Appointments were made by CSIRIS staff members and a convenient and comfortable location, familiar to the interviewees was set up. Some of the researchers/interviewees declined the appointments due to work pressure and time constraints as it was the financial year end at the CSIR. Some selected candidates did not honour their appointments on the days of the interviews without prior notification. The researcher had no control over this and moved on to the next willing respondent. In the end the 22 candidates were interviewed over a defined period of 2 weeks.

5.3 ANALYSIS OF STUDY RESULTS

In order to analyze the raw field notes, these interviews had to be processed. It entailed converting the notes into write-ups (intelligible products) so that they could be read, edited for accuracy, commented on and analyzed in accordance with the guidance provided by *Welman, et al. (2005:211)*. The interview process yielded a number of common answers, some of which account for all respondents providing the same answers which will be discussed in this chapter. As per the research tool (the questionnaire, Appendix F) that was used, the following sections were outlined:

- Section A – Demographics and the profile of the respondent;
- Section B – Understanding the respondents' information needs and information seeking behavior;
- Determining the respondents' awareness and opinion of CSIRIS LIS.

5.3.1 SECTION A – PROFILE OF THE RESPONDENT

5.3.1.1 Gender of respondents

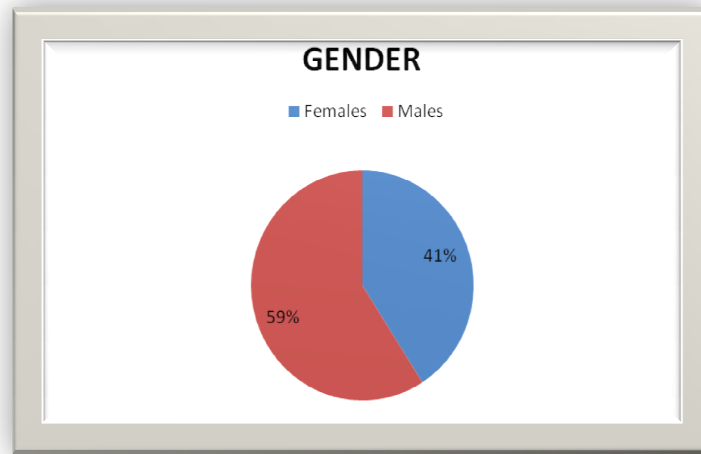


Figure 17: Gender of respondents

A total of 22 senior researchers from 8 units (shown in table 13 of chapter 4) at CSIR participated in this study. The majority of the respondents were males which were 13 in total (59%) and there were 9 females (41%). This is more or less representative of the demographics for the organization.

5.3.1.2 Race of respondents

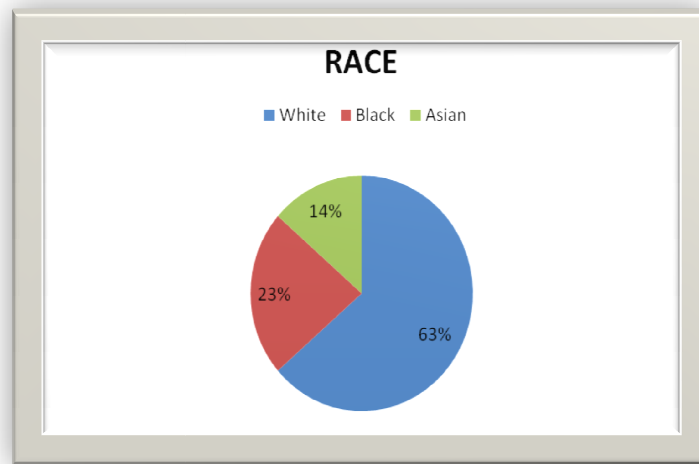


Figure 18: Race of respondents

As per figure 18, in terms of the race of the respondents, 14 of the respondents were White (63%), 5 of the respondents were Black (23%) and 3 of the respondents were Indian (14%). Coloured staff was not deliberately excluded but in the end, none were interviewed.

5.3.1.3 Age of respondents

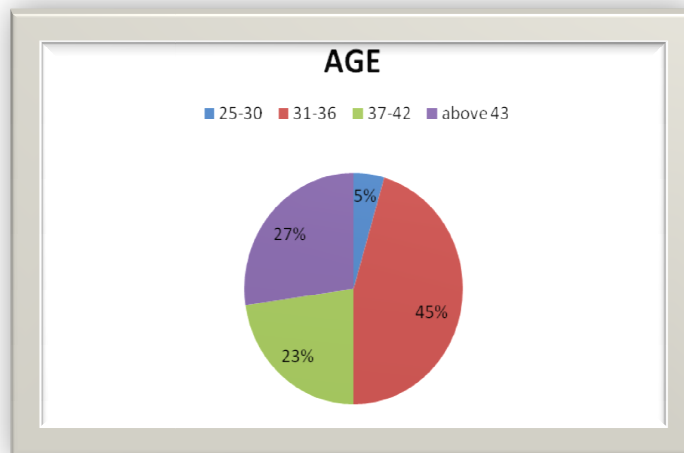


Figure 19: Age of respondents

In terms of the ages of the respondents in this sample, one of the respondents was in the 25-30 age category (5%), the largest representation of the total sample were 10 of the respondents from the 31-36 age category (45%), 5 of the respondents were in the 37-42 category (23%) and 6 of the respondents were above 43 years of age (27%) as shown in figure 19.

5.3.1.4 Respondents years of service at CSIR

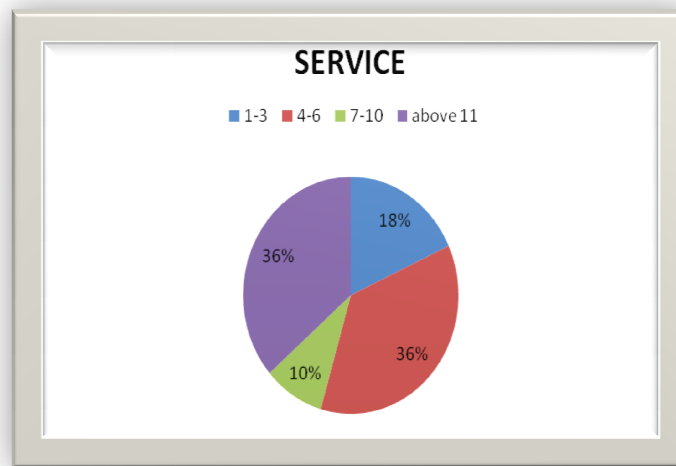


Figure 20: Years of service at CSIR

The respondents years of service at the CSIR as shown in figure 20 is as follows :

- Four of the respondents with 1-3 years of service (18%),
- Eight of the respondents with 4-6 years of service (36%),
- Two of the respondents with 7-10 years of service (10%), and
- Eight of the respondents with above 11 years of service (36%).

The researchers above 4 years of service amounted to 82% which makes them knowledgeable in the field of expertise due to their experience. The respondents mentioned that they are highly motivated to do their work at an acceptable level and thereby ensure a stable work environment.

5.3.1.5 Respondents highest qualification

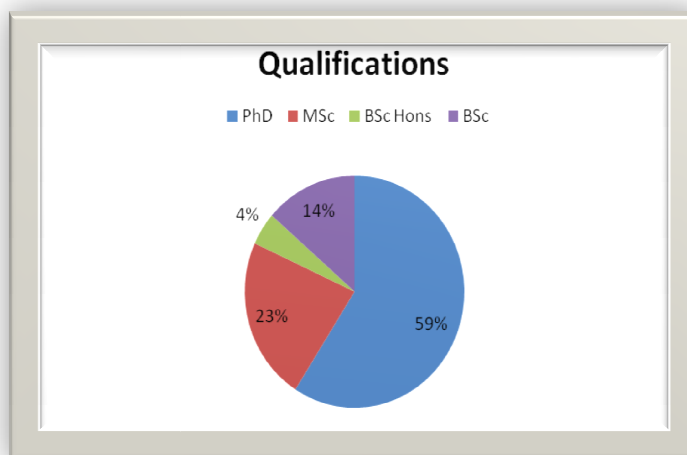


Figure 21: Highest qualification of respondents

The interesting but not surprising factor was the level of qualification amongst the respondents. Thirteen of the respondents are in possession of a PhD qualification (59%), second highest with 5 of the respondents having their MSc degree (23%), 1 respondent holding a BSc Hons degree (4%) and 3 respondents that obtained BSc degrees (14%). The nature of the work conducted at the CSIR as well as the seniority has a direct impact on the qualifications required.

When a researcher already holds a PhD or Master degree one could infer that the qualification could lead to the assumption that the researchers that were interviewed have extensive knowledge about their field of research and are networked to other experts and specialists in their area of study. It is also evident that with post graduate qualifications as such, they should already possess information literacy skills that should enable a researcher to perform research independently, without the aid of an intermediary. In addition one could expect that they would have developed critical analysis and research skills during their years of studies. The next section tests these assumptions when the needs and information seeking behavior is investigated in more detail.

5.3.2 SECTION B – UNDERSTANDING THE RESPONDENTS' NEEDS AND INFORMATION SEEKING BEHAVIOUR

To explore respondents' information seeking patterns, the respondents were asked different questions regarding what information was required and what the information was for, sources of information, purpose of information seeking and problems or frustrations in information seeking.

The questions in this section were analyzed as follows:

- Questions 1 and 2 were combined,
- Question 3 was analyzed on its own,
- Question 4 did not warrant any answers as it was linked to question 3 and only required an answer if it was not covered in the question 3, and
- Questions 5 and 6 were analyzed separately.

5.3.2.1 *Information seeking patterns – information required by the respondents and the purpose for the information (questions 1 and 2)*

The respondents were asked what they required for their research and their research productivity. The majority of the respondents mentioned articles, journals and patent searches as a requirement for the purpose of information seeking to support their research work.

From the total sample, 55% of the respondents require literature searches for their research and 45% of the respondents require articles and journals. This is depicted in Figure 22.

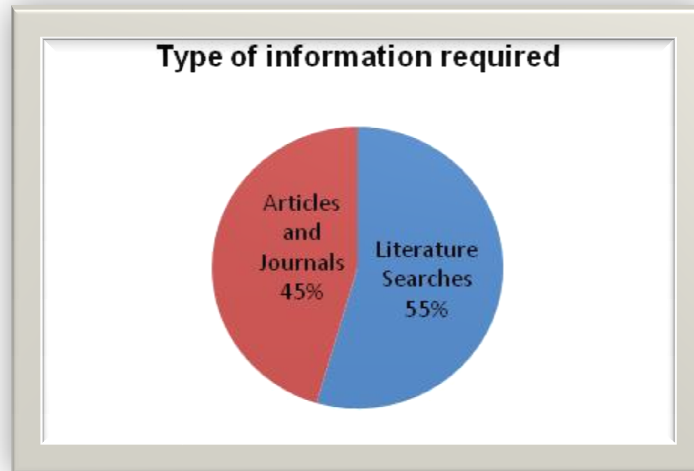


Figure 22: Popular type of information required for the respondents research

Figure 23 indicates that 27% of the respondents require patent information, 32% of the respondents require scientific and technical information and 41% of the respondents require other information such as theses and dissertations from other students, learning new techniques as to how other people conduct their work and current news on what's being researched pertaining to their interest and books. The respondents require the information to perform their duties such as developing new products, journal publications, technical reports, learning from other people, keeping up to date with current trends in their field, creating training manuals and tutorials, technical papers and writing books.

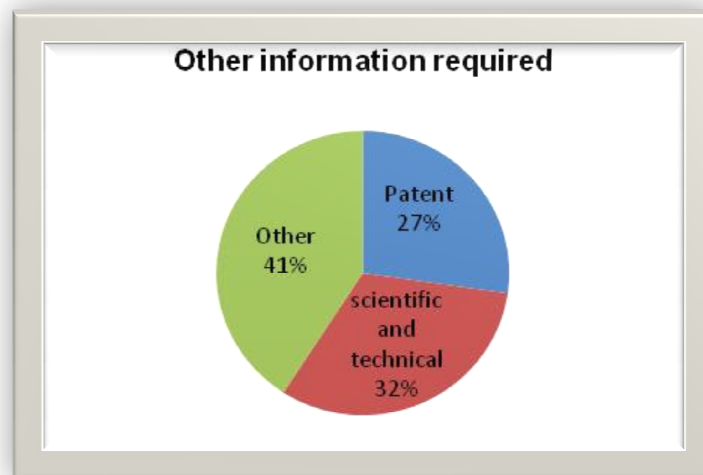


Figure 23: Other types of information required for the respondents research

The respondents' opinions were sought on the importance of different information sources for their research work. Figure 24 provides a list of the reasons why information is sought and used.

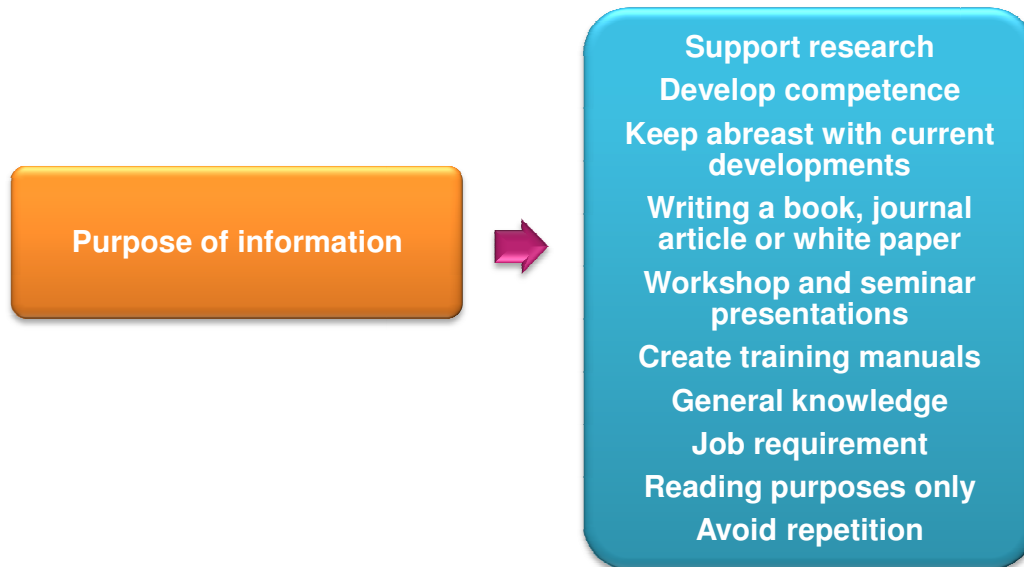


Figure 24: Purpose of information for respondents' research

5.3.2.2 Sources of information – how and from where is the information retrieved (question 3)

The respondents were asked about methods and sources they use to get their information for their research activities and to keep abreast of developments in their field. The results show that the internet, especially Google was the preferred method and all the respondents use this medium to source their information, followed by journals from various journal platforms such as Google Scholar, University of Pretoria Library, the CSIRIS website and so forth. Personal networks from consulting with subject experts and leaders and attending conferences, seminars and workshops were an equal preference. Other sources were also noted in Figure 25. The researcher could not synthesize this information as each respondent used more than two to three different sources.

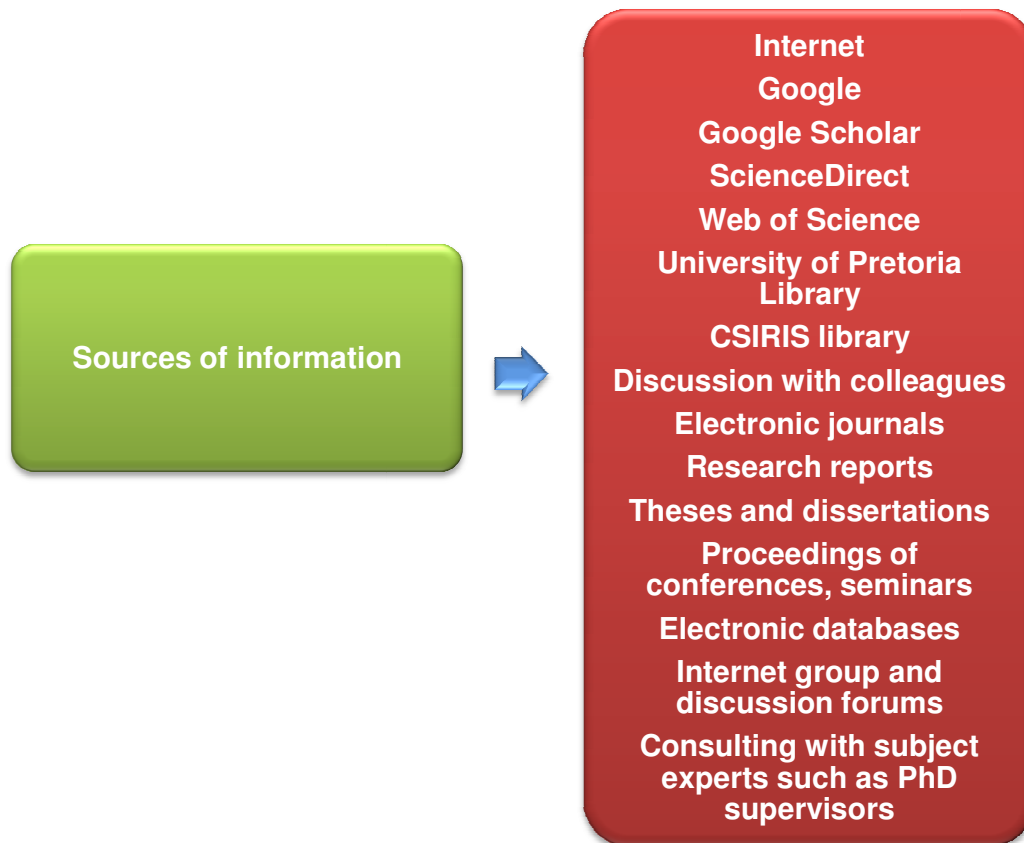


Figure 25: Sources of information

5.3.2.3 How is the information stored (question 5)

Many respondents indicated that they make use of the I:\drive. It was then established that the I:\drive is a central server drive at CSIR where staff can save and access their information. This sharable storage space is also used as a back-up drive. 73% of the respondents store their information on the I:\drive so that colleagues in their unit are able to use the information. Whilst, 27% of the respondents do not make use of the I:\drive as their colleagues work independently and the information will be irrelevant to them. This is shown in Figure 26. Sixty percent of the respondents that do not use the I:\drive were male and 40% were female. The other devices used to store retrieved information by the respondents were memory sticks, filed hard copies, H:\drive (this is the personal server drive and on their central storage infrastructure). It was found from the research conducted that the male respondents tend to back-up their information on external hard drives.

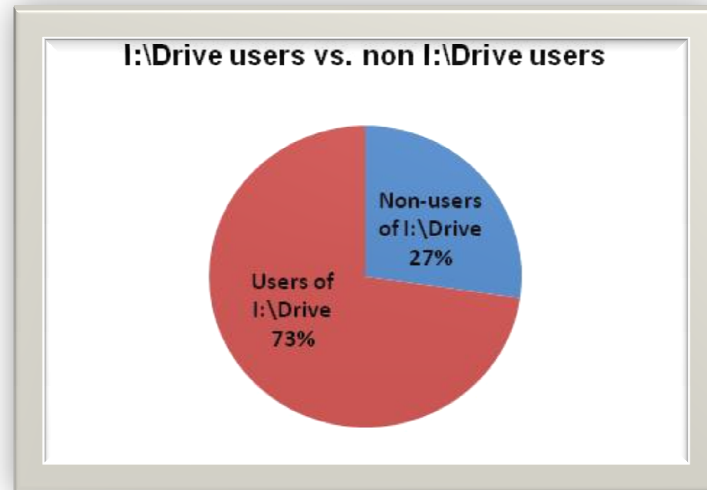


Figure 26: Information storage (I:\drive users vs. non I:\drive users)

5.3.2.4 Problems and frustrations encountered in information seeking (question 6)

Respondents were asked to mention problems and frustrations that they faced in acquiring information for their particular research. Figure 27 indicates possible problems and frustrations encountered when seeking information.

The majority of the respondents (89%) indicated that their major frustration was experienced through time delays in finding information and the filtering of information. The majority of the respondents also felt that when they managed to source information, it was not available and they could only read through the abstract because CSIRIS was not subscribed to relevant journals. On a lesser scale other frustrations experienced are depicted in Figure 27.

It is evident that that due to lack of funds at CSIRIS that some journals cannot be subscribed to and this is a frustration that almost 50% of the respondents experience. The lack of funding therefore cannot be fixed through marketing.

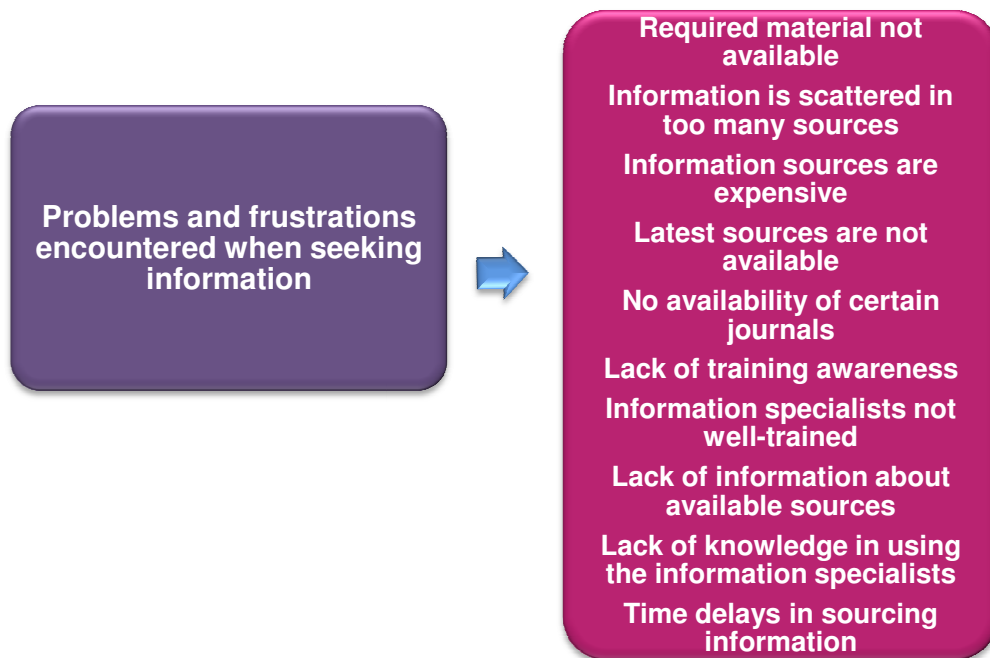


Figure 27: Problems and frustrations when seeking information

The next section looks in detail at the respondents' awareness and opinion of the information services.

5.3.3 SECTION C – DETERMINING THE RESPONDENTS AWARENESS AND OPINION OF CSIRIS LIS

5.3.3.1 What comes to mind with "library and information services? (question 1 and 2)

Again the analysis of questions one and two were combined as they were interrelated. Library and information services provides people with the information needed to support their learning, teaching or research in the most effective and appropriate way. When posed with the question as to what comes to mind when the term "library and information services" is mentioned, 54% of the respondents mentioned books, journals and articles as this is what they require for their research related work. This reflects their perception of the library as being paper based whereas CSIRIS is mainly promoting and supplying access to electronic resources.

Thirty two percent mentioned access to information and 14% mentioned “faceless organization and databases” (reflected in figure 28).

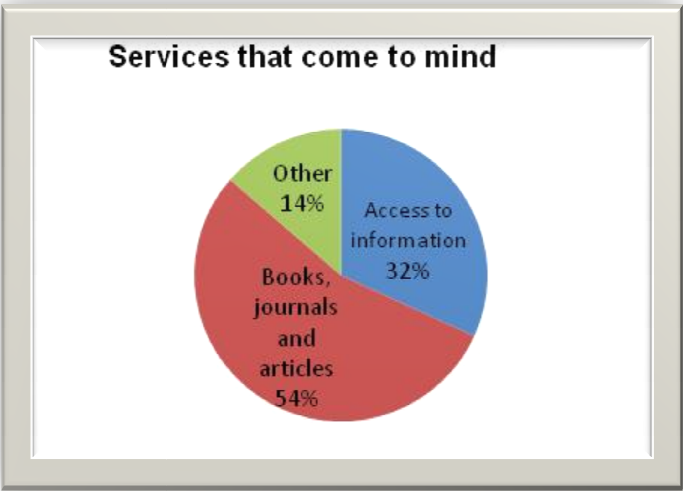


Figure 28: Services that come to mind with "library and information services"

5.3.3.2 Are you aware that CSIRIS assigns information specialists to each unit? (question 3)

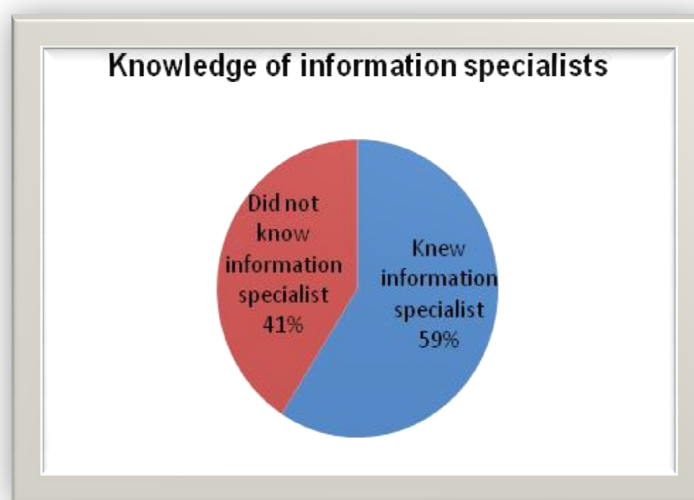
As Rao and Babu (2001) in chapter one, affirms that teams within an organisation should have an information professional who is responsible for the information gathering skills of the team. CSIRIS employs the information specialists to cater for the needs of the researchers but it appears that they are not truly interacting at project team-level. (The information specialists accountabilities and job description are outlined in chapter one).

Table 14 indicates the number of research staff interviewed per research unit. An indication of awareness of the information specialist allocated to their unit is also provided.

Table 14: Respondents' awareness of information specialists

Business unit	Respondents	Yes	No
Biosciences	3	2 (67%)	1 (33%)
Materials Science & Manufacturing	4	4 (100%)	0
Natural Resources & the Environment	4	2 (50%)	2 (50%)
Meraka Institute	3	3 (100%)	0
Modeling and Digital Science	2	0	2 (100%)
Built Environment	1	1 (100%)	0
Defence, Peace, Safety & Security	4	1 (25%)	3 (75%)
Centre for Mining Innovation	1	0	1 (100%)
Total sample size	22	13(59%)	9(41%)

Of the total sample, 13 of the respondents were aware of the information specialist for their unit (59%) and 9 respondents did not know who their information specialist was (41%) as per Figure 29. In Materials Science & Manufacturing, Meraka Institute and Built Environment, all respondents were aware of the information specialists allocated to them, whereas, in Modeling and Digital Science, and Centre for Mining Innovation, none of them were aware of their information specialists.

**Figure 29: Knowledge of information specialists**

5.3.3.3 Were you helped or not helped by the information specialists? (question 4)

Ninety five percent of the respondents were not helped by the information specialists allocated to their unit, and 5% of the respondents were helped. Of the 5% respondents, help was rendered in terms of citation issues. The 95% of the respondents gave the reason “I am fully capable to obtain the information myself”. Of these respondents, none of them attended the training that was offered at CSIRIS as they did not feel it was necessary to attend as there was insufficient information given to them about the content of the training that was being offered.

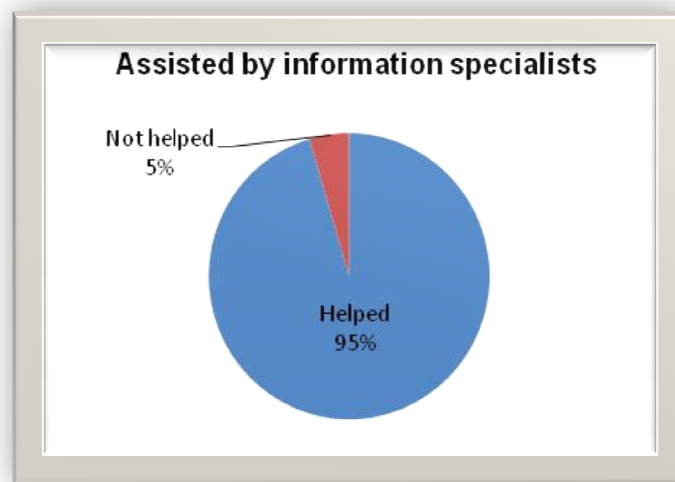


Figure 30: Respondents assisted by the information specialists

Other reasons for the respondents not using the information specialists were:

- They were unaware of the services being offered by CSIRIS;
- The respondents felt that the information specialists are not qualified enough to provide them with relevant information;
- The information specialists provide duplicate information;
- The respondents work well on their own and prefers doing things independently to save time;
- The respondents felt that time is a major issue when it comes to training as it is scheduled at the wrong times;
- The respondents mentioned that they will attend training only if there is something new and unique;

- The respondents mentioned that the Information specialists sometimes sends links that cannot be opened as it is password protected and this takes time to track them down and ask them for assistance or passwords.

In chapter three, Zhang (1998) emphasizes that a thorough understanding of user information needs and information seeking behavior is fundamental to the provision of successful information services. It appears that the information professionals do not truly understand the work and needs of their clients!

5.3.3.4 Do you have any suggestions for CSIRIS? (question 5)

The respondents were asked to make suggestions for CSIRIS in terms of their current and past experience regarding service improvement (seeking new approaches and ideas to improve customer satisfaction), marketing of services to researchers, training and any other suggestions that they may have.

The following suggestions were made regarding customer service improvement by some of the respondents:

- They require a clear vision about CSIRIS and what services are available;
- CSIRIS needs to improve timelines as in the past the information specialists took a long time to revert on literature searches;
- CSIRIS must develop a database on a network server similar to the I:\drive so that all researchers throughout CSIR can access all researched work;
- CSIRIS should expand on journals that are accessible and create awareness;
- Alerts should be sent out by information specialists stating what is “new”;
- The researchers must be able to access all journals immediately to save time.

Suggestions on marketing of services to researchers as per the respondents were:

- The information specialists should build relationships with the researchers and become more visible;

- The information specialists should have one-on-one contact with the researchers to enable better communication;
- The information specialists must make sure they understand the users' needs which will ensure that they deliver a service that is meaningful and worthwhile;
- CSIRIS should spread the word about new journals or anything new that they have to offer;
- CSIRIS must publicize information and new functionality on the website;
- CSIRIS should conduct presentations at staff meetings;
- CSIRIS should provide detailed information as to what information is free and what is paid for on the intraweb;
- It was suggested that flyers with product information will work better and create awareness instead of emails as these are so often overlooked;
- CSIRIS should have a "who's who" on the intraweb so that researchers know who to contact.

In terms of training suggestions:

- A newsletter should be sent to researchers at least four times a year announcing training schedules;
- Substantial information should be given as to what the training consists of to create an urge for researchers to attend;
- Direct invitations on training should be sent to the unit manager so that he can suggest as to who attends;
- Emails with training schedules should be marked differently as they tend to get lost with other emails or regarded as "inappropriate" mail;
- CSIRIS should have short refresher training courses of 15-20 minutes;
- Search engine training should be made compulsory and this will ensure that all researchers will attend.

5.4 SUMMARY OF FINDINGS FOR THIS STUDY

It became evident from the research conducted that CSIRIS does have a marketing problem and the following summary will provide an insight into what was determined from the investigation.

The study revealed that the researchers are capable of getting their own information for research purposes as they are qualified and have experience in acquiring research material due to their high qualifications.

It was found that the most common tool that the researchers use is the internet, especially Google for their searches. The two main reasons being that it is quick, which saves a lot of time, and information is easily accessible. People in general tend to become totally dependent on search engines as they get information too easily. Articles, journals and patent searchers were the most important resource for their research work. Consultation with knowledgeable people or experts in their field was the most important source of information for their research. They also maintain and share personal collections via the I:\drive where all members in their particular group area able to access and utilize the information. Each business unit has their own folder on the I:\drive with restricted access and cannot access folders that belong to other units.

Unavailability of required material as well as time constraints were the most common frustrations experienced by the researchers in information seeking. The researchers felt that there was a lot of time being wasted on searching for relevant material and when they eventually found information, they had limited access. In most cases, abstracts were only visible and they could not access the full article.

There is a great need for service improvement regarding quicker response timelines. In view of marketing of CSIRIS services to the researchers, the most common suggestion was to build relationships and that the information specialists get to know the researchers on “face” level.

Training posed suggestions such as planning in advance and making certain training programmes compulsory so that the researchers will be forced to attend. They also suggested that the managers be sent the training information so that he/she can identify or advise them about the training.

5.5 SUMMARY

Chapter five presented and discussed the research data that was collected via the interviews that were conducted with the senior researchers at the CSIR and addressed the research objectives by way of findings from the research data. The data revealed the views and perceptions of the respondents which CSIRIS can utilize in their future planning. Chapter six will provide the final conclusions and recommendations for this study.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

As long as the information specialists never lose sight of their mission and purpose at CSIRIS, to serve the researchers in the best possible manner they will feel more confident and experienced in their field and the researchers in turn will trust and rely on their services. The purpose of this chapter is to assist in the service improvement process. Conclusions and recommendations have been provided below to guide future activities.

In the previous chapter, the empirical data was analyzed by comparing it to the theories in the frame of reference that was presented in chapter three. In this final chapter of the research report, reference will be made to the research question and objectives where conclusions will be drawn from the analysis. The research problem of this study was stated in chapter one as:

What marketing tools and strategies would convince non-users to make use of available library and information service products?

The chapter layout provided in chapter 1 was achieved.

This chapter will sum up the findings in the study by means of a summary of the findings, conclusion and recommendations to address the outcomes.

The research focused on marketing tools and strategies but also on the customer satisfaction model as well as the service quality model. These were described in detail in Chapter 2 and relates to the relationship between the CSIRIS' information specialists and senior researchers.

6.2 CONCLUSIONS

This study elaborated on the understanding and perceptions of the researchers regarding CSIRIS and the information specialists. The following conclusions were reached:

- The perception is that reference librarians who are not subject specialists or who don't have advanced degrees cannot do good reference work. This is not necessarily the case - with the related and quite good point that a big part of reference work is negotiating with the patron, not just having a lot of knowledge about a subject.
- De Wet (2006) says it is important to make personal contact with all the users and be attuned to their needs by building relationships and suggests that librarians should adopt other approaches which are elaborated in chapter 3. As Reid (2010:45) further adds: relationship-inducing tactics should contain elements which increase a person's liking for something or someone: to initiate a relationship, one of the parties has to offer an attractive proposition and crucially, they have to be liked. The elements involved are mentioned in chapter 3. It appears that CSIRIS staff members are unaware of the importance of 'relationship building'.
- In analyzing the results, it is evident that CSIRIS needs to do much more in terms of promotion particularly to the senior researchers as they are already knowledgeable and have a deeper understanding in their work field which results in them carrying out their duties without the assistance of the information specialists. Well designed research uncovers the hidden opportunities and clarifies what is currently working and what is not working. These are critical complexities to unravel which would lead to sustainable, lasting relationships. The researcher believes there might be further areas to investigate in the future.

- The changing roles of librarians as facilitated by the use of the internet should be of great concern to the profession. Librarians, who have been information providers for a long time, now have the opportunity to use modern tools to provide users with quicker and more elaborate services. As stated by Rao and Babu (2001:26) the environment in which librarians work is changing in terms of greater access to a range of information and increased speed in acquiring information with constantly changing technology. The fact that researchers are complaining about turnaround times being slow indicates that this aspect needs attention.
- In terms of evaluating the service offered by CSIRIS, the analysis in Chapter 5 provided insight that CSIRIS is not meeting the service levels according to the service quality ratings shown in Figure 14 in Chapter 2.

6.3 RECOMMENDATIONS

The previous section elaborated on the findings of the study. The aim here is to provide recommendations and suggestions to CSIRIS on marketing tools and strategies that can be adopted in the future.

The information specialists need to develop channels for obtaining information about the functions, management and long-term plans of the units they work for on a thorough, incessant basis. As stated in Chapter 3, knowledge of the information needs and information-seeking behavior of users is vital for developing library collections, upgrading facilities, and improving services to effectively meet the information needs of users (Tahir, *et al.*, 2008). The first “C” in the 5C’s of marketing strategy as outlined in chapter 2, is “customer needs”. This is further discussed in the Kano-Model (chapter 2) which leads to customer satisfaction. The other “c” which is of importance in this particular study is “company skills”. It is the competencies that CSIRIS possesses to meet the customer’s needs.

Though every tool has its strengths and limitations, another important model that CSIRIS can use to measure customer service is the SERVQUAL model as discussed in Chapter 2. This model can be used to measure and understand the gaps between the expected service and the perceived service. It is a good measurement tool and by using this model, the researcher's perceptions of an ideal service by CSIRIS as well as a measurement of the customer's perceptions of services by CSIRIS will be established.

6.3.1 CUSTOMER SERVICE AND CUSTOMER SATISFACTION

Recommendations to CSIRIS in terms of customer service, customer satisfaction and relationship building include:

- The information specialists should build relationships with the researchers in their unit by getting to know them and making personal “face to face” contact;
- The information specialists should create a ‘folder or file’ for each of their researchers and contact them at least 2-3 times a year to make contact;
- Information specialists need a thorough understanding of the area of research that they serve - which includes the needs of the researchers;
- The information specialists must work systematically to remove barriers that lead to poor delivery and customer service;
- CSIRIS should make minor adjustments to the profile/responsibilities of the information specialists to incorporate the relationship building aspect;
- The CSIR needs to find alternate funding so that they can buy appropriate journals which are causing frustrations by the researchers as they cannot access certain journals.

6.3.2 *MARKETING*

As quoted in Chapter 3, Danaher and Rossiter (2011), assures that marketing managers in the new millennium face a wide and diverse choice of media channels through which to send marketing communications to customers. Some of these include internet banner advertising, e-mail, blogs and mobile phone communications. The researcher recommends that CSIRIS should adopt banner advertising on their website to researchers in terms of promoting new products and services and advising their researchers of new enhancements and functionalities of existing services to create awareness.

The researcher recommends that the following should be implemented by the information specialists in marketing themselves and creating awareness to the researchers at CSIR as it appears that they are not really interacting at project team-level:

- The information specialists' role and contact details must be visible to researchers. This should be on the CSIRIS website with contact details so that researchers can reach them easily;
- CSIRIS should develop links on their website with flashing banners which incorporates catchy graphics, use of colour and slogans to promote new services or new functionalities. An email should be sent out with the appropriate links to the website;
- It is vital to gather customer feedback for evaluation purposes and this can be done through competitions and surveys;
- The information specialists should make a concerted effort to attend the respective units' monthly meetings to create visibility and should also do PowerPoint presentations at these meetings. They can also hand out flyers with appropriate marketing information.
- CSIRIS should create a news group (e-mail group) through which researchers could communicate with each other and the information specialists about their work;

- According to the analysis in chapter 5, 54% of the researchers perceive library and information services as “paper”, whereas CSIRIS is mainly driving “electronic”. Awareness should be created by advising the researchers of the aims and strategies of CSIRIS on their intentions as outlined in the strategic business plan. This could be done by creating hard copy posters which are randomly placed at the various business units or electronic banner posters which can be sent via email.

6.3.3 TRAINING

In terms of training, the researcher recommends the following:

- Training for the information specialists:
 - Must be continuous so that information specialist possess the skills required to carry out their expected duties and they will then provide accurate information and be able to critically evaluate the information that is supplied to the researchers ensuring good quality and acceptable standards;
 - The information specialists will be more confident if they have adequate knowledge about the subject matter and they will then be able to assist the researchers;
 - The information specialists should be kept abreast of technology enhancements and new functionality.
- Training for the researchers:
 - Announcements for training should be compiled every quarter so that the researchers can plan in advance;
 - Provide adequate information on the content of the training so that the researchers can then assess whether it will be worthwhile or not to attend;

- Encourage training to suit the researchers busy schedule where the information specialists consults with him and asks him which dates and times would suit him.

6.3.4 TECHNOLOGY AND INNOVATION

The following recommendations are made in terms of technology and innovation:

- The information specialist should embrace 'advances in technology' changes so that they can capitalize on this and will be able to provide better customized service to the researchers;
- CSIRIS should continuously monitor the researcher as well as the information specialists reactions to and experience with new technology.

The recommendations which are addressed above, identifies areas and issues that need attention within CSIRIS. These in turn lead to recommendations for further formal research.

6.4 RECOMMENDATIONS FOR FURTHER RESEARCH

This study will no doubt encourage and foster further research in the area of marketing services to non-users – leading to effectiveness improvement and the better performance of special libraries. The researcher also recommends:

- Further research to be conducted in the area of library services quality and assessment tools in terms of measurement of customer satisfaction and service levels;
- Further research to assess the impact of openly available, internet-based products and services on services provided by information specialists - as this will enable the information specialists to prepare for the future and their continuously changing role;

- A similar study, preferably with other special libraries, considering a broader population group and employing statistical analysis to allow for a greater degree of generalization of the results should be conducted.

6.5 SUMMARY

In conclusion, Chapter 6 presented and discussed the summary of findings, conclusion as well as practical and theoretical recommendations. The researcher anticipated that this research will encourage CSIRIS and other librarians to make use of the models in Chapter 2, which incorporates marketing tools and strategies, to further improve the services they already provide.

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ANNEXURE A: PROFILE OF THE CSIR

(Extracted from: www.csir.co.za)

Focus on

the Council for Scientific and Industrial Research (CSIR)

January 2010

The Council for Scientific and Industrial Research (CSIR), established in 1945 as a parastatal by government, contributes to research development in South Africa (SA) by undertaking integrated, multidisciplinary research across diverse areas of science.

The Scientific Research Council Act, 1988 (Act No. 46 of 1988) commits the CSIR to the pursuit of directed research, technological innovation and industrial and scientific development that contribute to the quality of life of the people of SA and the region.

Multidisciplinary skills = multiplied impact

The CSIR generates knowledge and research output to be applied or transferred as proven technologies through skilled people and projects that add commercial and social benefit. Specific areas of focus are health, energy, the natural environment, the built environment,

defence and security, as well as the needs of industry – specifically mining and advanced manufacturing. These areas are underpinned by key enabling technologies such as information and communications technology, photonics, robotics, materials sciences, optronics and biotechnology, as well as leading scientific infrastructure.

Its multidisciplinary skills base allows the CSIR to bring together specialists in fields as diverse as marine sciences, roads and transport research, metals processing, aeronautic systems, mathematical modelling, forestry, discovery chemistry and many more.

Supporting national imperatives

South Africa's national imperatives and global challenges provide the macrostrategic framework within which the CSIR conducts its research. The organisation is active in research on climate change; technologies to help fight diseases such as TB, malaria and HIV/Aids; sustainable human settlements in urban and rural areas; and ICT accessibility and services for people with disabilities. In an effort to further contribute to placing our continent on a path of



sustainable growth and development, the organisation supports and actively participates in the New Partnership for Africa's Development (NEPAD), other regional research networks and development initiatives.

The CSIR works closely – either as a partner or a client – with tertiary education institutions, other science councils, research institutions and a range of private sector organisations locally and abroad, placing the focus on quality science, skills and socio-economic improvement.





The CSIR employs people who are experts in their fields and passionate about creating a better future through science.

Facts and figures

- The CSIR owns and/or manages a number of specialist facilities of national importance. These include centres for laser technology, satellite applications, nano-structured materials, high-performance computing, notational analysis of sports performance, coastal engineering and other modelling facilities, as well as testing facilities for wind resistance, mine hoist equipment, environmental samples and more.
- The CSIR receives an annual grant from Parliament through the Department of Science and Technology (DST), which accounts for some 40% of its total income. This is invested in knowledge generation, scientific infrastructure and enhancing skills.
- Additional income is generated from contract research for the public and private sectors, locally and abroad, as well as from royalties, licences and dividends from intellectual property (IP) management and commercial companies created by the CSIR. The CSIR's total operating income is more than R1 billion per annum.
- In addition to the research and development core of the organisation, the CSIR also offers consulting and

analytical services that range from project management and fieldwork, to various testing options in specialist laboratories.

- The CSIR has a dedicated unit for enterprise creation to facilitate the implementation of community-owned, technology-based businesses that generate innovative products and employment opportunities.
- The CSIR earns in excess of R30 million in royalties per annum. It has an organisational focus on IP management and technology transfer.
- The CSIR has a staff complement of around 2 300, of which close on two thirds make up its science, engineering

and technology (SET) expertise base. Almost half of the SET base is qualified at Master's level and higher. The CSIR invests in human capital development through under- and postgraduate bursaries, internships and a range of training interventions to foster young talent and further develop expertise.

- The CSIR's main site in Pretoria is a declared national key point of safety. Regional offices in proximity to applicable industries represent the CSIR in other provinces of SA.
- CSIR research papers are published on the internet in an online research space. Visit www.csir.co.za. To register for receiving general CSIR publications, send an email to query@csir.co.za.

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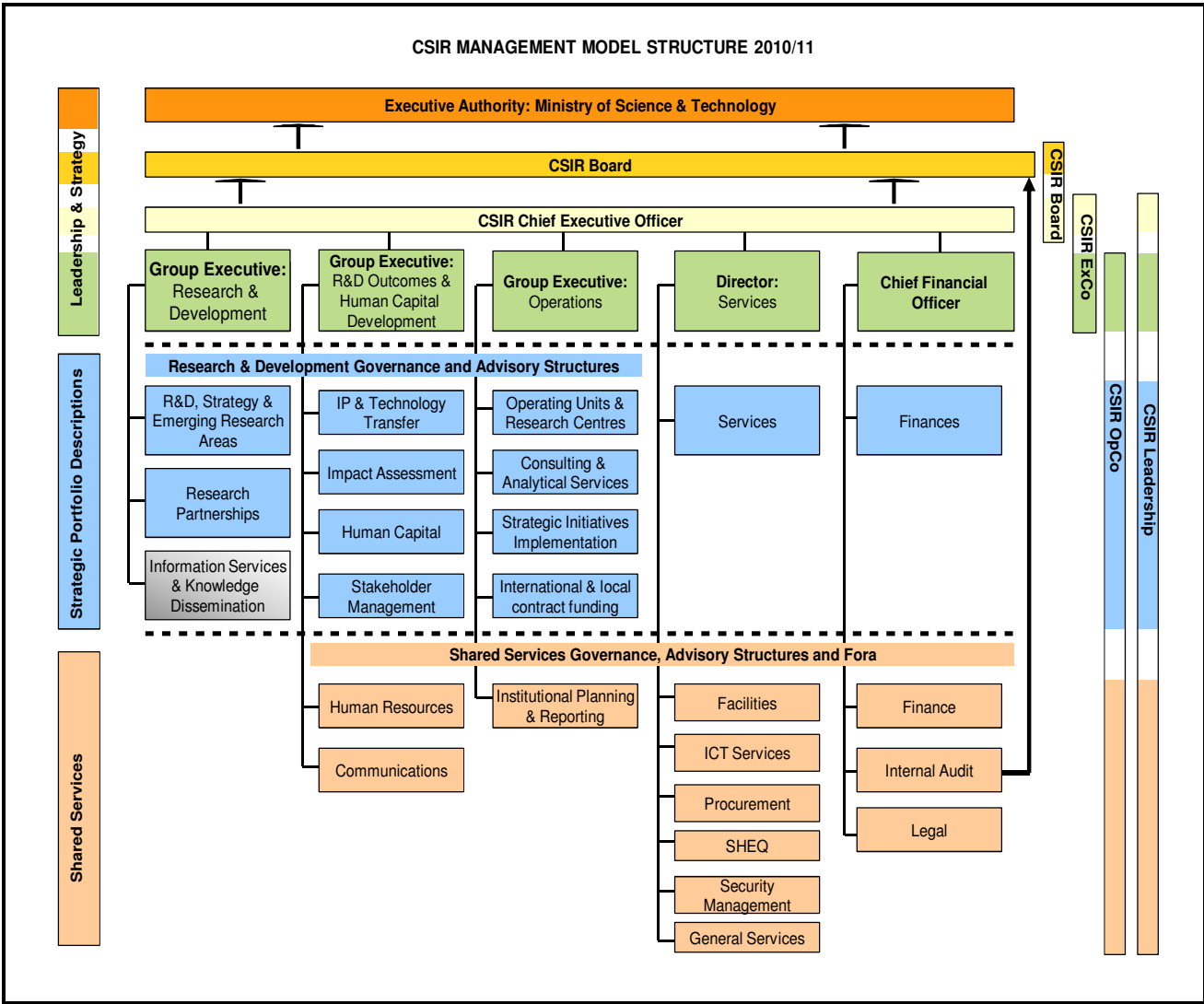
CSIR Mandate

The CSIR's mandate is as stipulated in the Scientific Research Council Act (Act 46 of 1988, as amended by Act 71 of 1990), section3: Objects of CSIR:

"The objects of the CSIR are, through directed and particularly multidisciplinary research and technological innovation, to foster, in the national interest and in the fields which in its opinion should receive preference, industrial and scientific development, either by itself or in co-operation with principals from private or public sectors, and thereby to contribute to the improvement of the quality of life of the people of the Republic, and to perform any other functions that may be assigned to the CSIR by or under this act."

CSIR
our future through science

ANNEXURE B: THE CSIR MANAGEMENT STRUCTURE 2010/11



ANNEXURE C: PERMISSION LETTER FROM THE CSIR



CSIR Human Capital

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20 January 2011

Dear Ms Ramjawan,

UNISA MBA studies entitled: Identifying marketing tools and strategies to provide a platform to non-users in the use of library and information services

1. With reference to the above the CSIR confirms that, as an organization it is fully aware of the research that is being undertaken for your Masters degree.
2. As part of the research you are hereby given permission to the premises of the CSIR and to make contact with identified employees for the purpose of your research.
3. It is confirmed that you are granted only limited access to a list of senior research staff members.
4. The information supplied is only for the purpose of completing your research, subject to certain conditions.
5. The conditions inter alia:
 - 5.1. You will only be provided with the following information: name, operating unit, job title and e-mail address;
 - 5.2. Information may only be used to survey the people on the list;
 - 5.3. You will forward the instruments (questionnaire as well as the method of conducting your survey) for CSIR approval before interacting with any of these employees;
 - 5.4. Information about the employees is confidential. You will refrain from stating or using any personal information except for representing them as research sample statistics;
 - 5.5. You will not refer to the CSIR in a negative light;
 - 5.6. You are not authorized to contact any employee or ex-employee who's information has been supplied to you outside the purpose of your study;
 - 5.7. You will not to divulge any personal information to third parties;
 - 5.8. Where the CSIR's name is used in the report it will be done in such a way that it still protects the interests of the organisation and the employees who participated in the survey;
 - 5.9. You are granted permission to use information in order to develop a profile of the CSIR and its history and development (structure, function, composition, policies and practices), should such a profile be published it remains subject to the approval of the CSIR prior to it being published;
 - 5.10. A draft report flowing from the information gathered from the CSIR shall be forwarded to the CSIR before it is disseminated to any third party.

Professor FW Petersen, Mr N Behrens, Professor DR Hall, Mr M Silinga, Mr M Sibanda,
Professor MJ Wingfield, Ms K Thoka, Mr A Knott-Craig and Dr SP Sibisi

www.csir.co.za

6. The questionnaire itself and any amendments thereof may only be used subject to written approval by the CSIR.
7. Due to the nature of the information supplied to you, you undertake:
 - 7.1. To maintain the confidentiality of any confidential information to which the CSIR allows you access – whether before or after the commencement date of this undertaking. You will not divulge or permit to be divulged to any person any aspect of such confidential information otherwise than may be allowed in terms of this undertaking and for purpose of completing your Masters degree.
 - 7.2. You will take all such steps as may be reasonably necessary to prevent the confidential information from falling into the hands of an unauthorized third party.
 - 7.3. You will not use or attempt to use confidential information in any manner which will cause or will be likely to cause injury or loss or tarnish the image or history of the CSIR, its employees (past and present) or operations of the CSIR.
 - 7.4. You will not use or disclose the information for any purpose other than to complete your Masters degree.
 - 7.5. All documentation furnished to you by the CSIR, pursuant to this undertaking, will remain the property of the CSIR. Upon completion of your study confidential information shall immediately be returned to the CSIR. You will not make copies of any such documentation or information without the prior written consent of the CSIR, which consent shall not be unreasonably withheld.
 - 7.6. Unless the CSIR provides its prior written consent to the contrary, which consent will not be unreasonably withheld, any materials of a confidential nature or which is generated based on information given to you by the CSIR:
 - 7.6.1. Shall be deemed to form part of the confidential information of the CSIR;
 - 7.6.2. Shall be deemed to be the property of the CSIR;
 - 7.6.3. Shall not be copied, reproduced, published or circulated by you, except for the purpose of completing your Masters degree; and
 - 7.6.4. Shall be surrendered to the CSIR on demand.
8. You hereby choose your *domicilium citandi et exutandi* for all purposes of, and in connection with this agreement the address provided below.
9. Regardless of the place of execution, performance or domicile of the parties, this agreement and all modifications and amendments thereof shall be governed by and construed under and in accordance with the laws of the Republic of South Africa.
10. In the event of any dispute arising from this agreement the dispute shall be adjudicated by a competent High Court in South Africa; and for these purposes the Parties agree to the exclusive jurisdiction of South African courts for the adjudication of such disputes.
11. In the event of you committing material breach of any of the terms and conditions of this agreement, without prejudice to any other rights the CSIR may have in terms of this agreement or in law, the CSIR may immediately terminate this agreement.
12. Any termination of this agreement shall not absolve you from the obligation to observe the confidential measures and other restraints as set out herein. It specifically recorded that these provisions shall survive, in perpetuity, the termination of this agreement for whatever reason.
13. On acceptance of the content of this agreement the CSIR will give you the information requested.

Yours sincerely,

Sibusiso Manzini
Group Manager – Human Capital

Signed acceptance of the conditions provided above.

I, **Shamila Ramjawan**, accept the conditions stipulated by the CSIR.

Signed at CENTURION on this 21ST day of JANUARY 2011.

Domicilium citandi et exutandi



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ANNEXURE D: CLIENT SATISFACTION SURVEY

Information Specialist:		Date:
Client:		OU:

CLIENT SATISFACTION SURVEY FOR LITERATURE SEARCHES

Attributes of Service	Strongly agree	Agree	Neutral	Dis-agree	Strongly dis-agree	N/A	If not "Strongly agree", what more could Info Spec have done?
1. The service is provided in a friendly, approachable and professional manner							
2. The response time for the information request is as per agreed deadline							
3. Information requirements are well understood and interpreted correctly (X2 weighting)							
4. The quality and relevance of search results provided by the Information Specialist are excellent (X4 weighting)							
5. Information is presented with the agreed upon amount of detail and no duplication							
6. The Information Specialist followed up with you to ensure that you were satisfied with the search results provided							
Which of your information requirements were not met by your Information Specialist?							
Do you require any training on the usage of CSIRIS products, e.g. electronic journal platforms / databases/the catalogue? (If yes, please specify)							
Do you want an Information Specialist to schedule an appointment with you to provide an overview of CSIRIS services or to discuss your specific requirements? (If yes, when will it be convenient)							
Any other comments / complaints / compliments / improvements required:							
Thank you for your time. It is greatly appreciated.							

ANNEXURE E: COVER LETTER FOR INTERVIEW SCHEDULING

P O Box 3400
Lyttelton South
0176

18 February 2011

To whom it may concern

As a final year MBA student at the University of South Africa, I'm conducting a study on identifying the needs of apparent non-users of CSIRIS (CSIR Information Services) library and information services. The results of this study will assist the CSIR and other organisations with tools and strategies to market and improve their services.

It will be appreciated if you could assist in participating in a face-to-face interview whereby you will be asked questions pertaining to the scope of my study. The duration of the interview will be approximately one hour.

You are guaranteed complete confidentiality as the results will be analyzed and documented in my thesis with no reference made to you or your department.

I understand your work pressures and I look forward to a favourable response.

Many thanks

Best regards

SHAMILA RAMJAWAN (MS)

(082 9284806)

ANNEXURE F: QUESTIONNAIRE

As a final year MBA student at the University of South Africa, I'm conducting a study on identifying the needs of apparent non-users of CSIRIS (CSIR Information Services) library and information services. The results of this study will assist the CSIR and other organisations with tools and strategies to market and improve their services.

It will be appreciated if you can assist me in answering a few questions to the best of your ability. I value your honest opinion and urge you to be as truthful as possible in order to enhance the value of the study.

You are guaranteed complete confidentiality as the results will be analyzed and documented in my thesis with no reference made to you or your department.

I understand your work pressures and would like to thank you for your time and cooperation in participating in this face-to-face interview process.

Do you mind if I use a tape recorder as this will assist me in transcription later?

(Respondents in this instance are the apparent non-users of CSIRIS library and information services. Senior researchers who did not in the past year appear on the service statistics of the CSIRIS information specialists were identified as possible respondents)

SECTION A – Profile of Respondent

1. Age group

25-30 31-36 37-42 43 and above Not prepared to share

2. Gender

Male or female

3. Number of years at the CSIR

1-3 4-6 7-10 11 and above

4. Current position at the CSIR

SECTION B – Understanding the Respondent's needs and information seeking behaviour

1. What is the typical information that you require for your research?
2. For what purposes do you need this information?
3. How do you usually get this information? (Make sure the respondent elaborates. If for instance:
 -he/she says through the Internet, ask where on the Internet, what search engines, etc.
 -he/she says from journals, ask electronic/paper journals? If electronic, which journal platform(s), e.g. ScienceDirect or Web of Science; where does he/she access it from, e.g. from Google Scholar / Univ. Library / CSIRIS website? If paper, which journals, where does he access it from, etc.
 -he/she says other, e.g. through personal networks; from colleagues/project leaders, etc., ask for further information, e.g. how did you build up your network, who are included in the network?)
4. What information resources (e.g. search engines / journal platforms / library collections) do you regularly consult? (This question is to be asked only if it was not covered by the previous question.)
5. Where and how do you store the information retrieved?
6. What sort of frustrations do you encounter when looking for information? (This could include time delays, insufficient resources available, etc.)

SECTION C – Determining the Respondent’s awareness and opinion of the CSIRIS library and information services

(Explain why the respondent was selected: senior researchers, who did not in the past year appear on the service statistics of the CSIRIS information specialists, were identified as possible respondents)

1. If you think about ‘library and information services’, what services come to mind?
2. Which of these services are important to you?
3. CSIRIS assigns information specialists to each unit of the CSIR. Do you know who the information specialists allocated to your unit is? (Ask for the name)
4. Has the information specialist assisted you with any information related aspect(s) during the past year?

If so, please elaborate.

If not, please select one of the following reasons:

- i) I am not aware of the services available to me
- ii) The services in the past did not meet my requirements or are not useful to me (ask why)
- iii) I am fully capable to obtain the information myself (ask if he/she received information retrieval training and if so by whom)
- iv) My research project is at such a stage where I do not need information
- v) The services required are too expensive (ask what was required, e.g. patent searching)
- vi) Service delivery is too slow
- vii) Other (please elaborate)

5. What suggestions do you have for the CSIRIS in terms of:

- i) service improvement
- ii) marketing of services to researchers
- iii) training
- iv) other?

The interviewer will probe for elaboration on the answers so that there will be adequate information to analyze and synthesize.

ANNEXURE G: SECTION A OF QUESTIONNAIRE

Section A Profile of the Respondent

Name	Unit	Age	Gender	Race	No. of yrs	Highest qual.
Respondent 1	Biosciences	31-36	F	A	4-6	PhD
Respondent 2	Biosciences	31-36	F	B	1-3	PhD
Respondent 3	Biosciences	31-36	M	W	1-3	PhD
Respondent 4	CMI	37-42	M	W	above 11	PhD
Respondent 5	BE	37-42	F	W	above 11	MSc
Respondent 6	DPSS	above 43	F	W	above 11	BSc
Respondent 7	DPSS	above 43	M	W	above 11	BSc
Respondent 8	DPSS	31-36	M	W	above 11	MSc
Respondent 9	DPSS	25-30	F	W	4-6	PhD
Respondent 10	Meraka	37-42	M	W	7-10	MA
Respondent 11	Meraka	31-36	M	A	4-6	BSc Hons
Respondent 12	Meraka	31-36	M	W	1-3	PhD
Respondent 13	MDS	37-42	M	B	4-6	PhD
Respondent 14	MDS	31-36	M	W	7-10	PhD
Respondent 15	MSM	above 43	M	W	above 11	MSc
Respondent 16	MSM	37-42	F	W	above 11	BSc
Respondent 17	MSM	31-36	F	A	4-6	PhD
Respondent 18	NRE	above 43	M	B	4-6	PhD
Respondent 19	MSM	31-36	M	W	1-3	PhD
Respondent 20	NRE	above 43	F	W	above 11	MSc
Respondent 21	NRE	above 43	M	B	4-6	PhD
Respondent 22	NRE	31-36	F	B	4-6	PhD

ANNEXURE H: SECTION B OF QUESTIONNAIRE

SECTION B				
Name	Type of info required & purpose	How is the information retrieved	How is the information stored	Frustrations when looking for information
Respondent 1	Literature searches on plants Classes of compounds related to disease areas Scientific data required	Internet - Google Buys articles Science Direct Personal networks-conferences, seminars, networking, collaboration as well as group (20 people) at CSIR	I:\Drive network separate folders - competency areas Hard drive	Article abstract - no access to journal (restricted) Would like to access SciFinder Would like to have access to EU to search over 300 plants (food supplement in Europe) Time delays in searching for information
Respondent 2	Literature searches Theses from other scientists Collaboration (internal and external institutions) Information required for research (make sure that there is no repetition - already patented) Search before taking on new research Output : publications, patent and product	Internet specifically scientific databases (Science Direct, Wiley InterScience, Phyto Chemistry) Also uses UP Library, CSIRIS and Google Scholar She gets info from previous professor and colleagues Networked at conferences where she gets to meet other scientist and then share information via email Colleagues at CSIR (15 people in group)	I:\Drive - save information so that it can be retrieved by other scientists Hard drive External hard drive	Information is available but needs to be bought therefore time delays experienced Only if it is extremely important and if time prevails then the article can be purchased Experiences time delays if permission is required to access information
Respondent 3	Publications (internal journals) and patent info Plan research, follow what's out there and to develop new products (patent)	Internet - CSIRIS, Google Scholar, Web of Science, PUBMED (international database - publications to access journals) Personal networks in France due to PhD	I:\Drive H:\Drive If printed - file in office	Some journals are not freely available and CSIR does not subscribe to it To access info on patents (less easily available) Google patents

		Exchanges information internally via research group (12 people) Former colleagues		
Respondent 4	Journal Publications Technical reports References (when writing reports and papers) To learn new stuff (field tech, methods in the lab)	Internet sources Google Established databases – US ScienceDirect Conferences Bi Annual local Geo Physics Association Overseas contacts PhD's supervisor Email contacts (colleagues and friends)	Personal Computer – project folders as back-ups Does not make use of the shared drive as he is the only geophysicist in the dept. Only if required then he will share written publications with colleagues	If information is required urgently : -time delays -find the info but cannot access it and has to fill in a workflow request which takes over 3-5 days or longer.
Respondent 5	Statistical techniques Other peoples analyzes Literature reviews Learning new techniques Company reports, patent info, financial data Required for project solutions Analyze data to meet objectives How other people do things (learning from past experiences)	Journal alerts from library Book orders through workflow Internet Google Scholar CSIRIS website Statistical Sciences Biometrica Colleagues Overseas contacts	Folder per topic – hard drive Backups on server – “H” I:\Drive – shared with group of 25 people memory sticks DVD's	Finds journals but cannot access Limited access to statistical journals Limited resources which leads to time delays Books via interlibrary – when books expire it can only be renewed once which causes frustrations if needed longer
Respondent 6	Papers and articles Required for projects – specific that required investigations	Internet Technical Journals TODB Science Direct University Library – occasionally Colleagues share info Conferences	Hard drive Not “H” Use I:\Drive to share information amongst about 11 people in group	No access to funds directly Time delays due to management approval Most of the time resources are not budgeted for

Respondent 7	Always requires new information/research on explosives and bomb disposals Books Journals to conduct project research	Internet Google Scholar – advanced and filter down Overseas contact Colleagues Documentation from conferences	Hard Drive Back up – own hard drive I:\Drive – share amongst colleagues	Time delays in filtering information
Respondent 8	Design oriented information for design circuits, digital hardware Look at what other researchers do when designing hardware Keeping up to date with current trends in the field	Internet Google Colleagues Seminars What speakers write about products	Hard Drive Repository service within the research group Back up on I:\Drive	Browsing through resulting in time delays
Respondent 9	Current news Theory or news Conferences Create training manuals on cyber security	Internet Science Direct Google Scholar CSIRIS website occasionally Journals of choice Journal of Contemporary management Colleagues SABS connections worldwide LinkedIn Key people introductions Supervisor Google alerts – Legal reports Telecoms reports Digital evidence ScienceDirect	Folders for projects on hard drive Email notification for journals	Keywords are spelt different and content is not related Google – books – not always available
Respondent 10	Technical papers Journal articles Conference proceedings Technically find out how to do day to day things	Internet Google Online Reference books Google Scholar CSIRIS	Links Locally on hard drive Runs LINEX so he cannot connect to others	Information overload Sifting and filtering – experience time delays

	Learn new techniques	Colleagues Players in Forum		
Respondent 11	Published peer reviewed studies Empirical study research Generating ideas Tutorials Research papers Technical deliverables	Internet Wikipedia – citable sources UNISA Library Colleagues Friends Family Reference lists	Bookmarked URL – date (BIBTEK) Hard drive “H” drive No network drives	Sometimes frustration in time delays as he cannot source information that he is looking for
Respondent 12	Collaborate with external people Coordination with various universities	Ask collaborators – frequent meetings Internet Preferred sources Generated through experience of work Personal networks – access to all information on network Scientific experts	I:\Drive Wiki – independent project wiki Presentations to members of the collaborators	Previous work – no access to it in the library
Respondent 13	Journals Books Publications – writes articles, reports, books	Internet Google ScienceDirect Elsevier Downloads from CSIRIS when searched titles on Google Colleagues UK/US where he gets information Travelling to other countries Conferences Past colleagues	Hard drive External hard drive as a back up I:\Drive – share information with group of 9 people	No frustrations
Respondent 14	Books for background information on subject matter Published papers	Internet Google Google Scholar	Hard drive Stored on lab WIKI – server machine	Articles are not open access – can purchase but leads to time delays

	Journals and conference papers Verify results from sources	University Library Textbooks Journals that are not available are expensive and not all the information is relevant Limited access to journals International conferences Major players at the University PRISM Symposium	Journals are not shared as they are irrelevant to colleagues	Large data sets takes long to download
Respondent 15	Scientific papers SABS docs Reports Patent info Books To find out what is being done globally Acquire new ideas Writes journals and white papers	Internet Google ScienceDirect Google Scholar Use CSIRIS website occasionally	Electronically – Hard drive Print hard copies I:\Drive – shares with colleagues	Not easy to find information which leads to time delays Costs associated with acquiring information When books are bought, they end up in the library
Respondent 16	Patent information (occasionally) Scientific papers – engineering Basic data which is related to projects Application work for clients that need specific information	Internet Occasionally get books Google Scholar Google University Library CSIRIS website	I:\Drive –shared by 5 people in group Hard drive	Limited resources Time delays Springer –cannot access some information
Respondent 17	Patent information Articles Research purposes Writes reports Publishing of articles in national journals	Internet Online subs for Elsevier journals CSIRIS website sometimes Request library to get certain journals Conferences	H:\Drive – common files I:\Drive – group of 5 people share External hard drive Laptop and desktop	Journals are not available at CSIRIS – American Scientific Pubs and American Institute of Physics Cannot cross reference Time delays

		Colleagues		
Respondent 18	Published papers Articles and journals Government departments – identify needs of users Review and support ideas	Internet Elsevier Google Alerts for important journals ScienceDirect Web of Science Google Scholar Colleagues that write articles anywhere in the world Sharing of information to others	Hard drive External hard drive I:\Drive – share with 6 people in group	Journals not subscribed to Books in the library are not the latest editions Time delays in information
Respondent 19	Articles Books To check out what's new in the field Latest techniques References Writes articles and reports for clients	Internet Patents SCOPUS ScienceDirect Google Scholar Google CSIRIS website Conferences – international Colleagues – hard and soft copies	I:\Drive – share with 8 people in group Implementing freeware – Firefox Store online Hard drive	None
Respondent 20	Articles and journals Reports – scientific Required for research Writes article, reports, book chapters, concept notes, white papers, strategies and guidelines	Internet Google Google Scholar University of Stellenbosch Library Occasionally CSIRIS library Conferences – exchange information Email and phone	Hard drive H:\Drive External hard drive I:\Drive – to archive for future use and as a back-up	Time delays Cost of articles Ordering of articles – time and expensive With the university there is no costs, no workflow and gets it within a day
Respondent 21	Journals Reports – unpublished but useful	Internet Google UCT Library as he is a current	I:\Drive – if work related share with group mail back-ups on M:\Drive	Network speed is too slow Time delays

	<p>Annual Reports Books Published articles, conference papers, posters</p> <p>Developing research proposals Looks at current literature</p>	<p>student do he does not pay for anything SCOPUS database Google Scholar RefWorks (UCT)</p> <p>Colleagues PhD leader Networks at UCT Overseas contacts where they write proposals together</p>	External hard drive	
Respondent 22	<p>Patent information National reports – designing technologies</p> <p>Patents – designing technology reports</p>	<p>Internet Google Google Scholar Univ. Library CSIRIS</p> <p>Conferences and workshops Email colleagues</p>	<p>H:\Drive External hard drive</p>	<p>Not subscribed to journals and can only access the abstracts Internet – very slow to download Time delays</p>

ANNEXURE I: SECTION C OF QUESTIONNAIRE

SECTION C				
Name	"lib & info - what comes to mind and which services are important"	Knowledge about info specialists	Were you helped or not and reason/s	Suggestions - service improvement, marketing, training, other.
Respondent 1	<p>Journals/Databases/Information</p> <p>Databases and quick access to journals that are not on CSIRIS</p>	<p>Yes</p> <p>Does not use her for searches</p>	<p>Not helped</p> <p>iii) full capable</p> <p>Did not attend any formal training as she did not feel the need to with having studied for her doctorate, she felt she is quite capable of conducting searches</p>	<p>CSIRIS should be more efficient and quick in delivery as sometimes if there is an order for a book or journal article- delays are experienced. CSIRIS should develop a database for all information saved on I:\Drive that everyone can access.</p> <p>Information specialists should market themselves more by starting with the groups so that she can get to know the people that she should be servicing. She should be able to understand the needs of the group and what they do. In order to do that, she needs to get to know them better. She must then get used to their types of work and then she will be able to offer better service.</p> <p>Training should be offered every year - refresher courses. The emails for training should be highlighted differently as these emails get lost and are over-looked.</p>
Respondent 2	<p>Getting information from other institutions</p> <p>Log in a request on TODB</p> <p>Any info that is relevant to the</p>	<p>No</p>	<p>i) not aware of the services available to her</p> <p>iii) fully capable</p> <p>Did not attend training - no need</p>	<p>marketing - face-to-face to advise researchers what they can offer</p> <p>Create awareness - have short courses of about 15/20 minutes to show case new service offerings</p>

	research at the time is important New services on offer are equally important			
Respondent 3	Access to information (e-services) Publications available Important - access to publications	Yes Attended a few presentations and that was the only interaction	Not helped iii) capable - also not fully aware of the services available by the information specialists Attended a few training sessions	Would like to have a database to share with others so that information can be shared Suggest identifying needs of the researchers Should know what journals to look at and send alerts Face-to-face interaction is suggested CSIRIS should expand journals that are accessible Payment for once off journals - via personal credit card - Can CSIRIS have an account to pay for purchases and then bill the unit? Communication and relationship building - so that the information specialists can discuss what they can offer
Respondent 4	Books/journals	No	No iii) capable of doing own searches No training by CSIRIS Was aware of training but did not see the need to attend – also time constraints The information specialists are not qualified enough to give relevant information Duplication of information Out of the field	Be able to access journals immediately Presentation at staff meetings Every unit should get a presentation from CSIRIS at least twice a year Force researchers to go on search engine training This should be done with new employees in the induction phase as compulsory training
Respondent 5	Sourcing books and	Yes	No	Group sessions from CSIRIS will help

	articles	<p>The info specialist sends out journal alerts</p> <p>Did not interact with him at all in person</p> <p>Not aware of the services provided by CSIRIS</p>	<p>iii) The info specialist showed certain things last year</p> <p>No specific training attended – felt there was no need to attend</p>	<p>Information specialists are not educated in the field and produce irrelevant material</p> <p>Should market themselves by scheduling one-on-one meetings – introductions etc.</p>
Respondent 6	<p>Books and articles</p> <p>Articles are more important as they are more up to date</p>	No	<p>No</p> <p>v) services are too expensive and there is no funding for articles</p> <p>Did not attend any training – no need</p>	<p>Intraweb – should have easily accessible information on who the info specialists are for each unit (was not sure if it was there).</p> <p>Should have detailed information as to what is free and what needs to be paid for</p> <p>Create awareness of CSIRIS</p> <p>Emails are often overlooked due to monotonous appearance – change look and feel</p>
Respondent 7	Books	<p>No</p> <p>Heard from colleagues that the experience was not good with information specialists and therefore decided not to try them out. Keywords – irrelevant information Did not filter accurately and use initiative as to what was required Was a waste of time</p>	<p>No</p> <p>Works well alone and prefers doing things himself to save time</p>	<p>Create more awareness of CSIRIS offerings</p> <p>Info specialists to build relationships and know the researchers</p> <p>Search engines facilities – provide information</p> <p>What's new – create awareness</p>
Respondent 8	Books and journals Workstations	No	No	Information specialists should market themselves by meeting with the researchers –

	Access databases	Receives emails but did not meet the info specialist in person	lv) no need for assistance	general introduction Training – does not know what is on offer
Respondent 9	Intraweb TodB Electronic interface	Yes Provided training on TODB	Yes TODB number but did not pick it up on the publication list Assisted quite a bit	Happy with service New employees should have proper inductions on the library She does not know where the library is situated Make training compulsory
Respondent 10	Journals and books	Yes TODB very helpful	No iii) fully capable No requirement for information specialist – quite knowledgeable and prefers working independently (JIT) No training – has lots of awareness but did not see the need	Training for junior researchers should be compulsory on CSIRIS facilities Face-to-face chat by information specialists to build relationships More personalized
Respondent 11	Online catalogue guides Searchable databases Searchable patents	Yes Receive lots of mail from shared services so he tends to ignore mails	No iii) fully capable No training Was aware of the training but did not see the need as he is capable of doing his own research Also time is an issue	Should send emails to project managers so that they can send the researchers on training otherwise it gets ignored. Sometimes there is a conflict with times etc and the project managers can schedule training for their department There should be a tutorial for researchers by CSIRIS
Respondent 12	Access to external libraries via various protocols	No Did not know what an information specialist is	No iii) capable No training	Content sharing – content gateway via CSIRIS network Transparency of other sources of information

				<p>Know your clients – ease of use and ignorance. Posters – “did you know”</p> <p>Information specialists must be more proactive and “hands on”.</p> <p>Make the training interesting and worthwhile – specific, smaller groups and more frequent.</p>
Respondent 13	Journals and books	<p>No</p> <p>Sees emails but ignores them</p>	<p>No</p> <p>iii) capable</p> <p>No training – did not see the need to attend</p> <p>Will attend should there be something new and unique</p>	<p>Create awareness from CSIRIS</p> <p>If servicing a units, have a flyer instead of emails as they are often overlooked</p> <p>Physical visibility by the information specialist – build relationships</p> <p>Not sure what CSIRIS has to offer</p>
Respondent 14	Articles	No	<p>No</p> <p>No training</p> <p>Used to getting information himself</p>	<p>Information specialists to be more visible and build relationships</p>
Respondent 15	Faceless organization	Yes	<p>No</p> <p>iii) capable</p> <p>No training as he is capable and is not sure if it is going to add value</p>	<p>Have other databases available as it is good to look at</p> <p>Groupwise database – difficult to retrieve and access as it is not user friendly</p>
Respondent 16	Procurement Interlibrary loans Books	Yes	<p>No</p> <p>iii) capable</p> <p>No training as there was no need</p>	<p>Create awareness of CSIRIS</p> <p>Information specialists should announce the additional offerings or what is current</p> <p>Have presentations at least 2-3 times a year</p>

				to create visibility
Respondent 17	Journals and books	Yes	No Attended training i)not aware of the services available	Subscriptions – should have access to relevant journals. Conduct a survey with researchers to check on their needs Information specialists should market their services to researchers Build relationships Pay them visits
Respondent 18	Articles	No	Yes Citation issues	To increase communications Provide citation alerts Have pop ups for journal articles related to your field
Respondent 19	Journals and books	Yes	No iii)capable No training attended – no time	Have electronic books available Does not know where the library is Create more visibility – CSIRIS Send a list of books that are available in the library or post on CSIRIS link
Respondent 20	Databases TODB	Yes she does not answer the phone timeously	Helped colleagues – links could not be opened which was password protected and did not work	Time frames on services offered should be improved Who to contact for what Should occasionally have talks as to how to do things better (maybe at lunch time) Training – don't say “training now” or “training next month” – rather say “ we will be having training in Jul, Aug, Sep etc. and then the researchers can plan around that.
Respondent 21	Journals	Yes	No	Should have more paper journals in the library

	Online interface		<p>iii)capable</p> <p>Attended training – accessing information – searching databases</p>	<p>– sit and peruse</p> <p>Have an open day – interact with researchers</p> <p>Not aware of what the information specialists can offer</p> <p>Look at other organizations to see differences between them and CSIR</p>
Respondent 22	Books Access to information	No	<p>No</p> <p>iii)capable</p> <p>No training attended</p>	<p>Marketing of services to researchers</p> <p>Create awareness and visibility</p> <p>Visit the departments physically and introduce yourself to the researchers</p> <p>Build relationships – face-to-face interaction works well</p> <p>Advise as to what new material comes in</p> <p>Alerts from information specialists regularly</p>