COMPETITIVE INTELLIGENCE AT THE MEDICAL RESEARCH COUNCIL

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Assignment presented in partial fulfillment of the requirements for the degree of Master of Philosophy (Information and Knowledge Management) at the University of Stellenbosch
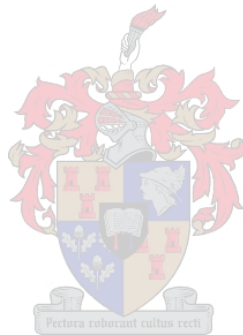
Supervisor: Dr MS van der Walt

April 2006

Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature: …………………………………………..

Date: …………………………..

Abstract

The study was conducted to establish whether there is a need at the Medical Research Council for a formal CI function to be implemented. The objective of the investigation was to establish whether the CI techniques and methods, which are traditionally applied in the commercial industry, could be applied to a non-commercial industry, like the medical research industry in which the Medical Research Council operates. The aim is to highlight the benefits that CI could provide to the managerial decision-makers of the organisation.

A quantitative study was done. A questionnaire was distributed to the identified target audience to collect empirical data for the study. A combination of random sampling techniques was used, namely simple random sampling and stratified random sampling to identify the potential target audience. Face-to-face interviews were done with the respondents to ensure high quality return due to the small sample size. The survey focused on establishing the needs and the wants of the employees of the Medical Research Council regarding CI functions. A theoretical study was combined with the data collected in the empirical study to achieve the above mentioned objective.

By applying the CI techniques the organisation will be able to make sense of scattered bits of data. Data can be collected from the organisation`s surrounding business environments, the customers, the competitors, the market and the stakeholders. The CI Analyst can then make sense of the data by applying different methods of analysis and delivering the information to the decision-makers in a timely manner to ensure that informed decisions are taken.

The CI-process should be holistic in nature. The three crucial elements required to perform a successful CI-process are the human intelligence techniques, communication processes and technology. With these elements in place managers will be able to make informed strategic, operational and tactical decisions to ensure competitive advantage is obtained and maintained.

It can be concluded from the empirical data of this study that it is possible to apply the CI theory of the commercial industry to the non-profit medical research industry.

Opsomming

Die studie is onderneem om te bepaal of daar 'n behoefte by die Mediese Navorsingsraad bestaan vir die implementering van 'n formele Mededingende Intelligensie funksie. Die doel van die ondersoek was om vas te stel of die Mededingende Intelligensie tegnieke en metodes wat tradisioneel in die kommersiële bedryf toegepas word, van toepassing kan wees op 'n nie-winsgewende industrie soos mediese navorsing institute waarin die Mediese Navorsingsraad homself bevind. Die studie het verder ten doel om die voordele van Mededingende Intelligensie bloot te lê wat deur die organisasie se bestuur aangewend kan word in die besluitnemingsproses.

'n Kwantitatiewe studie is van stapel gestuur. Empiriese data vir die studie is versamel deur middel van vraelyste wat voltooi is deur 'n identifiseerde teikengroep. 'n Kombinasie van ewekansige steekproewe is toegepas om die teikengroep te identifiseer, naamlik 'n eenvoudige ewekansige steekproef en 'n gelaagde ewekansige steekproef. Persoonlike onderhoude is gevoer met respondente ten einde 'n hoë kwaliteit terugvoer te verseker in die lig van die klein steekproef groep. Die opname het daarop gefokus om die behoeftes van die personeel van die Mediese Navorsingraad te identifiseer in soverre dit Mededingende Intelligensie aangaan. 'n Kombinasie van data versamel in die empiriese studie en 'n teoretiese studie is gebruik om hierdie doelwit te bereik.

Die toepassing van Mededingende Intelligensie funksies sal die organisasie in staat stel om sin te maak uit verspreide en skynbaar onsamehangende data. Versamelpunte van data sluit in die organisasie se besigheidsareas, kliënte, mededingers, die mark en belangegroepe. Die Mededingende Intelligensie analiseerder maak dan sin uit die data deur verskillende metodes van analise toe te pas en die inligting tydig deur te voer na besluitnemers ten einde ingeligte besluite te neem.

Die Mededingende Intelligensie proses behoort holisties van aard te wees. Drie kritieke elemente van 'n suksesvolle Mededingende Intelligensie proses is menslike intelligensie tegnieke, kommunikasieprosesse en tegnologie. Hierdie elemente stel bestuurders in staat om ingeligte strategiese, operasionele en taktiese besluite te neem en sodoende mededingende voordeel te bekom en te behou.

Na aanleiding van die empiriese data van hierdie studie kan die gevolgtrekking gemaak word dat dit inderdaad moontlik is om Mededingende Intelligensie teorie, soos dit toegepas word in die kommersiële bedryf, ook van toepassing te maak op die nie-winsgewende mediese navorsingsindustrie.

Dedication

To my family, especially my mother and sister, Eleanore, for the constant encouragement and support throughout this milestone.
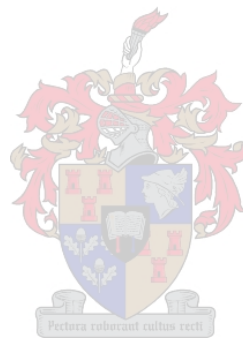
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I extend my sincere thanks and appreciation for their guidance and support to the following people:

Dr MS van der Walt

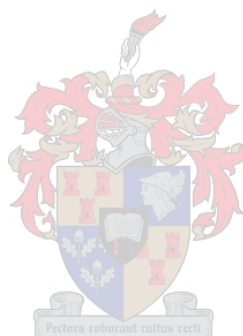Dr Nolwazi Mbananga

Zizi Mlonyeni

Colleagues and friends at the Medical Research Council

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Chapter 1
INTRODUCTION

1. BACKGROUND INFORMATION

1.1   *Competitive Intelligence (CI)*

Knowledge is the most important asset in the business environment today – an environment that is changing at an accelerating rate. Knowledge management[1] takes place in every organisation in one form or another. The CI component exists within the broad spectrum of knowledge management. CI is a process that uses legal and ethical means to discover, develop and deliver the relevant intelligence needed by decision-makers, in a timely manner.

CI helps an organisation to understand the business environment and the industry in which it operates. CI is not only about understanding competitors, but also about understanding one`s own organisation and its role players. The CI process focuses on capturing the knowledge resources from the internal and external environments.

Large organisations started using CI techniques in the 1980`s to assist them with obtaining more accurate information to be used in their strategic planning. This thesis will examine the concept of CI and determine whether the theory is applicable to a non-profit environment.

1.2   *The Medical Research Council (MRC)*

This study focused on the MRC of South Africa, a non-profit organisation. The vision of the MRC is "***building a healthy nation through research***". The organisation's mission statement is: "***To improve the nation's health status and quality of life through relevant and excellent health research aimed at promoting equity and development***".

The MRC was established in 1969 by an Act of Parliament. The organisation is one of the best established statutory research bodies in sub-Saharan Africa (http://www.mrc.ac.za/about/mrcbrochure.htm). The MRC has earned its place as one of Africa's top science councils. The main offices of the MRC is based in Cape Town and it has offices in Durban, Pretoria and Hlabisa in KwaZulu-Natal

The MRC strives to deliver sound data, skilled scientists and research of excellence, so that the organisation can provide guidance to decisions on policy, health care interventions and resources allocation. The organisation focuses on supporting the application of knowledge to practice, facilitating management of knowledge through networks, and to foster scientific endeavour and

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[1] Knowledge management (KM), can be defined as the process through which an organisation can generate value from their intellectual property and knowledge-based assets. KM is about the creation, dissemination, and utilisation of knowledge within the organisation.

innovation in the culture of human rights. For optimal organisational functioning, the MRC has to keep up with rapid global changes, developments and technological advances.

For many years, health research in South Africa has been badly underfunded, with only six percent of the science vote being allocated to the MRC. This is equivalent to 0,3% of the total health cost in the public sector and contrasts sadly with the World Health Organisation's and World Bank's recommended level of 2% in health research.

The MRC receives their baseline funding from the Government of South Africa. The organisation also obtains external funding from intramural units, extramural units and other extramural funding (MRC Business Plan 2003 – 2004, 2002:7). Research in the extramural environment is performed in partnership with academic institutions, where most of the operating funds are borne by the MRC. Intramural research currently attracts substantial funding from both national and international research funding bodies. Much of the external (non-baseline) funding reverts to the extramural environment through collaborative ventures and research training. Approximately 77% of the organisation`s income is spent on research and developing scientists. The rest of the funding is spent on the services and systems that keep the MRC and its research running effectively. The organisation earns about a third of its income from contracts and external grants.

The MRC operates in many spheres - rural, urban and industrial. It operates at regional and provincial level, and at national and international level. The MRC is involved in a number of international collaborations. By forging strategic alliances, the MRC is able to mobilise targeted task teams to address specific problems.

The MRC provides crucial information to many levels, providing decision-makers in government with policy recommendations on issues such as alcohol and tobacco misuse, intestinal parasites in children and specific information regarding the rates of crime, violence and injury in South Africa.

The MRC is a Science, Engineering and Technology Institution (SETI), largely funded by the government. Activities undertaken by SETIs must serve to advance national goals and priorities. The MRC's research is categorised into six national programmes, focusing on:

- ➢ Environment and health
- ➢ Health systems and policy
- ➢ Infection and immunity
- ➢ Molecules to disease
- ➢ Non-communicable diseases
- ➢ Women and child health.

The organisation' work is in line with the national science and technology imperatives and the health priorities defined by the Department of Health. The organisation also networks with a

number of other stakeholders including health policy-makers, other researchers and stakeholders in research such as the universities and technikons, as well as with the wider research community.

1.3   The corporate structure of the MRC

In this section we will take a look at the MRC`s corporate structure, so that we have a better understanding about the organisation and its functioning. This is illustrated by a simple model[2].

1.3.1   Corporate Communications and Stakeholder Relations Directorate

The Corporate Communications and Stakeholder Relations Directorate's *mission* is to build a healthy nation through communicating research, managing stakeholder relationships and marketing the MRC.

1.3.2   Informatics and Knowledge Management Directorate (IKMD)

This directorate is responsible to ensure that appropriate information and knowledge management systems are in place to allow optimal functioning of research and interventions undertaken by the organisation. This directorate also ensures that research output is decoded and transferred for practical decision-making by stakeholders, to allow for further innovation and practical improvements in the health sector.

The MRC realises that the needs of users extend beyond access to information. Its knowledge management planning therefore also focuses on:

- organisational learning;
- intellectual capital;
- knowledge development, conversion, sharing and application;
- collaboration;
- innovation; and
- adapting to change.

In its planning, the MRC recognises that health research information and knowledge flows happen across institutions and countries, and follows the demands of co-operation, mostly in a virtual organisational mode.

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[2] See the Appendix B: Figure 1-1, MRC`s corporate structure.
The model depicts that the vision and the mission forms the roof of the organisation, the research is the foundation on which the organisation is build with five supporting pillars.

1.3.3 Finance and Operations Directorate

The objective of this directorate is to deliver professional support systems with high levels of efficient and effective management, optimum allocation of financial resources and physical facilities based on risk management, good corporate governance principles and effective internal controls.

1.3.4 Human Resources and Organisational Development Directorate

This directorate strives to actively contribute to the mission and vision of the MRC, especially to the belief that recognises people as its most important resource, through working in close collaboration with the internal and external stakeholders of the organisation.

1.3.5 Technology and Business Development Directorate

The vision of this Directorate is to advance health through technology and business development. The mission is to lever baseline funding to create and direct transdisciplinary and multi-sector research partnerships that lead to innovative technological solutions and sustainable health interventions.

2. RATIONALE

The reason for this study is that most of the literature on CI is based on the commercial industry. The MRC functions in most of the traditional business areas, but instead of producing tangible products and services, the MRC produces research output by interpreting health needs and mobilising skills and resources into action. The organisation provides crucial information to governmental decision-makers in the health sector. In some instances it produces products, but not for a profit margin.

The MRC competes with other science councils, directly and indirectly, especially regarding government funding. There are eight science councils competing for the science vote. The science councils include:

- ➤ Agricultural Research Council,
- ➤ Council for Geoscience,
- ➤ Council for Scientific and Industrial Research,
- ➤ Human Sciences Research Council,
- ➤ Council for Mineral Technology,
- ➤ Medical Research Council,
- ➤ National Research Foundation,
- ➤ STANDARDS (SABS).

As said previously, the councils compete directly with one another for the science vote. They also compete indirectly with one another regarding research output, because their research fields frequently overlap. An example of this is the development of the vaccine against the HIV-virus. The MRC and the Human Sciences Research Council are currently involved in the same project, and have developed a means of distributing information about HIV/AIDS to their "customers" in a web format.

Direct competitors of the MRC include the Human Sciences Research Council and the National Research Foundation, due to overlapping research fields. For this reason it was decided to focus on external environmental scanning methods for the MRC. The organisation also competes with other organisations for funding and collaboration in the private sector.

Most of the studies that have been undertaken on Competitive Intelligence have been based on the commercial industry – on the rare occasion I have found one study with a tertiary institution as the focus area. In my search for relevant literature I have not come across any literature where the focus was on a research environment.

3. PROBLEM STATEMENT

The problem statement for this thesis is to establish whether there is a need at the MRC for a formal CI function to be implemented, and whether this should be done on *ad hoc* or permanent basis.

4. OBJECTIVES

The objectives of the study were to investigate whether the CI techniques and methods based on the commercial environment could also be applied to a non-commercial industry, such as the research environment of the MRC and to highlight the benefits of CI for managerial decision-makers. The focus areas covered in this study were to understand the broad concept of CI, to apply some of the CI processes and concepts in a non-profit organisation, to determine what the CI needs of the MRC were and to recommend how these needs could be met.

5. METHODOLOGY

The study was both empirical and theoretical in nature. A quantitative study was done by means of a survey[3]. A questionnaire was sent to the target audience to establish the needs and the wants of the employees regarding CI functions.

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[3] See Appendix A: Questionnaire on Competitive Intelligence at the Medical Research Council.

5.1   Survey method

The type of survey used in this study was the cross-sectional[4] design. I have made use of two of the popular methods for collecting survey data, namely face-to-face interviews and questionnaires. The telephone was used as a follow-up tool to verify whether the potential respondents would take part in the survey and to make appointments with them for the face-to-face interaction. The reason for applying both the techniques was that the subject matter was unknown to most of the respondents and the respondents were dispersed across the whole of the organisation.

The face-to-face interview is one of the best ways to ensure high quality in the data collection. This method was also chosen because of the lengthiness of the survey. Any potential confusion that might occur while the respondents were completing the survey could be cleared up. Also, considering the small sample size of 14 respondents, I wanted to ensure that the response rate would be high. Any qualitative elements that the questionnaire did not cover could be picked up from the face-to-face interaction. It was decided to obtain the sampling frame from support staff and researchers based at the MRC`s head office in Parow, Cape Town. Employees were selected on an *ad hoc* basis for the study by means of random sampling. A combination of random sampling techniques was used, namely "***simple random sampling***" (where the selection of the potential respondents was made purely by chance, for example the support staff who were supervised by the selected managers.) and "***stratified random sampling***" (where the selection of the potential respondents were made because of the position they held, for example the division managers of the organisation).
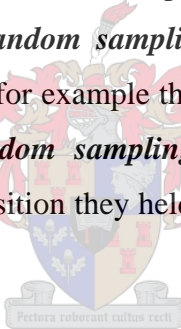
5.2   *Questionnaire design*

The questionnaire used in this study was based on a design by Steffen Schilke (2002). His study was also based on determining the factors for the successful introduction of a CI unit/function in an organisation. The survey covered all the focus areas for this study. The questionnaire was adapted for the current environment at the MRC.

The questionnaire was designed for self-completion. The questionnaire was divided into four sections, with clear instructions preceding each set of questions. The first set of 16 questions had to be answered by making a cross in the relevant check box next to the options listed. These questions would provide background information on the respondent and the organisation. The second set of questions (numbered 17 – 27) focused on CI and how the respondents viewed the fulfillment of CI functions.   Respondents were instructed to make three possible options by numbering their preference from 3-1 (one being less important). Set three made use of a five-point scale, where the

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[4] Surveys, which are carried out at just one point in time, are classified as "cross-sectional". They provide a snapshot of what is happening at that particular time. The survey usually takes a descriptive or exploratory format that simply sets out to describe behaviour or attitudes.

respondents had to assign a number from 0–5 to indicate the applicability of the statement. The last set of questions (numbered 32 – 41) requested the respondent to indicate the relative importance of five potential options.

All the questions, except for the questions in set three, had a combination of closed and open-ended questions. The closed question method was used because this type of question is quicker to administer and analyse. Considering the length of the survey, this was the better option.

The open-ended option was added should the respondent not find the options listed applicable for their current working environment. So, for each of the three sections, a choice of "other" was added. The closed questions are also easier to code and only one topic was attended to in each question.

5.3 *Target audience*

The target audience for the questionnaire was divided into two levels: the division managers and the employees they supervised. To ensure that the data were representative, the respondents were identified according to the support structure.

The questionnaires were distributed to the respondents by means of the e-mail system of the MRC. In order to lend more credibility to the e-mail, it was submitted by my supervisor at the MRC.   In the body of the e-mail I briefly introduced myself and outlined the study. It was greatly stressed that the questionnaire would be completed anonymously. Accompanying the questionnaire was a document providing background information on CI. The potential respondents were called after a few weeks to assess whether they would be willing to participate in the survey and to make appointments with them for the face-to-face interaction.

5.4 *Analysis*

Questionnaires were either returned in hard copy format, when the face-to-face interaction was completed, or the respondents returned their completed questionnaires via e-mail (or even by internal "snail mail"). After receiving the completed questionnaires the data were entered into an Excel spreadsheet, maintaining the confidentiality by assigning a number to each questionnaire, in the order as they were returned.

Section one focused on the background information of the respondent and the organisation. A percentage for each question was calculated. Section two was a three-point scale, where the respondents had to rank the top three options according to their importance. Each of the questions were totaled per ranked option and then multiplied by the rank/scale. Section three was a five-point scale, 5 being very high and 0 meaning that the question was not applicable. The rating of the respondents was summed per question and a percentage was calculated. Section four was also a five-point scale.   The respondents had to indicate their five preferred options according to

importance, 5 being very high. Each of the questions were totaled per option and then multiplied by the rank/scale to obtain a final total per option.

Chapter 2

LITERATURE REVIEW: METHODOLOGY

1. INTRODUCTION

This chapter will focus on the methodology that was applied for the literature review conducted for the study of CI within the MRC of South Africa.

2. STARTING POINT

The idea for the thesis originated from a book written by Fleisher & Bensoussan (2002). These authors focused on methods and techniques for analysing business competition. The concept of CI has increasingly attracted attention throughout the world, even in South Africa, as a strategic management tool. Today every organisation is trying to increase and maintain their competitiveness. The literature that was found was mostly based on the commercial industry. I decided to explore whether the theory of CI would be applicable to a non-profit organisation, such as the MRC.

The concept of CI is not new, since in 1966 William Fair proposed the formation of a corporate central intelligence agency within a firm to collect, screen, collate, organise, record, retrieve and disseminate information. Since then, the concept has grown.

Muller (2003b: http://general.rau.ac.za/infosci/raujournal/default.asp?to=newsvol5nr3)

stated that in South Africa, the idea of CI has increasingly become popular in coverages at conferences and university courses and with consultants and associations. A study was undertaken on South African companies in 2001 and 2002, focusing on CI practices. The conclusion of the survey was that analysis was one of the weakest areas in the practice of CI. As analysis is a critical area of CI and perhaps the final justification of having a CI capability, some concerns were raised.

3. FOCUS AREAS AND KEY CONCEPTS

As the field of CI is very broad, a decision was made to focus on the following areas in this study:

- ➢ Background information would be covered and the concept of CI would be clearly defined to ensure that a lay person would understand.
- ➢ The CI process was a good starting point and this was discussed at length.
- ➢ It was decided to focus on two of the four steps involved in the CI process, namely that of "collection" and "analysis".

- ➢ CI theory divides the business environment into three levels, namely a General, Operating and Internal environment. For this study, the focus will be on the General/Macro-environment. This is also the reason for the choice of analysis techniques, mentioned below.
- ➢ There are many analysis methods and techniques which have been identified through the years, but for this study the focus would be on two methods, the macro-environmental analysis (also known as the STEEP-analysis) and the stakeholder analysis.

The above-mentioned areas of focus are also reflected in the chapters of this thesis. It was decided to focus on the macro-environment because companies do not always look beyond the internal business activities, therefore not integrating the events of the external environment into the "big"information picture. The scanning of the business environments should be done on an ongoing basis. The Medical Research Council of South Africa (on which this study is based), especially needs to be constantly aware of events in their external business environment, because it will influence the strategic actions taken by the organisation. For example, being aware of the impact of regulatory changes made by the government is vital, because the government is one of the MRC's major strategic partners, funders and customers. Not only does the government provide the organisation with baseline funding for the projects, but it is also the regulatory body that decides which projects should be attended to.
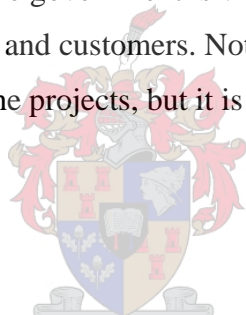
4. FINDING SOURCES

The search for sources was done with the guidance of Fleisher & Bensoussan. After reading their book, the focus areas for the study were determined. Thereafter, information sources focusing on the desired topics were researched.

The online library catalogue of University of Stellenbosch (US) was consulted for books on the broad topic of CI. The results were limited because books were not readily available at the library of the US. Consequently, the relevant books had to be requested from other libraries via inter-library loans. For this reason the Internet was also used to locate relevant sources, and most of the literature used for this study is Internet sources. A search engine was used, namely Google (www.google.com). Statistical information from the South African Government website was gathered for the macro-environmental analysis (STEEP-Analysis).

The EBSCO-host Research Database was also consulted. This is a full-text online database. Searches were done in both the academic and business source premier for journal articles. This database delivered most of the information on Stakeholder Analysis; the Internet source was not relevant to the topic at hand. Online journals were also located with the help of a search engine on the Internet.

The information about the Medical Research Councilwas obtained from the corporate website of the MRC, which was a starting point to learn about the organisation. Informal talks were conducted with some of the staff members, whenever any information was unclear. A formal meeting was also arranged with the Stakeholder Relations Manager, Ms Sarah Mathou, to assist with the identification of the organisation`s stakeholders. E-mail was also used to consult with support staff to confirm information that was obtained via other searches.

For each of the computer-based searches conducted, the term "CI" had to be present in the search terms and combined with each of the key concepts which needed to be addressed.

5. TROUBLESHOOTING

The theory of CI was mostly based on the commercial industry, and no literature was could be found that focused on non-profit organisations, such as the MRC. The information contained in the resources had to be adapted and then applied to the environment in which the study was done. This was most time-consuming because the daily operations of the MRC (non-profit organisation) differ hugely from that of a profit-based organisation.

The majority of the information sources were international. Sources that were South African-based, were mostly a reiteration of the international authors on the topic of CI. It was difficult to locate relevant sources on the topic of stakeholder analysis. Although a huge number of sources where located, many were not relevant to stakeholder analysis as an analysis technique of CI. One of the difficulties of locating an online journal is that one is often required to subscribe before information can be accessed.

6. CONCLUSION

A huge amount of time and effort normally goes into locating the relevant sources for a study. To obtain an objective viewpoint, one has to concult various authors on the topic under investigation, therefore various techniques for locating the information are needed. The Internet was used as a means for locating sources for the topic, because the information is always readily available and there is no time wasted waiting for information. After this process one can start writing on the topic of choice, which will be illustrated in the chapters to follow.

CHAPTER 3

WHAT IS COMPETITIVE INTELLIGENCE (CI)?

1. INTRODUCTION

This chapter will define the concept of CI in broad terms. The importance for an organisation of applying this analytical study, as well as the competitive advantage the application of these techniques offers an organisation, will be given The different viewpoints of various authors will be investigated and compared with one another regarding the CI-process/cycle.

2. DEFINITION

One of the main points, which are always highlighted in the definition of CI, is that it consists of ethical and legal methods that organisations should apply to obtain information about their competitors and their surrounding environments. The company Woodlawn Marketing Services defines CI as the following:

"*Competitive Intelligence (CI) is a process - using legal and ethical means - for discovering, developing, and delivering timely, relevant intelligence needed by decision-makers wanting to make their organisation more competitive - in the eyes of the customer*" (Farrel, 2003a: http://www.worksys.com/ci101.htm).

I agree with this descriptive definition of CI. The definition contains all the relevant elements one has to take note of when trying to understand the concept of CI. The elements important to me in the definition of CI are:

- That it is a legal and an ethical procedure.
- That the information needs to be located and delivered in a timely manner.
- That the decision-makers are ultimately the target audience whose needs need to be catered for – this means they need to be involved from the start of the process to the end of the Competitive Intelligence cycle.
- That the information can assist the organisation in altering both the strategic and tactical decisions to the advantage of the organisation and its customers
- Most importantly, that by employing Competitive Intelligence the organisation will be given the competitive advantage needed to survive in an aggressive competitive environment.

According to Jean Graef (1996: http://www.cio.com/CIO/arch_0695_cicolumn.html) CI is both a *product* and a *process*. The *product* is information turned into action. The *process* is the systematic

way of obtaining the information, analysing it and evaluating the information about current and potential competitors." Most sources only acknowledge that CI is a process, but I have to agree with the above mentioned statement by Graef: the *process* delivers the final *product*, the information can be used to take counter-action against the competitor's action, or pre-action, e.g. the merger of stakeholders or competitors.

CI enables an organisation to make sense of scattered bits of data about its surrounding business environment, the customers, the competitors, the market and the stakeholders. The information that is turned into intelligence after the processing cycle has been completed, could influence the decisions taken at the operational, tactical and/or strategic levels of the organisation. This intelligence is needed to reduce the uncertainties that the organisation may be facing. With the correct information, the cost of decision-making is reduced in the long run. Previously the decision-makers might have made decisions based on poor information, which could have cost the organisation dearly. With the value-adding intelligences at the organisation`s disposal, the organisation can out outsmart its competitors.

The CI-process should be holistic in nature and should include the different environments that have or may have an influence on the effective functioning of the organisation, as well as the organisation as a whole within the CI-process. What is meant with a holistic system of CI, is that CI should consist of three elements according to the Mindshifts Group (2001: http://www.mindshifts.com.au/ci.htm):

- human intelligence techniques;
- communication processes; and
- technology (which provides an effective knowledge management and dissemination platform).
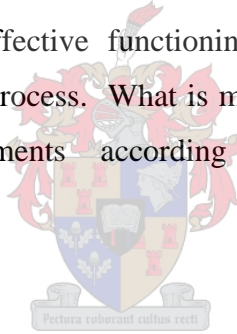
3.   REASONS FOR APPLYING COMPETITIVE INTELLIGENCE

CI will assist managers to make informed strategic and operational decisions. There are four major areas in which the organisation can obtain competitive advantage over their competitors:

- the organisation can focus on the competitive activities of organisations, e.g. mergers and acquisitioning of organisations,
- the organisation can perform better market planning, e.g. the development of new products and upgrading the quality of service delivery,
- the organisation can be aware of regulatory issues which could have an influence on the operation of the organisation, e.g. new legislation passed by government, and
- the organisation can focus on customer activities to ensure that their changing needs and preferences are being met.

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4.   THE COMPETITIVE INTELLIGENCE PROCESS/CYCLE

The CI-process/cycle is used to turn raw data into information and then into intelligence, which the organisation can then apply to make strategic decisions that will benefit the organisation tactically and financially over the long term. The CI-process generally consists of four simple steps. However, my opinion is that these steps should rather be referred to as a cycle than a process, because a process has a clear start and end while the CI-process should be continuous. The CI-process should both start and end with a needs assessment to ascertain whether the needs have been met or not. This should involve the decision-makers, who will be the users of the intelligence gathered out of the process. It is vital that the decision-makers support the CI initiative right through to the end. With their support the rest of the employees will cooperate making the process run a little smoother, by fostering a culture of information and knowledge sharing and collaboration. This is due to the fact that most of the information that is used for CI is usually within the organisation, but is normally not shared.

Many authors such as Larry Kahaner and Jerry Miller (and even the Mindshifts Group), identified the four stages in the CI-cycle as: ***planning, collection, analysis and dissemination.*** In two other sources the cycle had two more extra steps, which will be looked at later in this section.

According to Kahaner (1997: 43 – 45), the four steps entail:

a) *planning:* in this stage of the process the analyst tries to identify the intelligence needs of the decision-makers across the organisation. This is the stage where the management is involved, directing the search and identifying the various sources where information could be found. It is also decided whether the search would be formal or informal, internal or external, or a combination of these factors.

b) *collection:* this stage involves the actual gathering of raw information from which the intelligence can be produced. Most of the information needed resides within the public domain. If you know where to look, you will find it, because the information can be obtained from internal and/or external sources; print, electronic or oral sources. These include periodicals, annual reports, books, broadcasts, speeches and databases.

c) *analysis:* at this stage the information is analysed and combined in a report. This is the most complicated phase of the CI-process. The intelligence produced by the CI-process is vital to strategic decision-making to maintain the competitive advantage over competitors in the industry. The analyst needs to weigh the information, look for patterns and come up with different scenarios based on what was found in the collection phase.

d) *dissemination:* during this stage the results of the intelligence are disseminated to the decision-makers of the organisation who need the information to make critical decisions. This is the last step in the CI-cycle. The analyst will suggest possible courses of action

based on the findings to management. The analyst must also be able to articulate the recommendations and defend them with logical arguments. The intelligence should also be distributed to other employees in the organisation.

5.   ENVIRONMENTAL STRUCTURE

Environmental scanning is performed during the second stage of the CI-process. Morrison identified three environmental levels enabling a proper scan of the organisation's environment: Task, Industry and the Macro environment. Another source labeled these three environments as: internal, micro and macro environment. Fleisher and Bensoussan (2003, 271) classified the three levels of the surrounding environment as the: general, operating and the internal environment.

- *Internal environment:* This environment includes the internal forces inside the organisation, which has specific implications for managing organisational performance. Some of the aspects that the organisation considers are production, marketing, finance and accounting, and human resources.

- *Operating environment:* This is the external environment. The components in this environment include the following: customers, suppliers, competitors, partners and global/international issues surrounding these stakeholder groups. These components normally have relatively specific and immediate implications for the management of the organisation. This environment can be controlled or influenced by the individual organisation to some extent. Some of the MRC`s stakeholders included in the operating environment are governmental departments such as the Department of Health and the Department of Science and Technology, the legislatures and the surrounding communities which they serve.

- *General environment:* This environment is broad in scope and it has long-term implications for the managers, organisations and strategies that the organisation implements. These environmental aspects are beyond the direct influence of any singular organisation. The general environment is extremely large. Fleisher and Bensoussan make use of a subcategory focusing on the STEEP factors to analyse this environment. The STEEP analysis is broken down into five sectors, which operate over a large geographic area and over time. The five sectors focused on are: the social, technological, economical, ecological and the political/legal sectors.

6.   MACRO-ENVIRONMENTAL ANALYSIS

This environment is a prime determinant of the form and behaviour of an organisation. As mentioned above, there are five forces determining the macro-environment. According to Fleisher

and Bensoussan (2003, 272 - 274) the five factors each contain elements that needs to be considered when conducting an external environmental scanning[5].

   a) *Social sector:* The elements in this sector are social in nature. Here the CI-analyst would look at: demographics, cultural attitudes, literacy levels, education levels, customs, beliefs, values, lifestyles, age distribution, the geographic distribution and the mobility of the population. The ethical norms of the society in which the organisation operates also plays an important role in this sector. The elements are slow to change, but their effects on the organisation can be huge. The evaluation and monitoring of these factors can assist the organisation to develop a strategy to improve the organisation`s reputation amongst the key stakeholders. The MRC services the whole of sub-Saharan Africa, therefore the organisation deals with different people from different cultures. The MRC has to be aware of the different cultural attitudes when conducting research; otherwise it could have a damaging affect to the profile and the credibility of the organisation.

   b) *Technology sector:* Technical changes in digital communication, biotechnology, chemicals, energy and medicine occur at a fast rate. The components in this sector are affected by science and technology innovations. This includes new approaches to production of goods and services.

   c) *Economic sector:* The consumption patterns of the society are influenced by economic trends such as balance of payment issues, employment rates, exchange rates, interest rate, inflation rates, credit availability, fiscal and monetary policies, debt, spending patterns, and levels of disposable income. It is important to identify, monitor and predict the impact of these variables on the organisation`s strategy.

   d) *Ecological sector:* The focus here is on the physical and biological environments in which the organisation operates. Elements in this sector include: global climate, sustainable development, product lifecycles, recycling, pollution, and biotechnological advances.

   e) *Political/legal sector:* This sector includes the government and public attitudes towards the various industries, the efforts of interest groups, the regulatory climate, platforms of political parties, and the predisposition of politicians.

7. ENVIRONMENTAL SCANNING

Environmental scanning acts as an early warning mechanism for managers, so that they can be aware of any changes in the surrounding external environment. External information about events, trends and relationships are collected according to a systematical method. Internal analysis of the organisation`s vision, mission, strengths and weaknesses, combined with this external analysis, will

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[5] See Appendix B: Figure3-1, STEEP Factors.

assist the decision-makers in formulating strategic action plans for the organisation. The main objective for using this method is to make sure that the decision-makers are alert to potential external changes well in advance, enabling them to react in a timely manner.

The first step in the scanning process is to decide who will be responsible for the whole process, to ensure that there is a comprehensive approach in place. One has to review and update the information on the general socio-economic and country situation. An updated socio-economic profile of the country can help to identify information needs and who should be involved in the scanning process. The organisation needs to assess the existing information about the organisation. Next, the organization needs to collect and assess the scanned information retrieved from the competitors. The organisation also needs to access the existing networks of the employees – it is very good to involve all the employees in the scanning process. Lastly, additional techniques can be selected to complement the available information after evaluating the strengths and weaknesses of each information source**.**

The scanning can be divided into two categories depending on the depth of scanning. High-level scanning takes place when the whole environment is looked at to identify areas for closer inspection. Low-level scanning focuses on specific areas identified during high-level scanning that need to be analysed in detail. Ideally, a mixed scanning approach should be followed, because these two levels of scanning complement each other.

8.   CONCLUSION

With the help of CI, organisations can gain and maintain an advantage over their competitors through ethical and legal means. It is about obtaining the right information at the right time – information about the organisation`s competitors and its surrounding business environment. This competitive information can assist the organisation in both strategic and tactical decisions made by management. By applying the five steps in the CI-process, as well as environmental scanning techniques, competitive advantage and sustainability can be achieved. It is vital that the whole organisation participates in the CI-process, to ensure that the process is effective and efficient.

Chapter 4
STAKEHOLDER ANALYSIS

1. INTRODUCTION

Every organisation is dependent on their stakeholders in a different manner, whether it is for funding from external organisations or simply ensuring that the employees are happy with their working environment. It is therefore important that the stakeholders' expectations are fully analysed.

The stakeholder analysis is another method enabling the organisation to understand the environmental category of CI as a whole. By employing this visual means, the organisation can identify stakeholder support to ensure that it can develop action plans for its projects.

The market environment changes at an accelerating rate and this rings true even for the environment in which the MRC operates. The organisation deals with people and the issues of health. Not only does the market environment change in terms of technology, techniques and methods, but it also changes at an alarming rate where health issues are concerned.

Thus I think that this method for understanding the needs, wants and the concerns of the "customers", on a timelier basis, is very applicable.

Nystrom & Kalayanee (2003: 18) state that "a concerted effort to capture stakeholder perspectives becomes justified when the cost of making a mistake due to the lack of these insights is greater than the cost of generating them".

The MRC has to make sure that its objectives are aligned with those of its funders and other major role players. Without doing so, the MRC will lose its credibility. This will mean not only a loss of funding from the government and companies in the private sector, but also a loss of business with collaborative partners, nationally and/or internationally.   Therefore, an early insight into the perspectives of the relevant stakeholders will prevent unnecessary expenditures and accelerate the delivery process of the MRC's products and services.

The interaction between a core organisation and its stakeholders is two-way in nature. The stakeholder can influence the organisation, and the organisation can influence the stakeholder.

2. DEFINITIONS

The term "s*takeholder analysis*" can be defined as a systematic tool which is used by the CI-analyst and his team to identify stakeholders. The technique assists executive managers to decide which stakeholders are important to the organisation, their interests, as well as competitor activities and

operations. It will also help to decide when and how to initiate actions regarding the stakeholder activities and how to allocate organisational resources among critical stakeholders in order to maximize the competitive success of the organisation.

From the literature one can classify stakeholders into two broad categories, namely external and internal stakeholders. The external stakeholders could include: patients, the local community, suppliers, referral service providers, funders, regulatory authorities, financiers, professional organisations and support services (e.g. laboratories). The internal stakeholders include: partners, staff and other departments.

Fleisher & Bensoussan (2003, 299) have identified four common types of stakeholders that are important to the organisation and competitive analysis. These are:

- *Community groups* – who can stop plans to build sites, that will provide labour for a workforce, and develop an attractive environment in which to attract particular employees, e.g. the MRC could list the NGOs, schools, churches, traditional healers and woman groups.

- *Customers* – who will provide resources in exchange for products, with shifting needs and interests. Here the MRC could include the government, the private sector and universities.

- *Employees* – that will provide the human and intellectual capital for the organisation, provide key skills, and who are a major source of resource utilisation, as well as the main link between the organisation and the customers, for example the research scientists and support staff, etc.

- *Government* – who is responsible for regulations, funds, subsidies and the distribution of relevant information to the country. This stakeholder is important to any organisation, but even more so in the case of the MRC who is dependent on the baseline funding from the government for organisational projects.

3. CATEGORIES OF STAKEHOLDERS

There are various methods to categorise and classify the organisational stakeholders illustrated in the literature. Fleisher & Bensoussan (2003:299) focused on the following three categories:

- production view, managerial view and stakeholders view as identified by Freeman
- Wheeler & Sillanpaa distinguishes primary and secondary stakeholders
- core, strategic and environmental stakeholders as highlighted by Clarkson

Production stakeholders include those stakeholders that are involved in the organisation`s value chain, e.g. suppliers and customers. *Managerial stakeholders* are stakeholders who provide capital (owners, lenders, investors, etc.) and employees who generate output for the customers. The s*takeholder view* is broad in scope and includes all the stakeholders in the STEEP environment that

can have an impact on or are impacted by an organisation`s actions, decisions, goals, policies, or practices.

Primary stakeholders have a direct stake in the organisation and its success and can therefore be very influential. *Secondary stakeholders* may also be influential, especially in impacting the organisation`s reputation or public perception, but their stake is more symbolic.

Core stakeholders are essential to the survival of the organisation. *Strategic stakeholders* are those stakeholders that are vital to the organisation and to the specific set of opportunities and threats that it faces at any specific point in time. *Environmental stakeholders* are all the other stakeholders in the organisation`s environment.

Individual stakeholders can belong to more than one stakeholder group. It is clear there is an overlap in the categories described above.

4. REASONS FOR APPLYING THIS ANALYSIS TOOL

The tool assists in decision-making in strategic planning situations; it focuses on where various stakeholders have competing interests, where the resources are limited and to ensure that the stakeholder needs are effectively and efficiently addressed.

The main reasons why organisations should apply the stakeholder analysis tool are to:

- clearly identify the stakeholders involved in the organisation's daily functioning,
- identify the potential of stakeholder influence on the organisation in the achievement of its objectives, and
- identify the relations between stakeholders that can be built upon and may enable the formation of coalitions, thereby enhancing success.

5. PROCESS FOR APPLICATION

It is advisable that a stakeholder analysis should always be done at the formulation stage of any new product, project or service delivery. A list of the stakeholders needs to be created, in order to pin point the main assumptions that are needed for the viability of a product, project or service, and to identify some of the key risks that might stifle the success of the project. A team-based approach should be used when applying the stakeholder analysis, because it is more effective over the long term. Input can be gathered from managers and the rest of the employees. The stakeholder analysis involves four steps, which are explained in detail below.

- *STEP 1: IDENTIFICATION*

The potential relative stakeholders for a project are identified. The process is one that unfolds and evolves with time. This process could help an organisation gain an advantage over their competitors due to the fact that its competitors may not be carefully identifying their stakeholders and how to address them.

The stakeholders can be classified into two groups. The *generic* stakeholders include those groups of consumers, employees, governments, interest groups, and shareholders that are vital to the organisation. The *specific* stakeholders are those stakeholders who form the subgroups within these categories. They have material stakes associated with an issue or potential issue facing the company at that point in time. For example, one of the generic stakeholders of the Medical Research Council is the government. The theory states that the analyst would need to identify the specific government departments or agencies involved with a business. For the MRC, the specific stakeholders would include the local government, national government, the Department of Science and Technology and the National Department of Health. When identifying the specific stakeholders, it is important to identify the specific individuals who are influential contact points for this group of stakeholders.

When identifying the stakeholders involved in the project, one should also pay attention to their interest(s)/demands, their impact, the degree of importance of the stakeholder and the stakeholder's strengths and weaknesses.

One can compile a stakeholder map, displaying the linkages between the stakeholders due to overlapping interests. These stakeholders mostly form coalitions or alliances with other groups that have similar objectives.

To illustrate the compilation of such a list of stakeholders, I have made use of an HIV/AIDS project, which is currently being undertaken by the Medical Research Council. This project is known as the AfroAIDS*Info* Portal. I have selected four stakeholders that are involved in the project. They are: the Government as a source of funding; the content providers as the investors of the project, the community as a whole for whom the project is intended; and the Universities as strategic partners, who are trying to find a cure for the disease.

- *STEP 2: IDENTIFY THE STAKEHOLDERS` STAKES*

The next step is to determine the nature of the stakeholders` stakes in relation to the organisation`s planned market initiative.

There are several analytical categories for analysing the stakes of each stakeholder; this is one of the methods, which can be applied:

1. Single- or multiple-issue stakes

Single-issue stakeholders are only concerned with one facet of a company's operations. Multiple-issue stakeholders care about many elements.

2. Economic or social stakes

Those with economic interests care about the distribution of financial or material resources (shareholders care about corporate profitability, employees about salary levels, etc.). Social interests usually have belief or value concerns (corporate social responsibility, equal employment opportunity, wilderness protection).

3. Concrete or symbolic stakes

Concrete interests are related to the allocation of material resources. Symbolic interests are more difficult to define, e.g. demands for something to be done, reassurances, gestures, and goodwill.

4. Local, national or international interests

The boundaries of various stakeholders may vary from the local issue to the national agendas or international or even global framework.

It can also be helpful to determine what responsibilities the organisation has toward the stakeholders. These could be: economic responsibility to be profitable, legal responsibility to obey the relevant laws that society codifies as right or wrong, ethical responsibility to do what is right, just, and fair and to avoid harm, discretionary responsibility to be a good corporate citizen by contributing its resources to improving stakeholders` quality of life.

- *STEP 3: IDENTIFY OPPORTUNITIES AND CHALLENGES OF STAKEHOLDERS*

An assessment is done on the likely impact of the market initiative on each of the respondents. Opportunities and challenges can be viewed in terms of potential for cooperation or confrontation. The stakeholders can have a significant influence on the success of an organisation`s market initiative. Influence refers to how powerful a stakeholder is. Stakeholders can also be important to the initiatives of the organisation. Importance refers to those stakeholders whose problems, needs, and interests are the priority of the organisation`s initiative. If these important stakeholders do not benefit by the initiative, it cannot be deemed as a success. By combining the influence and importance factors, a matrix diagram can be drawn to classify stakeholders into different groups, which will help to identify assumptions and the risks that need to be managed through the project design.

a) Stakeholders of *high importance* to the project, but with *low influence* – special initiatives will be required if these stakeholders' interests are to be protected.

b) Stakeholders who appear to have a degree of *high influence* on the project and who are also of *high importance* for its success of the project – the organisation will need to construct good working relationships with these stakeholders to ensure their support. They provide a basis for initiative coalition or support and are potential partners in planning and implementation of projects.

c) Stakeholders with *high influence*, who can affect the outcomes of a project, but whose interests are not the target of the project, can be a source of significant risk and will require constant monitoring and management.

d) Stakeholders with *low influence* or *importance* to the objectives of the project, will require limited monitoring, because of the low priority.

- *STEP 4: STRATEGIES OR ACTIONS*

This step is the strategy-planning phase where management should consider several basic approaches in dealing with stakeholders. The managers need to decide whether they should take a direct or indirect approach with the stakeholders, whether to take an offensive or defensive position with stakeholders, and whether; they wanted to accommodate, negotiate, manipulate, or resist stakeholder claims. The managers could even decide to employ a combination of the above strategies. This is where management should decide to obtain more information about the stakeholder or to involve the stakeholder in the planning process of the project.

There are several tactical ways of organisational response, based on its analysis of stakeholders. Four elements to be considered when implementing a stakeholder strategy are: the timing of the organisational response, the techniques that will be used to accomplish the organisational objects, which vehicles will be used to formulate the strategy and the manner in which the chosen technique will be applied.

6. CONCLUSION

It falls to managers to look at an issue from a number of sides in order to balance these competing and complicated priorities, in identifying business opportunities, in creating and implementing a strategic plan and in establishing a measuring system to monitor performance. Many organisations simply fail to account for and integrate the needs of different stakeholders in their management process.

If the organisation undertakes a structured strategic planning process without fully considering stakeholders' needs, it might end up with mission statements that say everything but mean nothing.

Stakeholders' attitudes toward an organisation differ depending on the treatment they have received in the past, or their understanding of the organisation and its objectives and goals. Identifying all

aspects of stakeholder needs provides the organisation with parameters along which to focus its strategy, orientate the employees, and establish internal goals for process performance. The results of the stakeholder analysis will feed into the strategic planning process. A cross-functional team, comprising of senior managers and the organisation's functional specialists perform the analysis. Before one can establish a credible action plan to influence decisions, performance and organisational alignment, one must understand all aspects of the stakeholders' needs. One needs to analyse the needs of each stakeholder and understand how they affect the organisation. Stakeholder analysis is an integral part of the strategic planning process and the needs of all people who play an integral role in the organisation's survival should be considered.
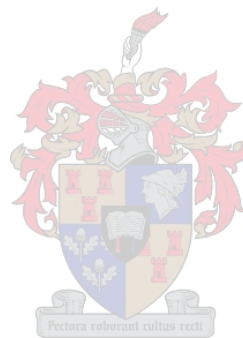
CHAPTER 5
EMPIRICAL DATA ANALYSIS

1. SECTION ONE: BACKGROUND

The first section of the questionnaire was used to gather background information on the respondents and the organisation. All the questions were compulsory.

Highest level of education

The question was used to establish the respondent's highest level of qualification. All the respondents completed this question. From the total response rate (100%), the majority (30%) of the respondents indicated that they held a Diploma for the related field they worked in (see Figure 5-1 below), a total of 21% reported they had an honour's degree. An equal percentage of 14 respondents indicated they either held a high school diploma, a bachelor`s degree or a doctoral degree. Only one respondent had a master's degree.
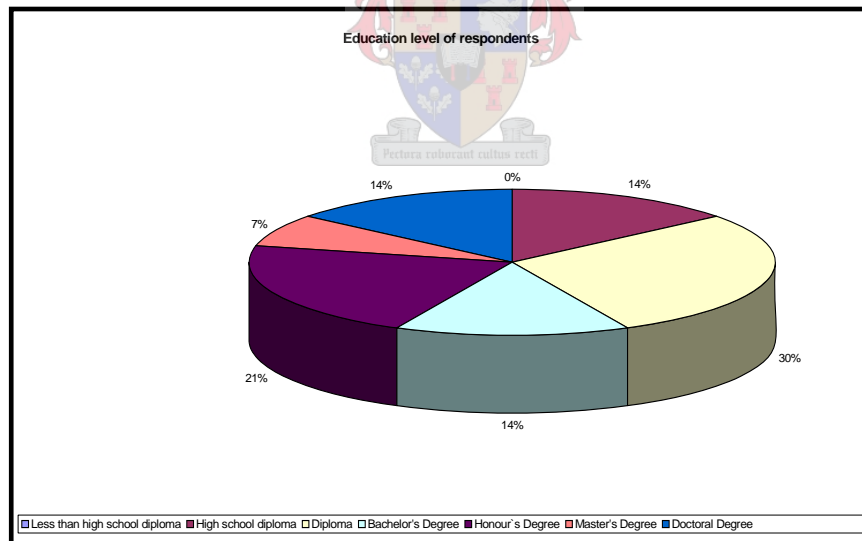
Figure 5-1: Education level of respondents

Level of employment in the organisation

This question tried to establish at which employment level the respondents were working. The majority (50%) of the respondents indicated they were merely "employees" (see Figure 5-2 below), which means they are the so-called "ground –workers". They reported to a Division

Manager/Group/Unit Director, who is on a higher employment level. A percentage of 43 were at

Manager level, these employees report to an Executive Director. One respondent (7%) indicated they worked as a "Consultant" to the organisation. This person also reported to a Division Manager.
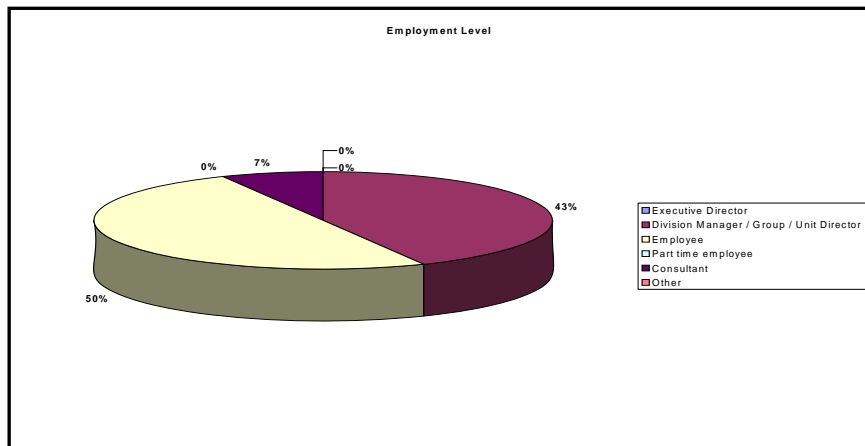
Figure 5-2: Employment Level

As indicated in the previous discussion, 57% of the respondents indicated they reported to a Division Manager (see Figure 5-3, below). A remaining 43% reported to a Manager, on a higher level than himself or herself. There seems to be a good representation of both management and "ground –workers", that participated in this study.
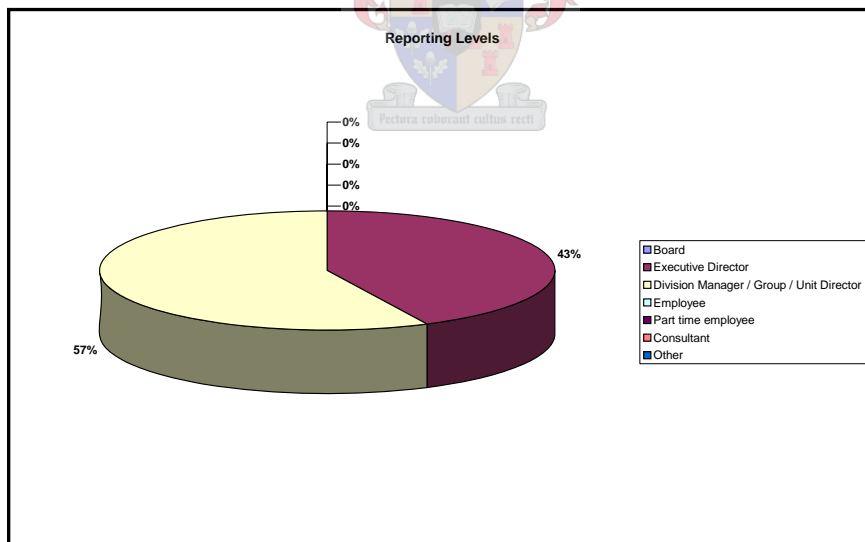
Figure 5-3: Reporting Levels

Type of organisational structure

This question seems to have been an opinion-based question. There is a difference in opinion as to what type of structure the organisation has in place. There is no right or wrong answer to this question; the opinions of respondents might be influenced by where they were located within the organisation. The majority (67%) stated they felt that the MRC is based on a divisional structure (see Figure 5-4 below). This can also be concluded from the previous two figures. The "ground – workers" worked in different divisions and reported to their Division Manager. A percentage of 17 indicated the MRC was structural, while 16% (8 x 2) indicated it was "functional" or "project-based". The MRC operates in all the variables provided in the multiple-choice question. A "Division" could undertake a "project" and this normally has a shorter life span. "Functional" could relate to the type of job these respondents carry out. The majority of the respondents are part of the corporate support staff; meaning they come from the Information Technology or Operations and Finance Divisions. The functions performed in these Divisions can be classified as daily operational functions.
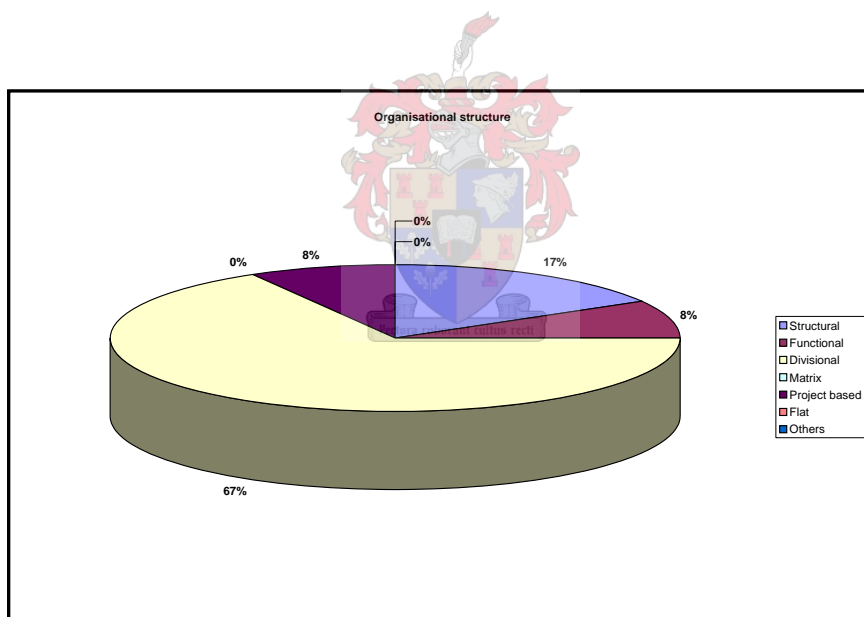
Figure 5-4: Organisational structure

Organisational background information

This section of questions was used to gather information on the organisation itself. These questions were closed ended "yes" or "no" questions. Figure 5-5 (see below) consists of six independent questions on the organisation, depicting the answers of the respondents per question.
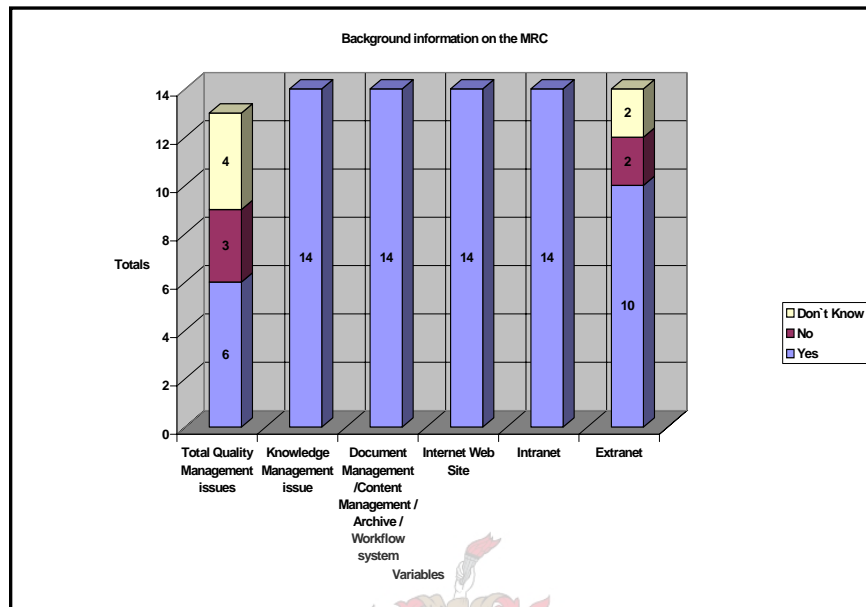
- **Total Quality Management (TQM)**

The question tried to establish whether TQM was being dealt with at the MRC. Six of the 14 (see Figure 5-5 above) respondents agreed that TQM was present, while three respondents disagreed and stated that the organisation does not deal with these types of issues. Four of the respondents were not sure about this fact.

- **Knowledge Management**

All the respondents (100%) agreed that the organisation deals with knowledge management issues. The same was evident for the document management system. The organisation also has an *Internet website* and an *Intranet*.

- **Extranet**

The majority of the respondents, 72% of them, indicated that the organisation did have an Extranet, while 14% state the organisation did not have one. Another 14% of the respondents stated that they did not know.

Rate of business changes

The intention with this question was to establish how well the organisation copes with the rapid changes in the traditional business areas. Some of these areas would refer to the sales and marketing, research and development, etc., all of which are not common to the MRC. Approximately 43% of respondents indicated that the organisation was coping with the business changes at an average rate (see Figure 5-6 below), while 36% of the respondents indicated it was above average. Both these totals are reflecting a positive attitude about the way the MRC deals with the competitive industry. Only 21% indicated that the organisation copes with the change below average.
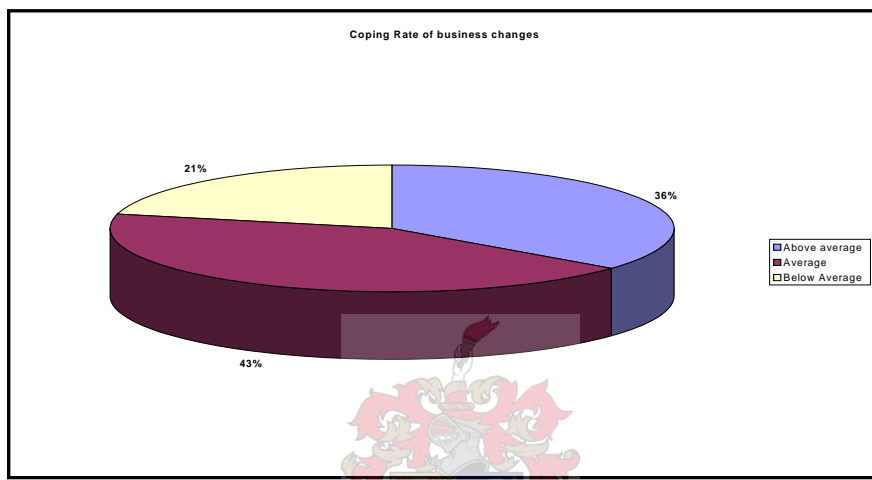
Figure 5-6: Coping rate of business changes

The maturity of the medical research industry

The maturity of the medical research industry was rated as "growing" (see Figure 5-7 below) by 57% of respondents. Some of the respondents, 36%, stated it was "mature". Only one respondent felt that it was still in an embryonic stage, meaning there is room for growth.
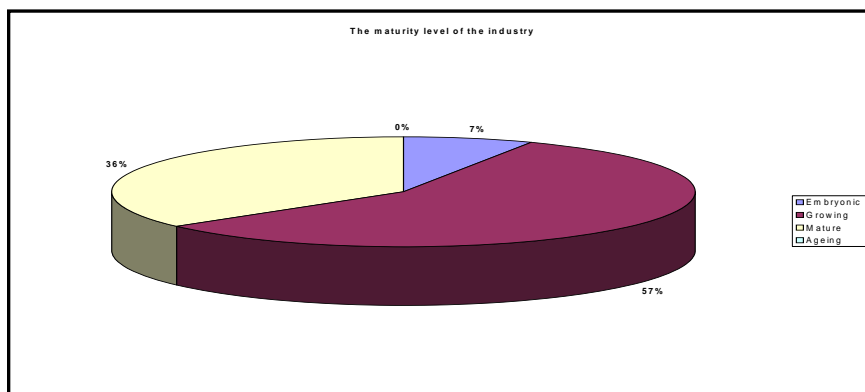
Figure 5-7: The maturity level of the industry

The organisation`s competitive position within the industry

With this question, the majority of the respondents (50%) indicated that the MRC held a "strong" competitive position with the medical research industry (see Figure 5-8 below).

 A ratio of 36% thought it "favourable", one respondent thought the MRC is a dominant competitor and 7% indicated the organisation is reasonable in competing with other organisations in this industry.
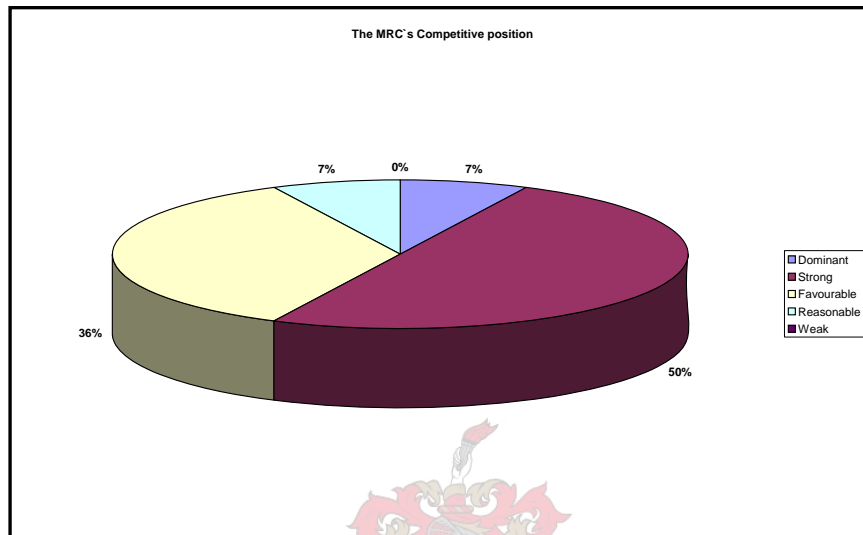
Figure 5-8: The MRC's competitive position

Implementing CI with a framework

When asked, 93% (see Figure 5-9 below) of respondents stated that it was advisable to implement the CI-function with a clearly defined framework. A small percentage of 7% disagreed with this statement.
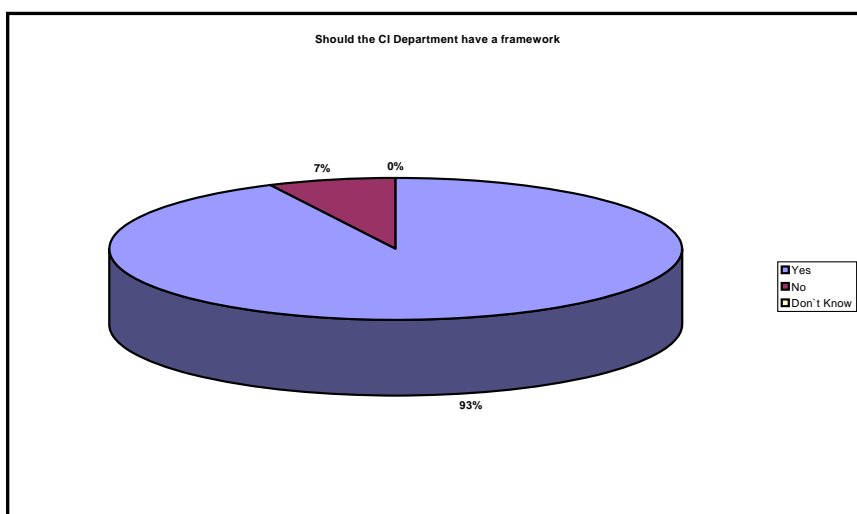
Figure 5-9: Should the CI-department have a framework?

The importance of external (re)sources

With this question, it was established how much the organisation valued external (re)sources. Approximately 43% (see Figure 5-10 below) of respondents indicated that the external (re)sources are extensively important to the organisation to compete in the medical research industry, while 29% of the respondents stated it is important but at a lesser rate, another 14% indicated they do not agree with this and that the external (re)sources are not important. Some of these respondents, 14%, reported that they did not know.
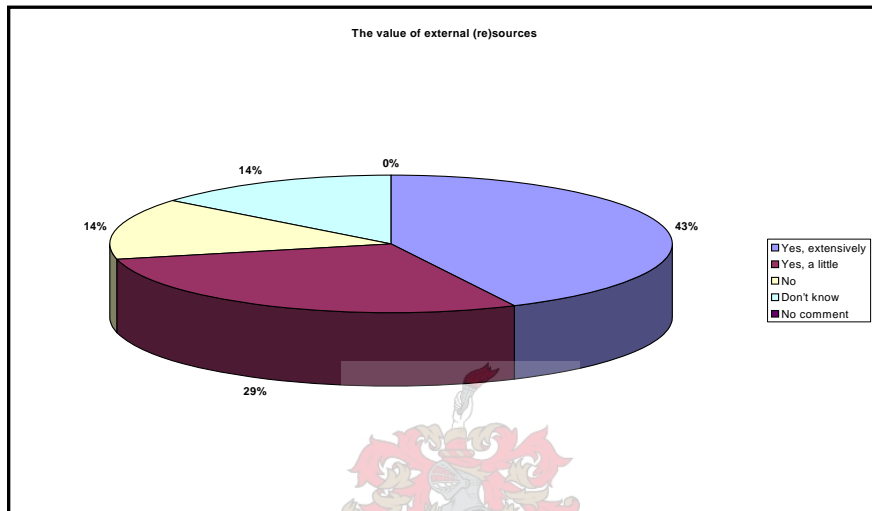
Figure 5-10: The value of external (re)sources

Job description of the CI-specialist

The majority (44%) indicated that they thought it best to have a CI-analyst. Of the respondents, 21% stated they would like to have a CI Division Manager. Another 21% wanted the person to be a CI information collector/specialist, who would just collect information for the organisation but did not play a significant role in decision-making. Some 14% (see Figure 5-11 below) would rather have the person as a "consultant".
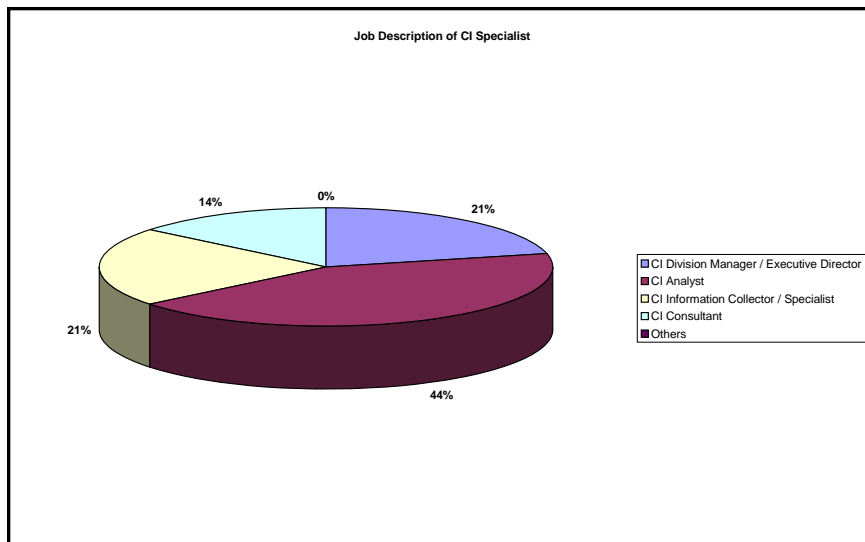
Figure 5-11: Job description of CI Specialist

2. SECTION TWO: CI-ANALYSES

The following section required that the respondents rank their top 3 options, according to its importance, by using a three-point ranking scale to indicate their preference from 3 – 1 (three being very important). Each question is this section were totaled per option and then multiplied by the rank/scale to obtain a final total.

The preferred educational background / degree of a CI person

The majority of the respondents felt strongly that the CI person should have an honour's (see Figure 5-12 below) degree in this particular field. The second preferred option would be to have a master's degree for this occupation. Having a bachelor's degree was ranked thirdly. The least important was having a doctoral degree.
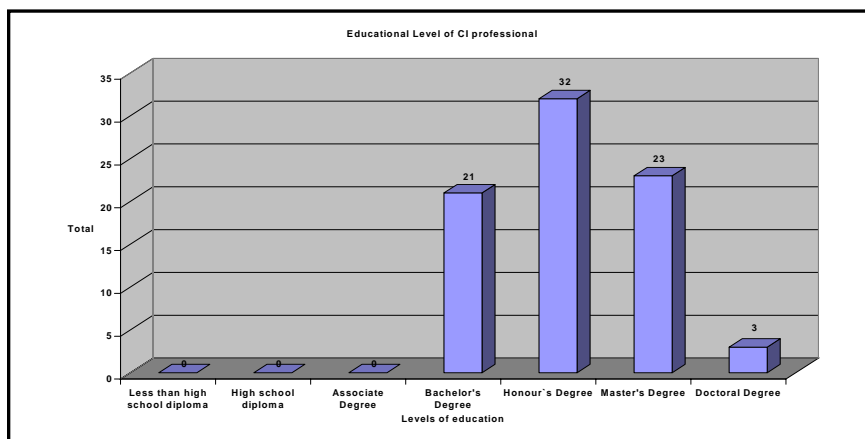
Figure 5-12: Educational level of CI professional

Initiation for CI-department/function

The respondents indicated that the CI-department/functions should be initiated by either the organisation`s President or at Executive Director level, both of these options scored equally on the rating scale (see Figure 5-13 below).
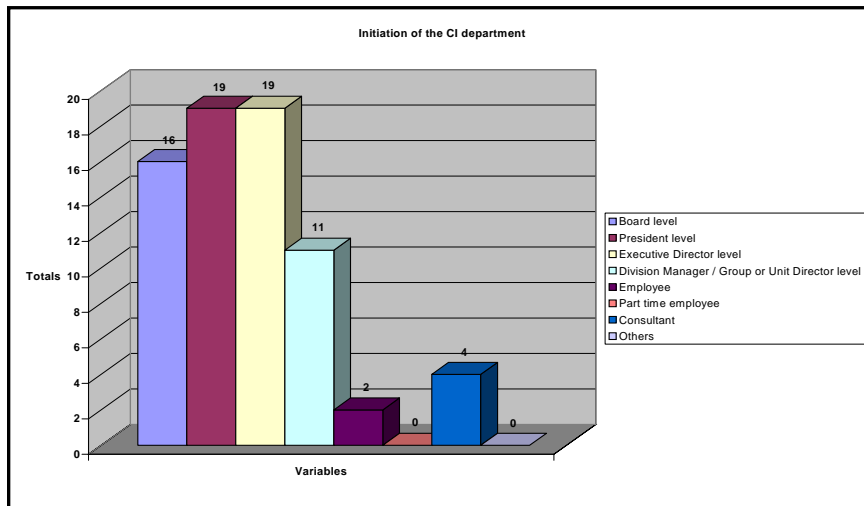
Figure 5-13: Initiation of the CI department

The second most popular option was that of Board level, the "Division Manager" level was rated as the third preferred option. The two options that scored the least, was that of "Consultant" and that of "Employee". The responds did not think these to be good ideas.

Who should fund the CI budget?

Interestingly, the respondents indicated that they thought it very important that the CI department`s budget should be funded by the Executive Management Committee (EMC). They also stated that the funding should come from the "Informatics and Knowledge Management Directorate" (see Figure 5-14 below) and the least important preferred option would be the "Technology and Business Development Directorate".
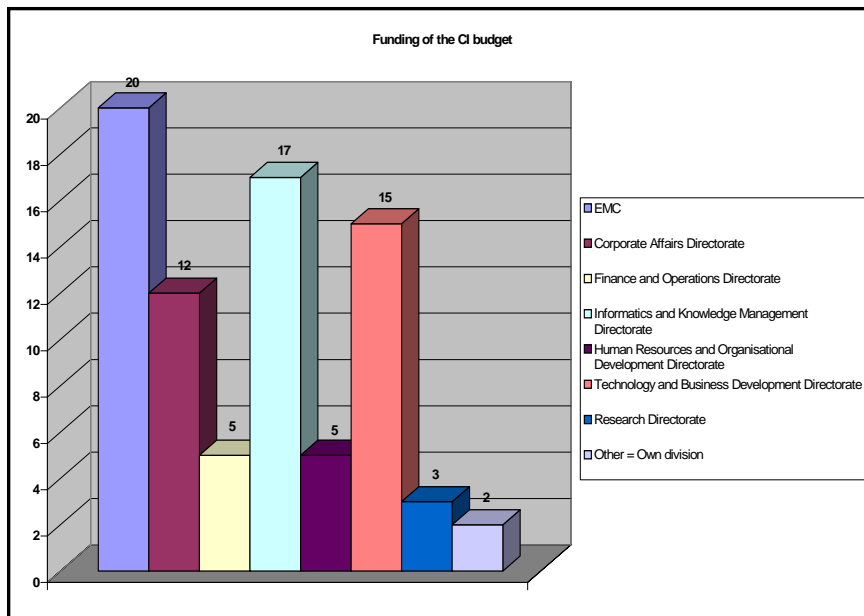
Figure 5-14: Funding of the CI budget

"Corporate Affairs Directorate" scored less (12), the "Finance and Operations Directorate" and the "Human Resources and Organisational Development Directorate" scored the same rating of 5 (see Figure 5-14 above), while the Research Directorate was last on the list of preferences. The respondents also indicate that having a separate budget in the CI department was another alternative.

Rank of CI project sponsor

The aim of this question was to establish the rank of the CI project sponsor. The majority of the respondents indicated that the sponsor should be located at the "Executive Director level". This option scored a high of 26. The second largest preference was that of "Division Manager / Group or Unit Director level", which scored 19 on the ranking list. The "President level" was the third popular, the respondents gave it a score of 18 (see Figure 5-15 below).
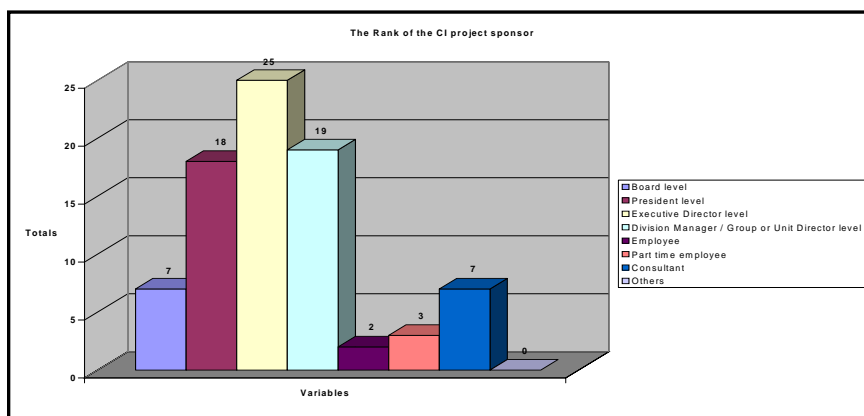
Figure 5-15: The Rank of the CI project sponsor

CI Division Manager / function level of *supervision*

When we tried to establish which level (rank) the CI Division Manager should *report to,* it was clear that the respondents preferred that the manager/specialist reported to an "Executive Director" (21). The "EMC level" was second on the list with a score of 17. Thirdly ranked were both the options of Board and the President's level, both these options scored a high of 15 (see Figure 5-16 below).

The CI Manager will report to:

- EMC level
- Board level
- President level
- Executive Director level
- Division Manager / Group or Unit Director level
- Employee
- Part time employee
- Consultant
- Others
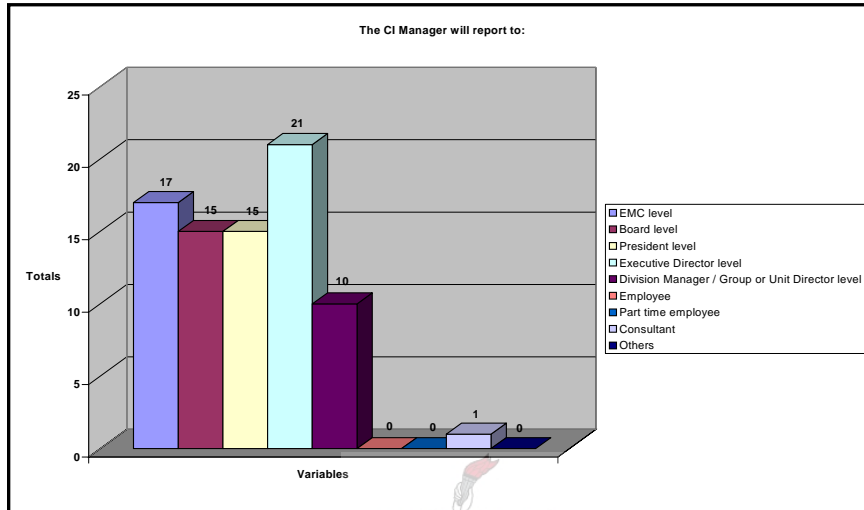
Figure 5-16:   Reporting level of the CI manager

Positioning of CI department / function

Of importance was where the CI department/function would be positioned within the organisation. The majority of the respondents felt that it was highly important that the CI department be located within the different departments/units. The de-centralisation option scored a total of 22 (see Figure 5-17 below). The second preferred option was that of a "hybrid function" (21).

Positioning of CI Department

- Central function
- De-central function
- Hybrid function
- Own separate CI department
- Other
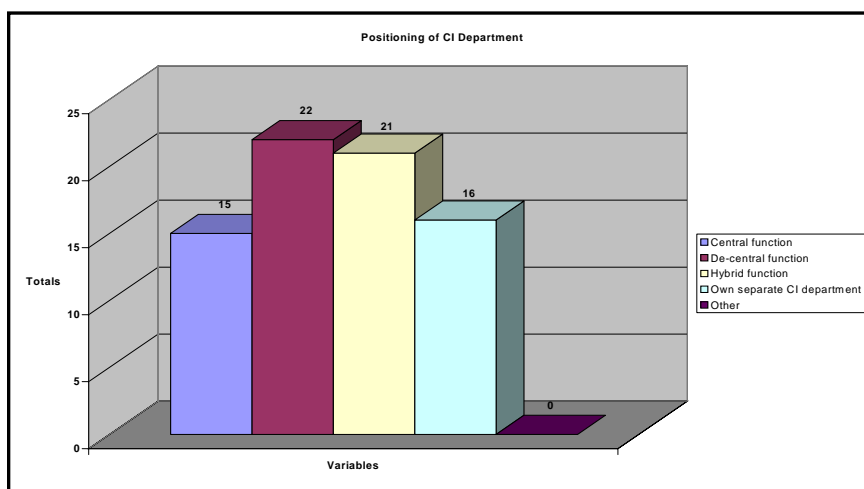
Figure 5-17:   Positioning of CI department

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Considering the responses of the respondents, having this function decentralised within the different departments/units and centrally coordinated could be considered. The lesser preferred option (see Figure 5-17 above) was that of the CI department operating within each of the individual departments/units headed by an individual CI manager/specialist. This option scored a total of 16.

Which department should the CI Division Manager / function *belong* to?

This question tried to assess to which department within the organisation the CI Division Manager/function should *belong to*. The respondents indicated that they thought it should belong to the "Informatics and Knowledge Management Directorate".
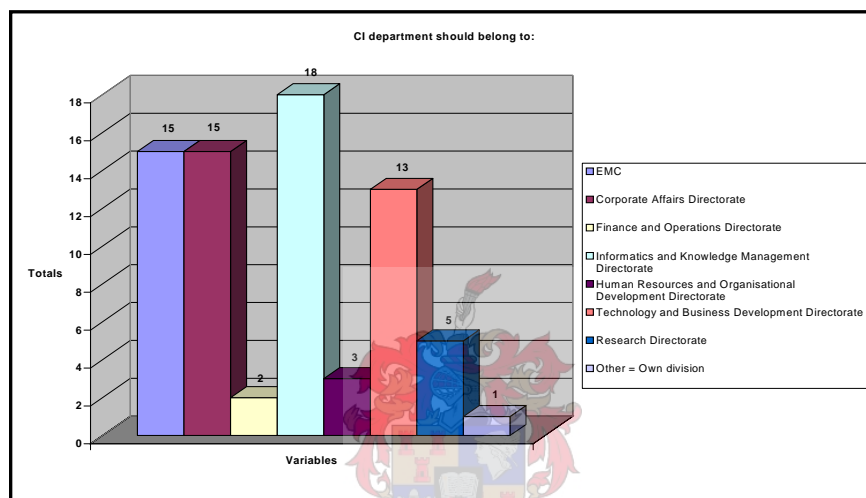
Figure 5-18: Management of the CI department

This option scored a total of 18 on the ranking scale. Both the EMC and Corporate Communications Directorate scored an equal rating of 15 (see Figure 5-18 above). The "Technology and Business Development Directorate" was ranked third on this preference list with a score of 13. Under the option of "other" one of the respondents indicated that the CI-department should be a separate department functioning under the CI-manager/specialist.

Which department should the CI Division Manager / function *report to?*

This question follows on the previous question. Here we tried to assess to which department the CI Division Manager/specialist should *report to*. The majority of the respondents indicated that the "EMC" (18) was the preferred choice. The second highly scored option was that of "Technology and Business Development Directorate", scoring a total of 16 (see Figure 5-19 below) of the ranking scale.

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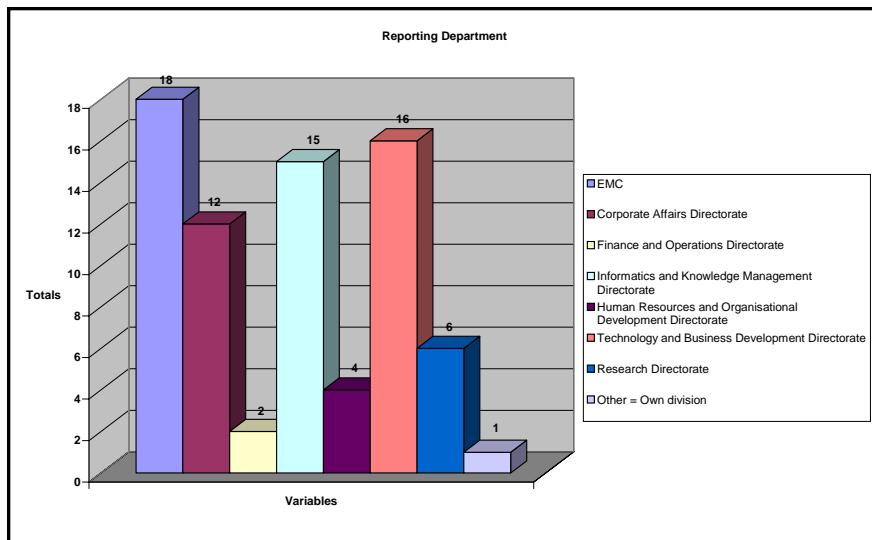
Figure 5-19: Reporting Department

Thirdly the respondents felt that the manager/specialist ought to report to the 'Informatics and Knowledge Management Directorate' (15). There is not a big difference between the second and the third option. One of the respondents indicated that he/she thought that the CI-department should operate independently.

Departmental request for intelligence

In the assessment of which of the departments/units/groups would request the most intelligence, the respondents ranked both the EMC and the Technology and Business Development Directorate first on the list. The respondents gave both these options a total of 17 (see Figure 5-20 below). Second on the list was the Corporate Communications Directorate, (15) responsible for upholding the image of the organisation with the public and for communications with all the relevant stakeholders of the organisation.
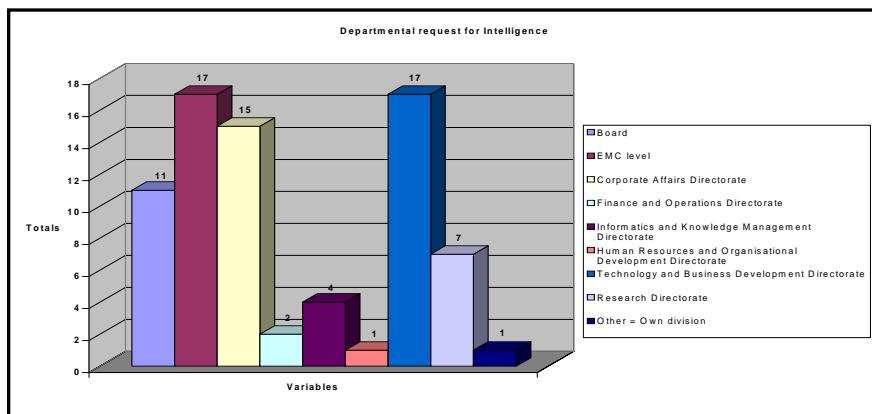
Figure 5-20: Departmental request for intelligence

Thirdly, the "Board" scored a total of 11(see Figure 5-20 above), once again the respondents indicated that the CI department itself would request most of the intelligence. This could be because of interpretation of the question.

Departmental benefit from CI

In relation to the question above, we tried to identify who the respondents thought would benefit the most from the CI functions. The overall feeling was that the "EMC" (18) would benefit mostly from the work that the CI-department would be doing for the organisation. The "Technology and Business Development Directorate" ranked a total of 15 (see Figure 5-21 below) on the ranking scale, and thirdly the "Corporate Communications Directorate" would also benefit from the CI-department's work (13).
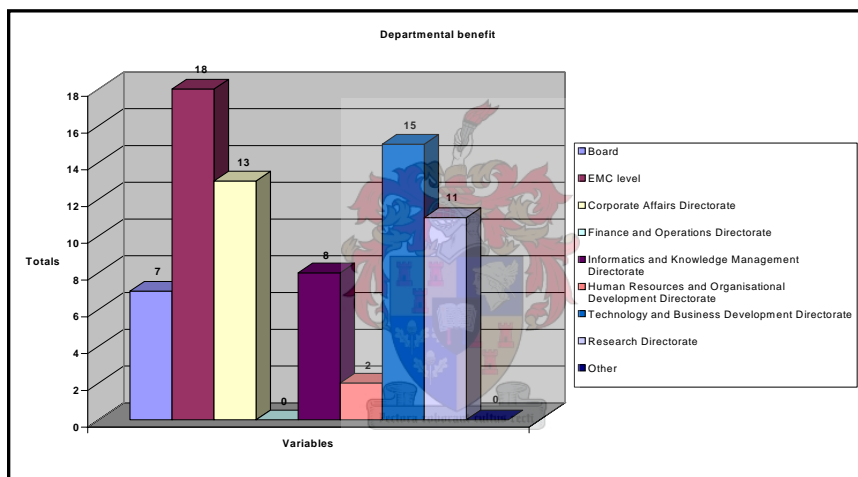
Figure 5-21: Departmental benefit

Method of implementation of CI department

Once it is established that there is a need for competitive intelligence within the organisation, the question arises: which method of implementation will the organisation have to use for implementing the CI department? It was clear that the respondents preferred that it should be a planned, in-house project, scoring a total of 24 (see Figure 5-22 below) on the ranking scale. The second option was that of a planned, external project where the organisation would appoint an expert consulting firm to conduct the establishment of this department (12). "Trial and error as an in-house project" and "Trial and error as an external project" options scored both a total of 7. From the findings it can be concluded that the implementation project should consist of the following elements: it should be planned and there should be a period of "trail-and-error" (to see if any amendments ought to be made to the process before the final implementation phase). Whether it is

in-house project or an external project does not seem to make a major difference, although the majority of respondents indicated that it should be an in-house project.
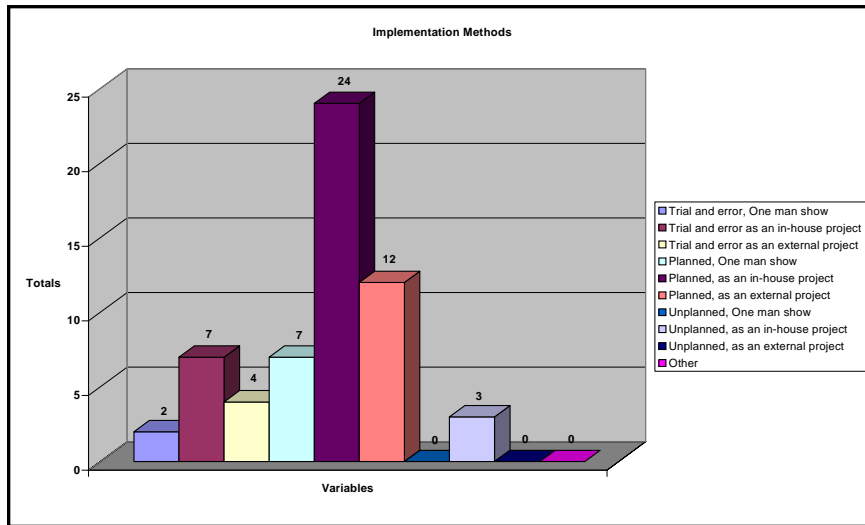
Figure 5-22: Implementation methods

3. SECTION THREE: COMPETITION IN THE MEDICAL RESEARCH INDUSTRY

This section of questions tried to establish how the respondents perceived the competition within the medical research industry and how the organisation relates to this, internationally and nationally. The respondents had to indicate their opinions by using a five-point rating scale.

Competition in the medical research industry

- *Intensity of competition in South Africa*

When assessing the intensity of the competition within the South African industry, 35.7% of respondents indicated it as "high", 28.6% (see Figure 5-23 below) stated that the competition was "medium" between the competitors within this research industry, 21.4% indicated that the competition with rival organisations was "very high" and only 14.3% (two respondents) felt it was "low".
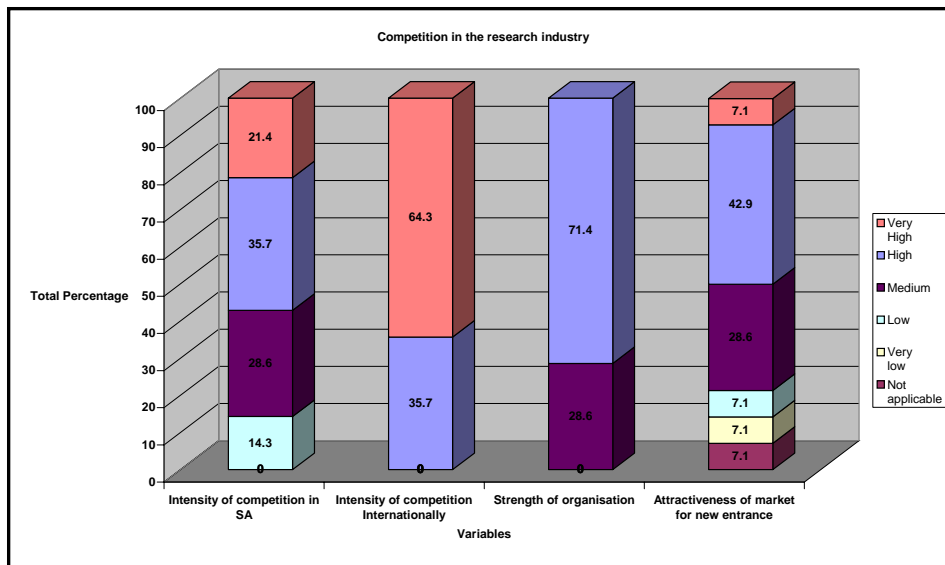
Figure 5-23: Competition in the research industry

- *Intensity of international competition*

The majority of the respondents, 64.3%, stated that competition within the international medical research industry was "very high". We could conclude that it might be for funding for the different research projects undertaken by the MRC South Africa or even collaboration with overseas countries. Of the respondents, 35.7% (see Figure5-23 above) thought the competition to be "high". Competition with international rivals is a concern that needs attention to ensure that the right decisions are made to enable the South African MRC to maintain its competitive advantage.

- *Strength of the organisation*

In the assessment of the organisational strength it was evident that it was rated as being "high" (indicated by 71.4% of respondents). Only 28.6% (four respondents) felt the organisational strength was "medium". The MRC is definitely a strong competitor nationally and internationally (see Figure 5-23 above).

- *Attractiveness of the market for new entrance*

The medical research industry is highly attractive for new entrance, as indicated by the majority of the respondents. Approximately 42.9% (see Figure 5-23 above) indicated that the industry is "highly attractive", while 28.6% rated the industry as being "moderately attractive". This can be translated as a risk pertaining to new companies competing with the MRC for funding and projects concerning health issues. The research industry comprises existing and potential threats for the

companies already in the medical research field. This means that organisations will have to find techniques to stay ahead of the competition.

4. SECTION FOUR: CI PROCESSES AND FUNCTIONS

This section focused on assessing what the respondents felt was important elements of the CI processes and functions. The respondents had to indicate their thoughts on the area by ranking their preference using a five-point rating scale, five being the highest. Here the five options that scored the highest are highlighted. Each question were totaled per option and then multiplied by the rank/scale to obtain a final total per option.

Advisability of a CI-function

Certain elements should be present for the successful implementation of a CI-department. The respondents agreed that there should be a defined framework/process in place, with 39 (see Figure 5-24 below) of the respondents saying that a defined framework as departure point for the CI-department was highly important. Receiving feedback from the CI-users was rated second most important by the respondents, scoring it a 30 on the ranking scale.
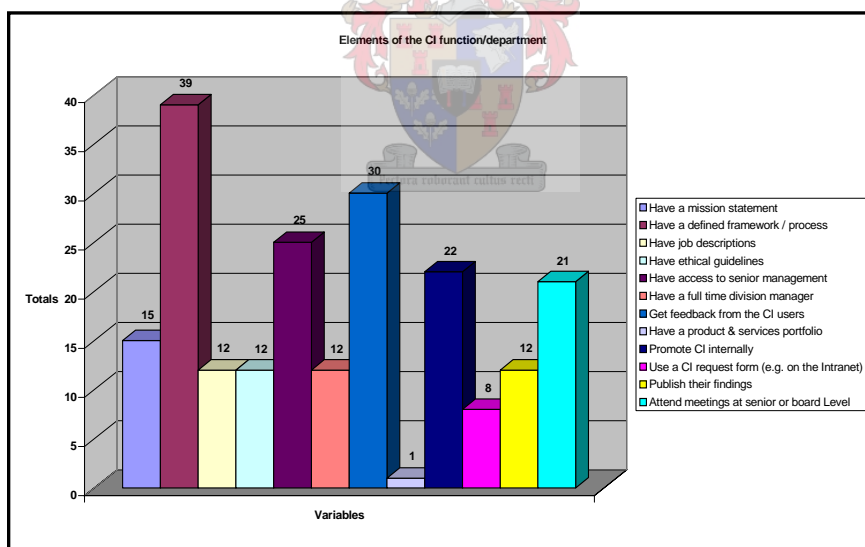
Figure 5-24: Elements of the CI function/department

From this feedback the department could alter its functioning and/or process to best suit the organisation. The respondents also indicated that the CI-department should have access to senior management – they rated this at 25 (see Figure 5-24 above). Senior management is responsible for the managerial decisions that are made within the organisation.

Promoting CI internally within the organisation is also one of the main priorities of the CI-department (ranked at 22). Having the buy-in and support of the organisation and its employees will

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help with the successful and timely execution of tasks. The respondents stated that it is also important that the CI-manager/specialist attends meetings at senior or board level, this option carried a weighting of 21.

Skills required by the CI person

Here it was important to establish what the respondents thought would be the skills required by the CI-manager/specialist to fulfill his/her duties adequately. The most highly rated option was that of having "analytical" skills, it scored a total of 47 (see Figure 5-25 below), "strategic thinking" (43) was second most important for the respondents. A total of 30 were scored for the CI-manager/specialist to have specific knowledge of the medical research industry. Research (25) is also important for the respondents. The CI-manager/specialist should be able to conduct independent research on relevant issues at hand. Last on the list of priorities was creativity – respondents thought that the CI-manager/specialist should be able to think "outside the box". This received a rating of 19.
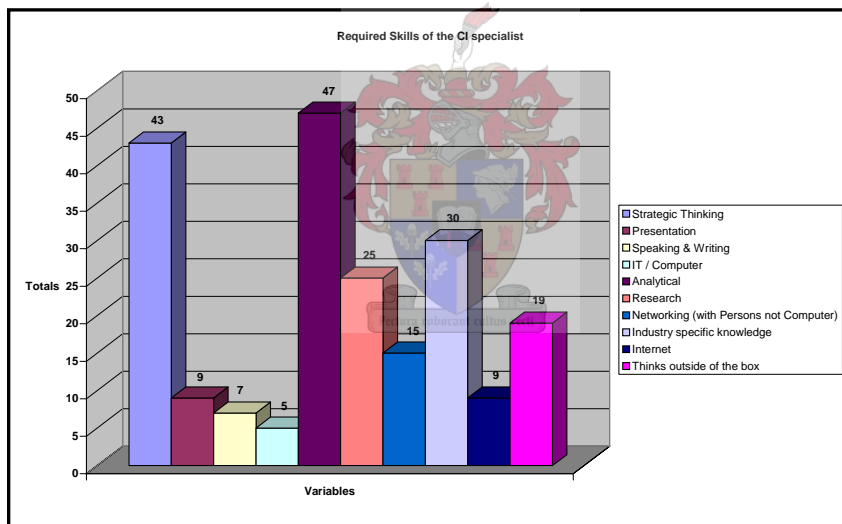
Figure 5-25: Required skills of the CI Specialist

Importance of CI for the MRC

We tried to assess why, according to the respondents, CI would be important for the MRC. The respondents indicated that it was important for the organisation to understand the competition and to analyse it. They scored this option a total of 59 (see Figure 5-26 below), which placed this first on the priority list. To monitor the external environment of the organisation was second most important for them (43).
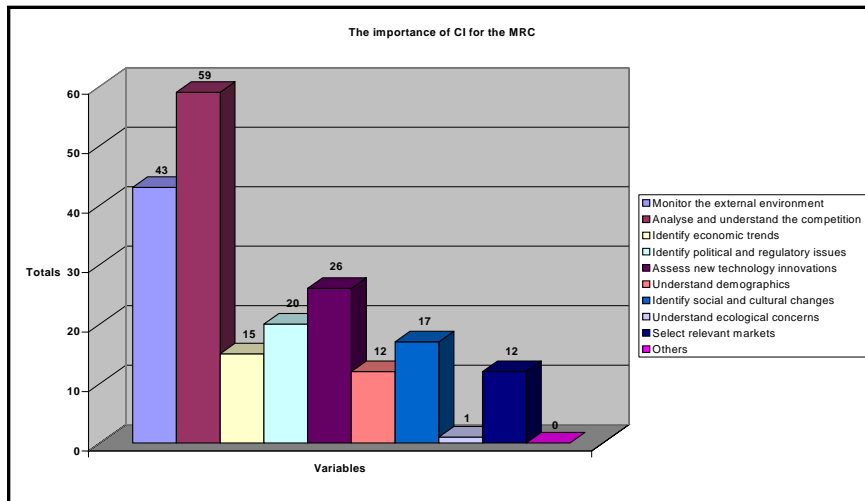
Figure 5-26: The importance of CI for the MRC

The respondents also thought that the assessment of new technological innovations would serve a purpose of the organisation, they ranked this third on the list of importance and scored it at 26 (see Figure 5-26 above). This would especially be relevant for the researchers, who form the foundation of the organisation and the reason for the organisation`s existence. Since the organisation receives funding from the South African government for research to be conducted in the different spheres, the respondents deemed it important to be able to identify the political and regulatory issues (20). The organisation is affected by the decisions the government makes. It is important to identify the social and cultural changes (17), since these changes would affect the type of research being conducted by the MRC and/or their competitors.
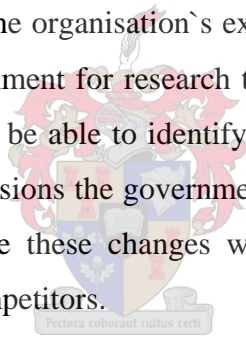
The importance of a CI-department

Through its conducting of CI, the CI-department will assist the MRC with the strategic planning of the organisation. The respondents indicated that this was one of the main areas of importance for them, by rating it at 54 (see Figure 5-27 below). The respondents also indicated that determining the organisation`s market positioning was the second priority and they scored this at a total of 21. "Assisting with the decision-making" and "direction of research/technological development" were also important for the organisation; both these options received a score of 19. It was relevant for the organisation to have sufficient knowledge of mergers/business collaborations within the medical research industry; this option was ranked fourth on the list of priorities. Last, "tactical planning" scored a high of 14.
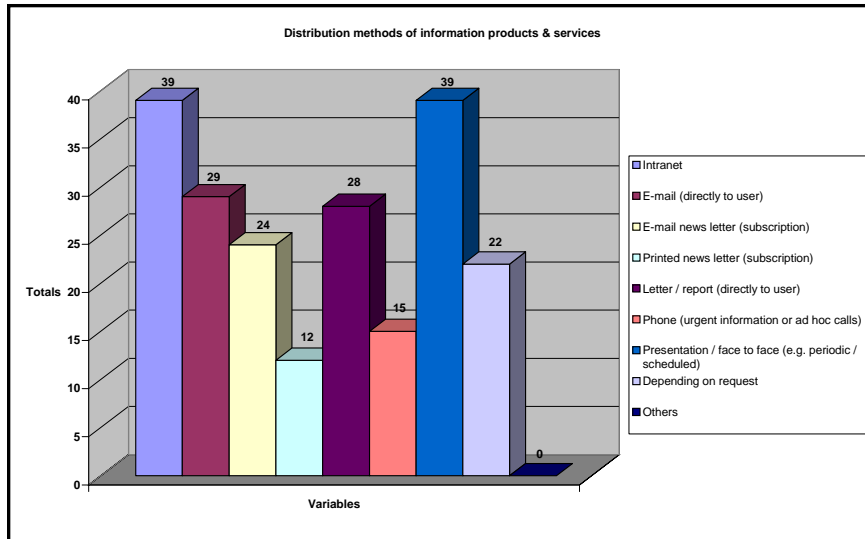
Figure 5-27: The importance of a CI department

Methods of distribution of services and products

This question tried to establish which method would be used to distribute the competitive intelligence products and services. The highly preferred methods were that of the "Intranet" and "face-to-face presentations" on an intermittent or scheduled basis (see Figure 5-28 below).
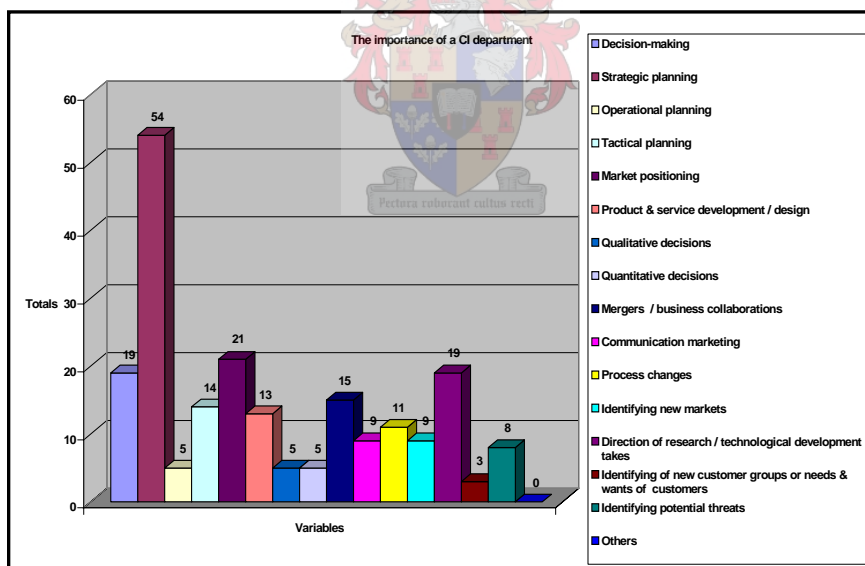
Figure 5-28: Distribution methods of information products and services

These two methods scored a total of 39 each (see Figure 5-28 above). Second, with a score of 29, was sending out informative e-mails directly to different users. Sending out letters or reports to the users was also another preference, it received a total of 28 on the ranking scale.

Another possible option was that of sending e-mails containing newsletters to the subscribers – this option received a score of 24. The least preferred method, scoring a total of 22, was responding to the requests by the users.

Sources for CI-function

This questioned tried to assess which information source would be important to the CI-manager/specialist. The majority of the respondents agreed and stated that "stakeholders would be their most important resource, scoring this a total of 40 (see Figure 5-29 below). "Analysing the product of competitors" was also deemed as important. The respondents ranked this second on the priority list, with a score of 31. "Conducting market research" would also provide the organisation with sufficient information on the potential threats and/or opportunities that might face the organisation, with a score of 27. Another source of information would be "industry periodicals" and this scored a total of 26 (see Figure 5-29 below). The last option on the ranking scale was that of the "Internet", it only scored a total of 17.
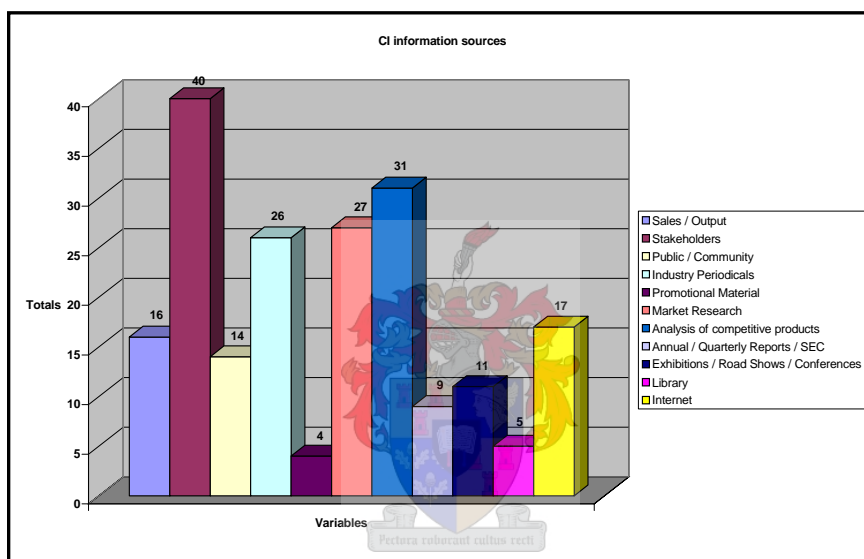
Figure 5-29: CI information sources

Effective identification of threats/opportunities

This question dealt with the assessment of potential threats/opportunities to the organisation that should be effectively identified by the CI-department. Firstly, it was important to "identify the industry competitors". Respondents ranked this at 44 (see Figure 5-30 below).
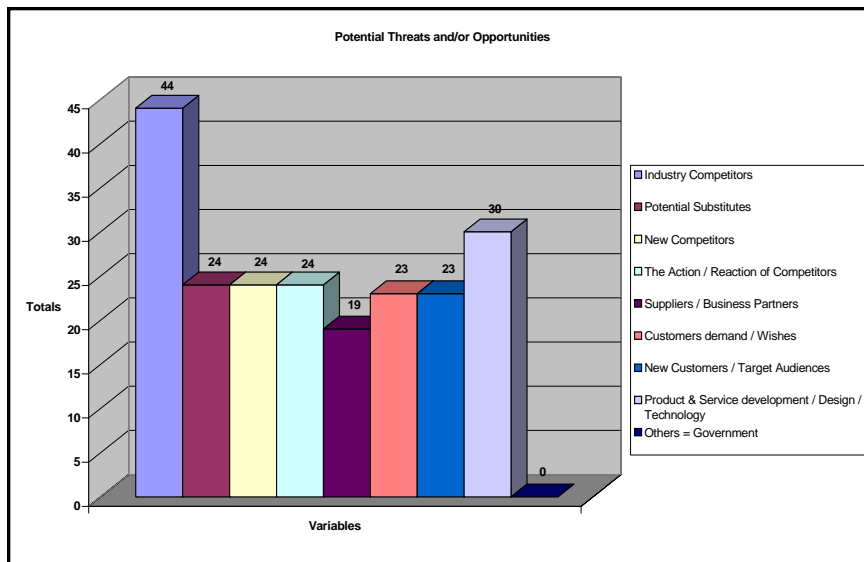
Figure 5-30: Potential threats and/or opportunities

Secondly, "product and service development/design/technology" was identified as being important by the respondents, they gave this option a rating of 30. The third most important factor for the respondents was to identify potential substitutes for products and/or services, to identify new competitors of the industry and to focus on the action/reaction of these competitors. These options all received an equal rating of 24 (see Figure 5-30 above). Also significant for the respondents, were both that of establishing the demands/wishes of the customers and to identify new customers/target audiences. By identifying the organisation's suppliers or business partners (scored 19), the organisation would also be equipped to face those threats or opportunities. One of the respondents indicated that, since we are depending on the government for funding and the decision of the type of research to be focused on, that information on the government is also important.

Important CI services/products

When asked which CI services/products would be deemed important to the CI department's functions, the respondents listed that "competitor information" was highly important, scoring it at 48 (see Figure 5-31 below). They also indicated that "research and development" or "technology forecasting, profiling and Analysis" was as important, they scored this option at 34. "Success factor analysis" and "market research/analysis" were equally significant, each of these options receiving 27, placing those third on the priority list. "Conducting a SWOT analysis" was fourth on the list at 26. This type of analysis would highlight the strengths, weaknesses, opportunities and threats of the organisation or issues under review. Lastly, they also deemed "benchmarking" as being important, ranking it at 17.
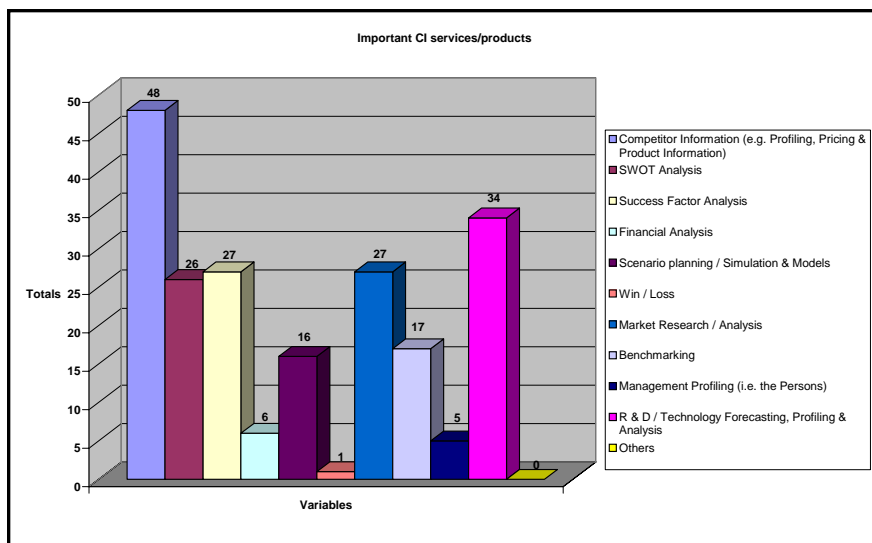
Figure 5-31: Important CI services/products

Important CI services/products provided/used

With this question it was assessed which of the important products/services the CI-department would provide or use. Top on the list of priorities was that of a "monthly or quarterly CI-report", receiving a total of 39 (see Figure 5-32 below). The respondents also felt that "providing an in-depth analysis" and a "forum to exchange relevant information on CI" was equally important – both scoring a total of 33. Third on the priority list was to "send out CI-alerts" to the clients and to support other departments/projects within the organisation, in the quest to strive for sustainability within the medical research industry. Both of these options scored a total of 29.

"Conducting *ad hoc* CI research", based on the needs of the client/user, received a total of 22. Last on this list was "conducting Counter intelligence"; it merely received a rating of 13.
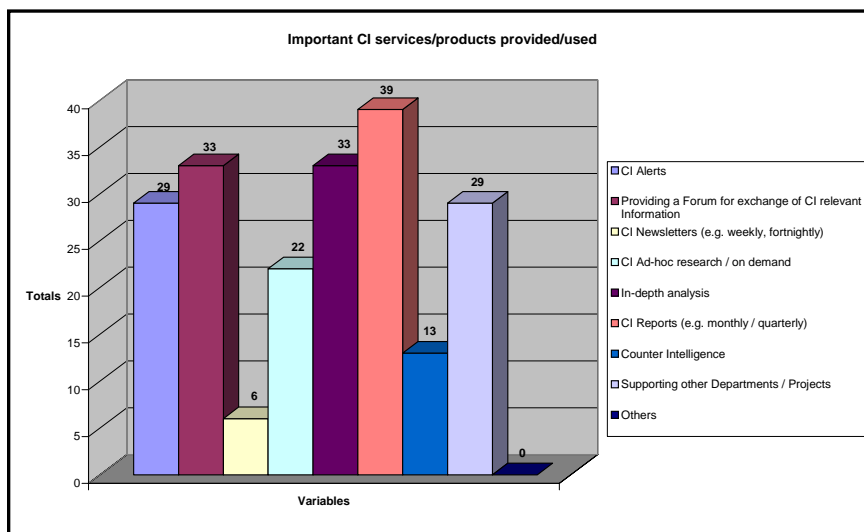
Figure 5-32: Important CI services/products provided

Methods of measuring the CI department

Last, yet also important, was the respondents' thoughts on the measurement of the CI-department`s output. The majority of the respondents stated that it should be done by "market share increase", it scored a total of 26 (see Figure 5-33 below).
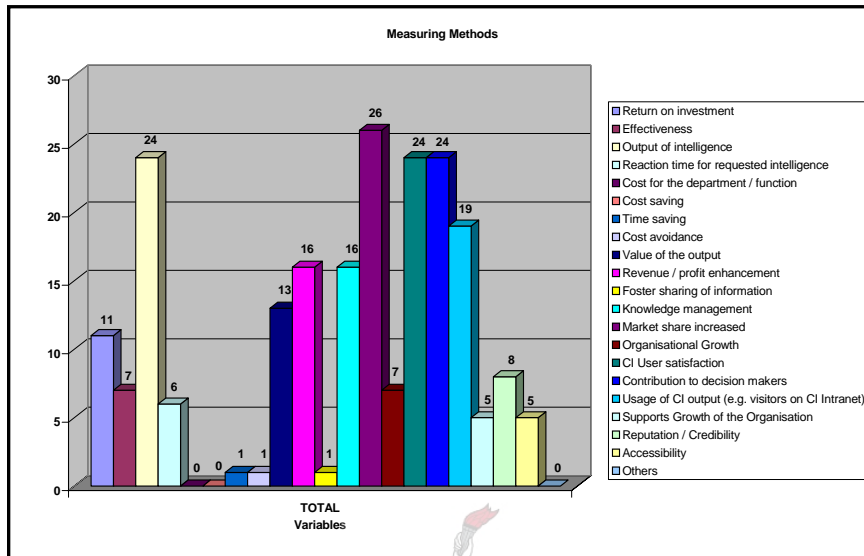
Figure 5-33: Measuring methods

The second priority was shared by three equally important measuring methods, namely the "output of intelligence", "CI-user satisfaction" and "contribution to decision- makers" – all scoring totals of 24 (see Figure 5-33 above). Third on the list of priorities was the "usage of CI output", in other words the number of visitors on the CI-Intranet, with a total of 19. "How knowledge is managed" and "revenue/profit enhancement" scored a total of 16. Less important was "value of the output". A rating of 13 was assigned to this option by the respondents.

In the next chapter we will apply some of the theory to the MRC and its business environment, using the findings from the empirical data analysis.

CHAPTER 6
FINDINGS AND RECOMMENDATIONS

1.   INTRODUCTION

The establishment of a CI-Unit/Department will enable the organisation to be aware of early signs of any threats and potential opportunities within the industry. In this chapter we will look at the findings of the study, as well as the recommendations that can be made to the organisation regarding how to implement a CI-Unit/Department, the necessary skills required to perform the relevant tasks, the organisation's macro-environment, the application of a stakeholder analysis and how these factors would benefit the organisation.

2.   IMPLEMENTATION OF CI-UNIT/DEPARTMENT

In the survey conducted with the employees of the Medical Research Council, 93% of the respondents indicated that the CI-unit/department should be implemented by using a clear framework. When they were asked which method of implementation the organisation should use, the respondents indicated that they preferred it should be a "planned in-house project". This scored 24 on the ranking scale. The majority of the respondents also indicated that the CI-unit/department should be decentralised (see table below), which means that a CI-unit/department should be located within the different departments/units of the MRC.

Positioning of CI department / function

Weighted score	Totals
De-central function	22
Hybrid function	21
Own separate CI department	16
Central function	15

Table 6-1

The respondents also preferred having the "hybrid function", giving this option a ranking of 21 (see table above). My suggestion to the organisation would be the implementation of the hybrid system, so that there is central coordination with decentralised CI-units. The centralised unit can be tied to the Executive Management Committee (EMC) and the Board, who would be responsible for the overall strategy of the organisation. The decentralised units, on the other hand, will be assisting the achievement of the tactical initiatives of the organisation located with the individual departments/units of the organisation in striving to achieve the overall strategy. It is highly

important that the CI-Unit/Department receives complete support from the top management, hence the suggestion that the centralised unit of the hybrid system should be closely located with the EMC and Board. The CI-process works more effectively when it is demand driven and focused on the needs of the management.

To which department should the CI Division Manager / function report

Weighted score	Totals
EMC	18
Technology and Business Development Directorate	16
Informatics and Knowledge Management Directorate	15
Corporate Affairs Directorate	12
Research Directorate	6
Human Resources and Organisational Development Directorate	4
Finance and Operations Directorate	2
Other = Own division	1

Table 6-2

The results of the study (see table above) confirmed that the respondents felt were in agreement about the above suggestion. They indicated that the CI-Unit/department should be reporting to EMC. The option ranked after the EMC are all the operational departments and in the table they are listed according to respondents' preference. Combined with the findings above the respondents also indicated that the EMC (see table below) would be the group requesting the most intelligence from the CI-Unit/Department.

Departmental request for intelligence

Weighted score	Totals
EMC level	17
Technology and Business Development Directorate	17
Corporate Affairs Directorate	15
Board	11
Research Directorate	7
Informatics and Knowledge Management Directorate	4
Finance and Operations Directorate	2
Human Resources and Organisational Development Directorate	1
Other: CI-Unit/Department	1

Table 6-3

3. COMPETITIVE INTELLIGENCE AND SKILL REQUIREMENTS

Certain skills are required of the CI-analyst in order to perform the required tasks of the CI-process. The respondents indicated that the CI-analyst should be a highly qualified person. They would prefer the person to hold an honour's degree (see table below) within this field.

Combined with the professional training and education, personal inherent traits are needed. The person needs to be able to persevere, have good communication skills, to be analytical, learn independently and think "out of the box".

The preferred educational background of CI Analyst

Weighted score	Totals
Honour`s Degree	32
Master's Degree	23
Bachelor's Degree	21
Doctoral Degree	3

Table 6-4

The CI-analyst also needs to be computer literate. Many of the information resources are located on the World Wide Web (the respondents gave this option a score of 9) and can be obtained by legal and ethical means.   Examples of online information sources are annual reports, organisational websites, periodicals and databases. This also means that the CI-analyst will need searching skills when conducting the research to be able to retrieve the relevant information within a short timespan. The respondents ranked the "Research –skill" fourth on the priority list, scoring it at 25.

Skills requirement for CI-Analyst

Weighted score	TOTAL
Analytical	47
Strategic Thinking	43
Industry specific knowledge	30
Research	25
Thinks outside of the box	19
Networking (via Computer)	15
Internet	9
Presentation	9
Speaking & Writing	7
IT / Computer	5

Table 6-5

From the table above it is evident that the respondents put high priority on the analytical skills, scoring it at a total of 47. The CI-analyst needs to weigh the relevance of the information, determine whether there was some kind of clear pattern and then be able to convert the information into intelligence. The intelligence needs to be presented to managers to ensure that effective strategic decisions were made. The CI-analyst will also require knowledge of the industry the organisation is operating in, to ensure that the person will understand the requests/needs of management so that the correct information is delivered for decision-making. Networking (score of 15) is also very important for the CI-analyst. Through networking information can be obtained from people within the organisation and from external sources. By attending trade shows and conferences these networks can be established. It is also advisable that the CI-analyst has a list of people within the organisation that illustrates which individuals have knowledge of which fields, so when the need arises for certain information the CI-analyst would not waste valuable time. Presentation, speaking and writing skills go hand-in-hand when the reports are presented to the managers. The CI-analyst needs to be able to present the reports in different formats. Reports could

either be printed or electronic documents, containing just text or graphics and text with graphics. Managers might even prefer to only receive an executive summary report.

4. COMPETITIVE INTELLIGENCE AND THE ENVIRONMENT

The respondents (50%) indicated that the MRC's competitive position within the medical research industry was strong (see figure 5-8). To maintain this position the organisation would need to take certain steps to stay ahead of the competing organisations. Informed decision-making and strategic planning is required. It is important that the organisation knows what has happened and what will happen within their surrounding environments. To deliver an effective competitive strategy, a balance between the organisation's internal- and external environment is required. One should start by understanding the industry in which the organisation is competing. Subsequently, it is also important to understand the organisation and the role it plays within the industry. The monitoring of the external environment should be done on a continuous basis.

Internationally, the competition is very high (64.3%) – the MRC constantly needs to deliver and stay ahead of the competition. The respondents also indicated that the strength of the MRC to compete is high (71.4%) but it is also evident that the market is highly attractive for new entrants (42.9%) within the industry. To ensure sustained compatibility the MRC will have to implement methods to monitor the surrounding environments in which it operates. According to the respondents this particular industry is still growing, which means there are plenty of potential opportunities as well as threats the MRC should be considering.

By dividing the environment into the three distinct levels (as illustrated by many authors e.g. Fleisher & Bensoussan) the organisation is able to conduct a successful CI-process. The three levels are: the general environment, the operating environment, and the internal environment. Within each of these environments different factors impact on the business environment. It is crucial to understand the role of each factor, the relationship between the factors and the overall affect it has on the performance of the organisation.

Factors within the internal environment are production, marketing, finance, accounting and human resources. Within the MRC we would look at the Corporate Affairs, Informatics and Knowledge Management, Finance and Operations, Human Resources and the Technology Transfer and Business Development as well as the Research components. This includes all the internal forces inside the organisation. In the operating environment the components would include the following: customers, suppliers, competitors, partners and global/international issues surrounding these stakeholder groups. The general environment is the macro-environment. This environment is broad in scope and has long-term implications for the managers, the organisations and strategies

implemented by the organisation. Here we would focus on the following: social, technological, economical, ecological and political factors.

The results of the survey indicate that analysing and understanding (score of 59) the competition is first priority (see table below). Respondents also feel strongly about the monitoring of the external environment, which would include the STEEP-factors of the macro-environment mentioned above. The political and regulatory issues (ranked fourth on the list) will influence how the MRC operates and how strategic decisions are taken by the organisation. The organisation receives baseline funding from the South African government and the government also decides on which health issues the organisation should be focusing on.

Importance of CI for MRC

Weighted score	TOTAL
Analyse and understand the competition	59
Monitor the external environment	43
Assess new technology innovations	26
Identify political and regulatory issues	20
Identify social and cultural changes	17
Identify economic trends	15
Understand demographics	12
Select relevant markets	12
Understand ecological concerns	1

Table 6-6

Because the organisation conduct its research among the citizens of the country and abroad it is important for them to identify the social and cultural changes within society. Economic trends also affect the health issues that the organisation focuses on. This could be valuable when the organisation makes known its findings and recommendations to the government.

As mentioned before, the industry is a growing one and there are a number of threats and/or opportunities that the MRC should focus on. When monitoring the external environment, the focus should be on changes in trends, monitoring these trends, forecasting future directions and assessing the impact it would have on the MRC as a whole.

Effective identification of threats/opportunities

Weighted score	TOTAL
Industry Competitors	44
Product & Service development / Design / Technology	30
Potential Substitutes	24
New Competitors	24
The Action / Reaction of Competitors	24
Customers demand / Wishes	23
New Customers / Target Audiences	23
Suppliers / Business Partners	19
Others = Government	1

Table 6-7

Factors identified by the respondents in the survey include those listed in the table above. Highly important is the "Industry Competitors"; this would be what the other science councils are delivering to their customers and stakeholders. These competitors would be the other science councils that compete nationally for funding from government, as well as other science councils that compete internationally within the same industry, e.g. the British Medical Research Council. Different methods of environmental scanning can be applied by the organisation to stay ahead of its competition, e.g. irregular, periodic or continuous. According to the data gathered from the survey, the respondents indicated that the EMC would request the most intelligence. Since the central department of the hybrid system would be located within the EMC, I suggest that a continuous scanning system be implemented to be aware of any changes in the surrounding external environment.

An irregular scanning method can be applied by the decentralised CI-departments. It requires fewer resources than a continuous system and will only be used on *an ad* hoc basis when attending to a strategic initiative.

5. COMPETITIVE INTELLIGENCE AND STAKEHOLDER ANALYSIS

By making use of a stakeholder analysis, the MRC will be able to identify their stakeholders scientifically, and determine which of them could exert a significant amount of influence on the organisation and its competitors. This tool will assist executive management to decide:

- which of the stakeholders are important to an organisation and their competitors' activities and operations,
- what the stakeholders' interest were,
- when and how to initiate actions regarding the stakeholders' interests,
- how to allocate the limited organisational resources amongst the crucial stakeholders.

The Table below depicts that the stakeholders of the MRC are highly valued.

The respondents indicated that the stakeholders would be the most valuable source of information for the CI-process. They gave it a rating of 40.

Information source for CI function

Weighted score	TOTAL
Stakeholders	40
Analysis of competitive products	31
Market Research	27
Industry Periodicals	26
Internet	17
Sales / Output	16
Public / Community	14
Exhibitions / Road Shows / Conferences	11
Annual / Quarterly Reports / SEC	9
Library	5
Promotional Material	4

Table 6-8

The MRC can divide their stakeholders into primary and secondary groups. The primary stakeholders are all those strategic partners of the organisation and customers who have a direct stake in the organisation. Some of the generic stakeholders include the government, universities and research institutions, internal stakeholders (employees), the industries and pharmaceutical companies (those who are a source of funding to the organisation), funders/investors and the international community with whom the organisation deals. Secondary stakeholders have a more symbolic stake in the organisation. They are not essential to the survival of the organisation e.g. special interest groups and the media. The stakeholders can affect and/or be affected by the achievement of the organisation`s objectives, therefore it is important to ensure that the MCR measures its current service delivery against the expectations of the stakeholders.

Some of the MRC`s stakeholders were identified and classified according to the categories highlighted by Fleisher and Bensoussan[6] to see if theory applies to this non-profit organisation.

The *government* is the major source of funding for MRC and one of its major customers. Without this monetary resource the organisation would not be as successful and efficient in achieving their goals and objectives. The government can be classified as a generic stakeholder – they act as a supplier and customer who forms part of the organisations value chain. They are the largest capital provider and the organisation needs to consider them when the STEEP analysis of the macro-environment is conducted. The organisation will be affected by the government's decisions and policies.

Universities and research institutions falls in the generic group and can also be categorised as a production stakeholder, because they are classified as a supplier and customer to the MRC. They also constitute as a strategic partner. Because the organisation does collaborative work with this generic group, they can also be considered as external employees and be classified according to the managerial view. The *Universities and Research Institutions*, together with the MRC, generates output for the customers. The group can also be added to the stakeholder view because they fall in the macro-environment of the organisation that can influence or be influenced by the organisation`s actions, decisions, goals, policies, or practices.

The *employees/researchers* were classified under both the managerial view and the stakeholder view because they are responsible for the production of the output for the organisations customers. Although the focus is the researchers, their task will not be successful without the assistance of the support staff. Both the employees and the researchers could be affected by the organisation's actions, decisions, goals, policies, or practices. The internal and external *units and groups* were classified under the managerial view and stakeholder view for the same reasons as the *employees/researchers.*

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[6] See Appendix B: Figure 6-1, Categories and Classification of MRC Stakeholders.

The *Board* of the MRC was classified under the stakeholder view because of the impact it could have on the organisation. It was also classified under the production view, because the Board makes all the strategic decisions that could affect the organisation, their stakeholders and the competitors.

The *private sector* can be classified under the production view, because they they constitute strategic partners as well as customers for the organisation. The organisation buys equipment and services from these private organisations and therefore they form part of the organisation's value chain. This group of stakeholders were also classified under the stakeholder view. They could influence the decisions of the organisation in terms of the macro-environmental analysis and their potential influences on the organisation and vice versa.

The *unions* would fall under the stakeholder view, because they could have an impact on the organisation and their employees. They are one of the factors which should be considered in the STEEP analysis, (although there is no formal union for the internal employees of the organisation itself). Yet this group was classified as a customer and strategic partner, which would constitute them also to be classified under the production view.

The *Southern African Development Community (SADC)* is a group of countries with whom the MRC collaborates on projects. This group of stakeholders is also strategic partners, as well as customers of the organisation. The SADC stakeholders are classified under the production view and the managerial view, because they help to produce output for the customers. They are also grouped under the stakeholder view because for they could be affected by the organisation's strategies.

The same reasons can be applied to the *industries and pharmaceutical companies'* stakeholder group. This group could be classified under all three stakeholder views. It can be beneficial to establish contacts with this group of organisations, to stay abreast of changes within the group and to keep them informed of developments within the MRC. It should be noted that, instead of helping with the production of output, this group of stakeholders provide funding to the organisation.

The *grant holders, funders/investors, research scientists, and international community* would be classified under all three stakeholder views. These four stakeholder groups form part of the organisation`s value chain. The funders/investors and the international community provide funding to the organisation, while the research scientists form strategic partners and are customers of the organisation. Once again all four groups can impact on or are impacted by the organisation's actions, decisions, goals, policies, or practices.

The *community* (schools, churches, NGOs, traditional healers, women's groups, etc.) can be classified under the production view (because they are the major customers of the organisation), as well as the stakeholder view. It is important that the MRC is marketed within communities,

especially among the youth (prospective young scientists) to ensure public support for research and science.

6.   CONCLUSION

The overall benefit of implementing a CI-strategy is to be able to sustain and maintain the competitive advantage over the organisation's competitors. With the CI-process the MRC will be able to make sense of the information contained within the knowledge resources of the organisation (internally and externally). By acquiring, analysing, interpreting and directing the information/knowledge to the managers (EMC and Board) the MRC will make informed strategic decisions on how to build a healthy nation through research. CI helps an organisation to focus on the issues at hand and facilitates efficient and effective problem solving in a timely manner. It is important to realise that the CI-strategy is a needs-driven process.

The bulk of the information needed for the CI-process is located within the organisation itself. Therefore the process is more successful when it has company-wide support (starting with senior management) and has the employees contributing to the process. A cultural change is required at the MRC. An information- sharing culture needs to be created. However, the organisation deal with sensitive information and it is sometimes difficult to share information, especially within a highly competitive environment such as research. But by informing employees about what information is required, as well as the purpose of sharing this information, they might be more willing to participate in the sharing of information. There should also be mechanisms in place to support the gathering and sharing of information. Management must be more willing to have the employees give their input and the organisation needs to be more responsive to the changes taking place in the macro-environment. By implementing a CI–strategy, the organisation will ensure that the marketing strategies are driven by knowledge.

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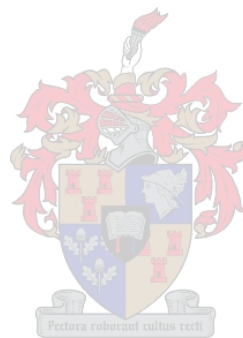
Appendix A
QUESTIONNAIRE ON COMPETITIVE INTELLIGENCE AT THE MEDICAL RESEARCH COUNCIL

Section 1: **Background information**

1. **Please indicate your highest degree of education**

	Less than high school diploma
	High school diploma
	Diploma
	Bachelor's Degree
	Honour's Degree
	Master's Degree
	Doctoral Degree

2. **At which _level(s)_ in the organisation do you function?**

	Executive Director
	Division Manager / Group / Unit Director
	Employee
	Part-time employee
	Consultant
	Other

3. **To which level in the organisation do you report to?**

	Board
	Executive Director
	Division Manager / Group / Unit Director
	Employee
	Part-time employee
	Consultant
	Other

4. **Indicate the type of organisational structure within your organisation**

	Structural
	Functional
	Divisional
	Matrix
	Project-based
	Flat
	Others

5. Does your organisation deal with Total Quality Management issues?

	Yes
	No
	Don't know

6. Does your organisation deal with Knowledge Management issues?

	Yes
	No
	Don't know

7. Does your organisation run a Document Management or Content Management / Archive / Workflow system?

	Yes
	No
	Don't know

8. Does your organisation have an Internet website?

	Yes
	No
	Don't know

9. Does your organisation have an Intranet?

	Yes
	No
	Don't know

10. Does your organisation have an Extranet?

	Yes
	No
	Don't know

11. How would you rate the way your organisation copes with rapid changes in the traditional business areas (e.g. Sales and Marketing, Research and Development, etc.)?

	Above average
	Average
	Below Average

12. How would you describe the maturity of the medical research industry?

	Embryonic
	Growing
	Mature
	Ageing

13. What is your organisation`s competitive position within the medical research industry / market?

	Dominant
	Strong
	Favourable
	Reasonable
	Weak

14. Do you think it would be an advantage to implement a CI function by having a CI-framework?

	Yes
	No
	Don't know

15. How important is external (re)sources to your organisation`s market research?

	Yes, extensively
	Yes, a little
	No
	Don't know
	No comment

16. What should the job description of the CI-function be?

	CI Division Manager / Executive Director
	CI Analyst
	CI Information Collector / Specialist
	CI Consultant
	Others

Section 2: CI-Analyses

Please rank the first top 3 options according to importance for the following questions numbered 17 – 27, by numbering your preference from 1 – 3 (three being less important).

17. According to you, what would the preferred educational background / degree for a CI person be?

	Less than high school diploma
	High school diploma
	Associate Degree
	Bachelor's Degree
	Honour's Degree
	Master's Degree
	Doctoral Degree

18. Who do you think should initiate your CI department / function?

	Board level
	President level
	Executive Director level
	Division Manager / Group or Unit Director level
	Employee
	Part-time employee
	Consultant
	Others

19. Which department should the CI function / group budget come from?

	EMC
	Corporate Affairs Directorate
	Finance and Operations Directorate
	Informatics and Knowledge Management Directorate
	Human Resources and Organisational Development Directorate
	Technology and Business Development Directorate
	Research Directorate
	Other

20. Which rank should the CI project sponsor have?

	Board level
	President level
	Executive Director level
	Division Manager / Group or Unit Director level
	Employee
	Part-time employee
	Consultant
	Others

21. Which level (rank) should the CI Division Manager / function _report to_?

	EMC level
	Board level
	President level
	Executive Director level
	Division Manager / Group or Unit Director level
	Employee
	Part-time employee
	Consultant
	Others

22. Where would you position the CI department / function within your organisation?

	Central function (i.e. attached to the board)
	De-central function (i.e. located in a department or business unit)
	Hybrid function (i.e. central co-ordination with de-central CI units)
	Own separate CI department
	Other

23. Which department should the CI Division Manager / function _belong to_?

	EMC
	Corporate Affairs Directorate
	Finance and Operations Directorate
	Informatics and Knowledge Management Directorate
	Human Resources and Organisational Development Directorate
	Technology and Business Development Directorate
	Research Directorate
	Other

24. Which department should the CI Division Manager / function _report to_?

	EMC
	Corporate Affairs Directorate
	Finance and Operations Directorate
	Informatics and Knowledge Management Directorate
	Human Resources and Organisational Development Directorate
	Technology and Business Development Directorate
	Research Directorate
	Other

25. According to you, which department(s) would request the most intelligence?

	Board
	EMC level
	Corporate Affairs Directorate
	Finance and Operations Directorate
	Informatics and Knowledge Management Directorate
	Human Resources and Organisational Development Directorate
	Technology and Business Development Directorate
	Research Directorate
	Other

26. Which department(s) would benefit the most from the CI-function?

	Board
	EMC level
	Corporate Affairs Directorate
	Finance and Operations Directorate
	Informatics and Knowledge Management Directorate
	Human Resources and Organisational Development Directorate
	Technology and Business Development Directorate
	Research Directorate
	Other

27. Indicate the method of implementation for a CI department / function

	Trial and error, "one man show"
	Trial and error as an in-house project
	Trial and error as an external project
	Planned, "one man show"
	Planned, as an in-house project
	Planned, as an external project
	Unplanned, "one man show"
	Unplanned, as an in-house project
	Unplanned, as an external project
	Other

SECTION 3: COMPETITION IN THE MEDICAL RESEARCH INDUSTRY

5-point scale – Please indicate your opinion in the blocks below for this section by rating the following four Questions according to the scale provided?

0	1	2	3	4	5
Not applicable	Very low	Low	Medium	High	Very High

28. How would you describe the intensity of competition within your market / industry in South Africa?

29. Describe the intensity of competition in your market / industry internationally.

30. What is the competitive strength of your organisation?

31. How would you rate the attractiveness of your industry / market for possible new entrance into your industry / market?

SECTION 4: CI PROCESSES AND FUNCTIONS

5-point scale – *Indicate for each of the items in the following set of questions (numbered 32 – 41) its importance in your opinion by using the following " scale of importance".*

0	1	2	3	4	5
Not applicable	Not Important	Less Important	Average Importance	Very Important	Highly Important

32. Would it be advisable for the CI function in your organisation to:

	Have a mission statement
	Have a defined framework / process
	Have job descriptions
	Have ethical guidelines
	Have access to senior management
	Have a full time division manager
	Get feedback from the CI users
	Have a product and services portfolio
	Promote CI internally
	Use a CI request form (e.g. on the Intranet)
	Publish their findings
	Attend meetings at senior or board level?

33. According to you, which of the following _skills_ would be most important for a CI-analyst to have?

	Strategic thinking
	Presentation
	Speaking and writing
	IT / Computer
	Analytical
	Research
	Networking (with persons, not computer)
	Industry-specific knowledge
	Internet
	Thinks "outside of the box"

34. How important is CI (for the MRC) to ...

	Monitor the external environment
	Analyse and understand the competition
	Identify economic trends
	Identify political and regulatory issues
	Assess new technology innovations
	Understand demographics
	Identify social and cultural changes
	Understand ecological concerns
	Select relevant markets
	Others?

35. How important will the CI department / function be for ...

	Decision-making
	Strategic planning
	Operational planning
	Tactical planning
	Market positioning
	Product and service development / design
	Qualitative decisions
	Quantitative decisions
	Mergers / business collaborations
	Communication marketing
	Process changes
	Identifying new markets
	Direction of research / technological development takes
	Identifying of new customer groups or needs and wants of customers
	Identifying potential threats (e.g. substitutes, new or old competitors, suppliers, ..)
	Others?

36. Which of these methods would be important for the CI function/department in distributing their services / products?

	Intranet
	E-mail (directly to user)
	E-mail news letter (subscription)
	Printed news letter (subscription)
	Letter / report (directly to user)
	Phone (urgent information or ad hoc calls)
	Presentation / face to face (e.g. periodic / scheduled)
	Depending on request
	Others

37. Which will be important sources for a CI-function?

	Sales / Output
	Stakeholders
	Public / Community
	Industry Periodicals
	Promotional Material
	Market Research
	Analysis of competitive products
	Annual / Quarterly Reports / SEC
	Exhibitions / Road Shows / Conferences
	Library
	Internet

38. Which of these important potential threats / opportunities should be identified effectively by the CI-function?

	Industry Competitors
	Potential Substitutes
	New Competitors
	The Action / Reaction of Competitors
	Suppliers / Business Partners
	Customers demand / Wishes
	New Customers / Target Audiences
	Product & Service development / Design / Technology
	Others

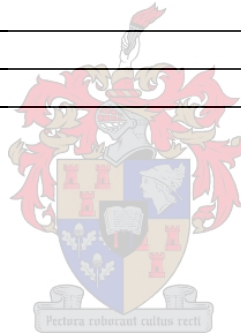**39. What CI services / products would be important to your CI-function?**

	Competitor Information (e.g. Profiling, Pricing & Product Information)
	SWOT Analysis
	Success Factor Analysis
	Financial Analysis
	Scenario planning / Simulation & Models
	Win / Loss
	Market Research / Analysis
	Benchmarking
	Management Profiling (i.e. the Persons)
	R & D / Technology Forecasting, Profiling & Analysis
	Others

40. Which of these important processes/services should your CI-function be using/providing?

	CI Alerts
	Providing a Forum for exchange of CI relevant Information
	CI Newsletters (e.g. weekly, fortnightly)
	CI *ad hoc* research / on demand
	In-depth analysis
	CI Reports (e.g. monthly / quarterly)
	Counter Intelligence
	Supporting other Departments / Projects
	Others

41. Rate the important methods of measurement for the CI-department/function.

	Return on investment
	Effectiveness
	Output of intelligence
	Reaction time for requested intelligence
	Cost for the department / function
	Cost saving
	Time saving
	Cost avoidance
	Value of the output
	Revenue / profit enhancement
	Foster sharing of information
	Knowledge management
	Market share increased
	Organisational growth
	CI user satisfaction
	Contribution to decision makers
	Usage of CI output (e.g. visitors on CI Intranet)
	Supports growth of the organisation
	Reputation/credibility
	Accessibility
	Others

Appendix B

MRC`s corporate structure

Vision & Mission

Corporate Communication and Stakeholder relations Directorate

Informatics and Knowledge Management Directorate

Finance and Operations Directorate

Human Resources and Organisational Development Directorate

Technology & Business Development Directorate

RESEARCH
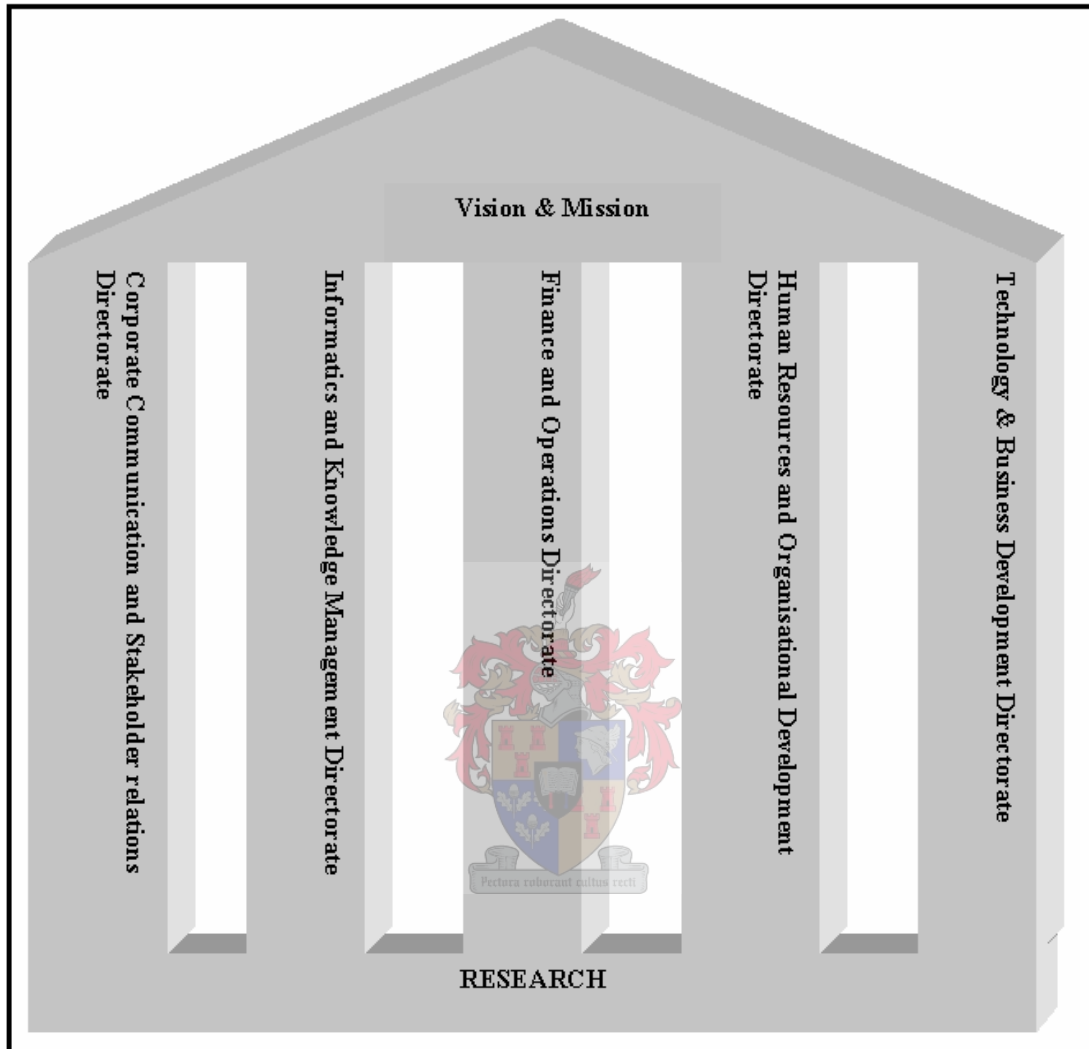
Figure 1-1

STEEP Factors

SOCIAL	TECHNOLOGICAL	ECOLOGICAL	ECONOMIC	POLITAL/LEGAL
Ideological characteristics	Patents held	Air and water quality	GDP growth rates	Policies of political parties
Types of union organization	R & D budgets	Recycling capacity	Exchange reserves	Activism of regulatory agencies
Income gaps among social segments	Number of colleges and universities in region	Sources of power	Rate of inflation	Presence of property protection laws
Percentage of population in economic and social segments	Pace of technological change	Stage of evolution in product life cycle	Income distribution levels and bands	Ability to influence political decision making
Value systems for social classes	Presence of technology clusters	Pollution levels	Interest rates	Voting rates and trends
Cultural background of citizens	Pace of process or product improvements	Substitutability of raw materials	Small business lending levels	Nature of power and decision-making structures
Birth and death rates	Bandwidth capacity	Level of environmental regulation	Balance of payments	Public opinion

Figure 3-1
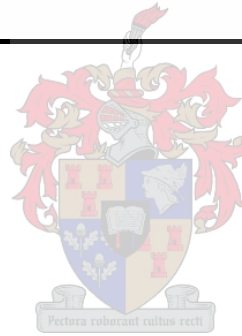
Categorisation and Classification of MRC Stakeholders

MRC Stakeholders	Production Stakeholders	Managerial Stakeholders	Stakeholders View	Primary Stakeholders	Secondary Stakeholders	Core Stakeholders	Strategic Stakeholders	Environmental Stakeholders
National Government	*	*	*	*			*	
Provincial Government	*	*	*	*			*	
Local Government	*	*	*	*			*	
National Department of Health	*	*	*	*			*	
Department of Science and Technology	*	*	*	*		*		
Universities and Research Institutions	*	*	*	*			*	
Employees/Researchers		*	*	*		*		
Internal & External Units and Groups		*	*	*		*		
Board	*		*	*		*		
Private Sector (non-funders)	*		*		*		*	*
Unions	*		*		*			*
SADC	*	*	*		*			
Industries and Pharmaceuticals	*	*	*	*		*		
Grant holders	*	*	*		*		*	
Funders/Investors	*	*	*	*		*		
Community	*	*	*		*			*
Research Scientists	*	*	*		*		*	
International Community		*		*			*	
NGO`s	*		*		*			*

Figure 6-1