COMPETITIVE INTELLIGENCE IN THE SOUTH AFRICAN PHARMACEUTICAL INDUSTRY

by

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DECLARATION

I certify that the dissertation submitted by me for the degree Master's of Philosophy (Information Management) at the University of Johannesburg is my independent work and has not been submitted by me for a degree at another university.

ANNA CLARE FATTI

DEDICATION

Mum, although your genius was never understood nor appreciated and despite the adversity you had to endure; yet you persevered through life with courage. Your sense of humour and humble life has been a lesson to me. As a tribute to your legacy, I dedicate this thesis.

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ABSTRACT

The purpose of this study was to establish what the current situation is within the South African pharmaceutical's industry's competitive intelligence (CI) capacity. For a developing country such as South Africa, its political history and newly acquired democracy clearly make it vulnerable to the competitiveness of globalisation. South Africa faces a massive challenge to implement quality social and economic policies to redress the wrongs of the past. In so doing, it continues to disrupt natural market forces through legislation and policies. It has set a goal of optimal growth by 2018 for the pharmaceutical industry. Despite government's promotion of research and the funding of certain aspects of the industry, to date the strategy seems to have failed. The question can therefore be asked whether a legal and ethical business tool such as CI assist in the industry's defence against competitive markets and whether senior management can make use of CI's capacity to help with strategic planning, thereby enhancing decision-making. The findings of the study confirmed that CI activity takes place in the pharmaceutical industry. The study is mainly descriptive. A questionnaire survey methodology was used. Questionnaires were administered electronically to senior managers in the industry. The majority of the respondents were of the opinion that a culture of information sharing and an environment of collaboration on competitive issues existed in their companies. Furthermore, they endorsed the fact that CI generates profit. Respondents confirmed that CI is used on a continuous basis in strategic decision-making and that company strategies are being used to manage competitors.

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LIST OF ABBREVIATIONS

API: Active Pharmaceutical Ingredients

APSSA: Academy of Pharmaceutical Sciences of South Africa

ARV: Antiretroviral

BBBEE: Broad-based Black Economic Empowerment

BEE: Black Economic Empowerment

BI: Business Intelligence

BRICS: Brazil, Russia, India, China, South Africa

CEO: Chief Executive Officers

CI: Competitive Intelligence

CIA: Competitive Intelligence Association

CPS: Community Pharmacist Section

FRIDGE: Fund for Research into Industrial Development Growth and Equity

GKS: Glaxo, Kline and Smith

HUM-INT: Human Intelligence

JSE: Johannesburg Stock Exchange

KINs: Key Intelligence Needs

KITs: Key Intelligence Tools

KM: Knowledge Management

MCC: Medical Control Council

NCE: New Chemical Entities

NHI: National Health Insurance

HST: Health Systems Trust

OTC: Over the Counter

PIASA: Pharmaceutical Industry Association of South Africa

PPPFA: Preferential Procurement Policy Framework Act

PSSA: Pharmaceutical Society of South Africa

R&D: Research and Development

SAAHIP: South African Association of Hospital and Institutional Pharmacists

SAAPI: South African Association of Pharmacists in Industry

SAAPI: South African Association of Hospital and Institutional Pharmacists in Industry

SAPSF: South African Pharmacy of Standards Federation

SCIP: Strategic and Competitive Intelligence Professionals

SI: Strategic Intelligence

SPSS: Statistical Package for Social Sciences

Statkon: Statistical Consultation Services

SWOT: Strengths, Weaknesses, Opportunities, Threads

UJ: University of Johannesburg

WEF: World Economic Forum

WWW: World Wide Web

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

South Africa has an important developmental role to play, since being recognised by the international community. The current South African government has identified the domestic pharmaceutical industry as an area for growth because it will develop capacity and skills (Strauss, 2008:14). Consequently there is significant consideration of competitive intelligence (CI) as a business tool to be embraced. Research by Du Toit & Strauss (2010:17) examining CI and Africa's competitiveness also reviewed developments in the South African business community's interest in CI.

The question arises why CI should be regarded as important as any other business tool. Furthermore, could CI be a contributing factor to new business models? Globalisation is the new currency that is driving innovation and market changes. Consequently, if South Africa is to compete, it will need to be open to world trade etiquette along with all the rules and regulations that operate in global markets. Blanke (2007) indicates that competitiveness relates to factors such as efficient markets, the ability to harness the benefits of existing technologies and business sophistication. These criteria fall within the gambit of the CI function. Mersha (2000:120) posits that problems posed by "fluctuating financial markets to unstable political conditions create a need for effective CI practices."

An investigation into why CI will benefit the South African pharmaceutical industry is necessary because South Africa is recognised as a global contender for industrialisation. The South African government has new procurement rules ready to boost home-grown production to encourage export rather than importing medicines subject to fluctuating world prices. The revised preferential procurement regulations to drive economic transformation were issued on December 7th, 2011 and this Preferential Procurement Policy Framework Act (PPPFA) confirms the South African government's seriousness and concern in creating jobs for its previously economically disadvantaged people. On the international front the pharmaceutical industry has been undergoing tremendous changes as it responded to turbulent world markets.

All global economies are in a state of flux, constantly evolving to accommodate changes, risks and opportunities as their markets develop or subside (Badr, Madden & Wright, 2006:18). Furthermore Wright, Fleisher and Madden (2008:2) state that because the pharmaceutical industry is a highly dynamic market, it needs to maintain its position by keeping "abreast of all decisions influencing factors, including competitors." Richardson (2008:1) notes that while some pharmaceutical companies have jettisoned their CI activities, others have invested more into developing them. Both actions were influenced by the 2008 global financial breakdown. CI in the last decade has emerged as an ethical and legal business tool from within the field of information management (Begg, 2007:11). Its modus operandi is the gleaning of information on competitors, using the skill of analysis that "can be transcribed into meaningful intelligence" (Badr *et al*., 2006:18). As one moves away from the information economy to the knowledge economy, analysis becomes a critical component of this era. If companies are to survive, given the competitive nature of business and the changing nature of the external environment, they should embrace a business tool such as CI.

The international pharmaceutical industry had been a powerful economic force until 2008, when global financial climates became less favourable and investors sought other asset markets. For example, biotechnology began to attract money from new investors. Badr *et al.* (2006:18), describe the "modern day pharmaceutical industry" as "highly fragmented." The arrival of biotechnology came as a surprise to pharmaceutical organisations and it has resulted in the many mergers and linkages that characterise the industry.

Informed customers frequently prefer non-pharmaceutical companies with healthcare products. These customers make use of their purchasing power and actively make choices that are more cost-effective to their pockets, by accessing the Internet for information before confirming their purchases. At the same time, national health services experience economic constraints and are increasingly demanding cost-effective medicines and healthcare services experience economic constraints and are increasingly demanding cost-effective medicines and healthcare. Henderson (2011:35) states that some of the current pharmaceutical industry problems are due to historical

problems: “The past decade has not been kind to the pharmaceutical industry. While many of its biggest blockbuster stations; anti-depressants and painkillers have drifted out of patents, others have been forced off the market by serious side effects. With health services driving a harder bargain than ever, and the costs of research and development pushing £630 million ($1 billion) for every new drug....”

For the pharmaceutical industry to gain a competitive edge, the discipline of CI seems a worthwhile proposition to justify investments “of huge sums of money in order to remain competitive” (Badr *et al*., 2006:17). There has been a surging interest in pharmaceutical CI as the international pharmaceutical industry reconsiders its once dominating global position. As a consequence, there is seemingly an urgent need and demand for accurate and up-to-date information about the pharmaceutical industry, which has been somewhat guarded about putting CI articles out in the public domain. Wright *et al*. (2008:3) attest that “a small number of conference papers have been presented on the subject of CI in the pharmaceutical industry.” The notion of guarded is suggested because investment in this industry generates fierce competition especially in the light of globalisation and profit.

1.2 DEFINITION OF COMPETITIVE INTELLIGENCE

Definitions of CI vary, but the most consistent aspect of the process is its ethical and legal parameters, which control the different variables it is exposed to when scanning internal and external environments. For the purposes of this dissertation, McGonagle and Vella’s (2002: 36) detailed definition of CI, with reference to the significance of the word public as being broader in concept, is applicable. They state: “In CI ‘public’ is not equivalent to published. Here ‘public’ means all information that can legally and ethically be identified, located, and then accessed.” Moreover, they define CI further as

- The use of public sources to develop data (unprocessed facts) on competition, competitors, and the market environment; and
- The transformation, by analysis, of those data into information (usable results) able to support business decisions.

Evans (2005:6), however, defines CI from a different perspective. He views CI as integrated knowledge, namely CI = C³: collecting data; converting it through analysis into meaningful information and communicating it.

Correia (2003:1) furthermore provides a constructive critical definition by making an important comparison, namely "Unlike business intelligence, which has become a catch-all term that companies like IBM use to describe data mining and activities involving business information, CI involves competitive analysis and examines competitive forces within one's industry."

For the purposes of this study a combination of the above definitions will be used. CI as a business tool has the edge because it is able to operate within ethical and legal parameters, using the tools of analysis and understanding of the competitive environment to convert 'public data' into actionable intelligence, ultimately making strategic decisions more accurate.

1.3 PROBLEM STATEMENT

This study will focus on the South African pharmaceutical industry and conduct research into where CI as a business tool is positioned and valued currently by South African pharmaceutical companies. Badr *et al.* (2006: 15) refer to the successes of some pharmaceutical organisations that have embraced CI, although "not taking full advantage of Competitive Intelligence effort at every stage of the Strategic Decision Making (SDM) process."

The problem that will be investigated in this study is:

What is the current situation with the South African pharmaceutical industry and its CI capacity?

In order to solve this problem, the following sub-problems will be addressed:

- What is CI?
- Why is CI needed?
- What CI research was conducted in South Africa?

- What are the characteristics of the South African pharmaceutical industry?
- How is CI applied in the South African pharmaceutical industry and to what extent is it valued as a business tool?

1.4 RATIONALE FOR RESEARCH

The question of where the South African pharmaceutical industry's use of CI as a business tool is currently positioned, poses a worthwhile investigation for the following reasons:

- Insights would contribute to a generally under-researched body of CI knowledge. Weiss (2011) views CI as an ethical business discipline and criticises the general industry by stating that since the late 1990's only a handful of worthwhile books have been published.
- Companies that embrace CI would spearhead an expectation that all employees could collect and interpret information, thereby adding profoundly to the CI database, guaranteeing a competitive edge and indirectly upgrading its professional status in the industry.
- CI as a discipline in an organisation would indirectly promote knowledge-sharing. This would create a culture of collaboration and collective responsibility, with all employees proactively contributing to the CI pool.
- Organisations that adopt dedicated CI teams as part of their business arsenal give chief executive officers (CEOs) the necessary actionable intelligence to make strategic decisions.

South Africa as a developing country needs successful pharmaceutical ventures. This field is where most medical research is needed and where less stringent regulations, manufacturing and trials are more easily implemented i.e. the biotechnology industry (Montague & Oosthuizen, 2010:22). South Africa imports 70% of its pharmaceuticals and this increases the price of pharmaceuticals because of the exchange rate.

1.5 RESEARCH DESIGN AND METHODOLOGY

1.5.1 Literature review

An extensive literature review was included in this study to focus on CI's presence in international pharmaceutical industry publications because, apart from an article by Viviers and Muller (2004) peer reviewed South African pharmaceutical publications on CI in academic journals are almost non-existent. Publications on CI in the international pharmaceutical industry are also scarce.

Wright *et al*. (2008:12) refer to the fact that the traditional strategic frameworks used by some pharmaceutical companies manage their threats, risks and opportunities poorly. They focus on "brand and fixed assets." Their findings suggest that European organisations need to put effort into "developing a sophisticated and robust approach to its intellectual assets as it does its brand and fixed assets." Gray (2008:2) summarises future trends presented at a 2008 pharmaceutical conference. He reports on the importance of how "actionable evidence-based and global pharmaceutical competitive intelligence (CI) and business intelligence (BI) will play an important role." If such a trend is true, the South African pharmaceutical industry will need to focus on CI if it wants to be part of successful global markets. Currently the South African pharmaceutical industry is being affected by legislation, as the government is readjusting the whole healthcare system to make it is cost-effective and equitable, i.e. National Health Insurance (NHI).

Buck-Luce (2011:1) suggested at a pharmaceutical conference that "IT firms, telecommunications companies, data management firms, internet services companies, and social media sites" were encroaching further on the lucrative international pharmaceutical industry. These non-pharmaceutical companies have seen business opportunities and continue to invest more in helping to reshape the existing healthcare markets. For example, Cloud (2011:40) comments that the nutraceutical market "is growing so fast among aging boomers that even giant food and drug companies are stumbling as they attempt to maintain their positions."

Consequently the pharmaceutical industry seems to be challenged from all angles and is no longer at the top of the healthcare chain. What was deemed to be the international global pharmaceutical industry's established territory is no longer guaranteed, despite acquisitions and mergers. Even emerging nations such as Brazil, Russia, India, China and South Africa (BRICS) have infiltrated this lucrative market, especially in the field of generic medication.

Although the international pharmaceutical industry is dynamic and complex, it is, according to Wright *et al*. (2008:6), driven by innovation and technological advancement. However, other important contributors such as management, dedicated professionals and research scientists, also jointly strive to gain a competitive edge. Despite these positive factors, continuous competition from other worldwide healthcare firms remains a serious threat. The pharmaceutical industry has responded with some success, using mergers and acquisitions to level the playing field temporarily.

Notably, there are pharmaceutical companies that understand that the dynamics and complex nature of their organisations require CI to achieve successful actionable intelligence, thus achieving some competitive advantage. Some companies that have invested in CI, e.g. Astra Zeneca, have devised a successful CI functionality (Badr *et al*., 2006:19). Furthermore Badr *et al.* (2006:19) illustrate that the "frenzy surrounding the provision of AIDS drugs to Africa" was due to "the inadequacies of CI functions in many leading pharmaceutical companies."

1.5.2 Empirical survey

For the purposes of this study, a survey is the preferred methodological approach that will be used to collect and to analyse data. This method is most appropriate for the planned research, because it is empirical in nature and quantifiable in analysis.

The procedure to be followed for data collection and analysis will be to use a questionnaire (see Appendix 1: Questionnaire). A questionnaire is an appropriate tool because it has been tried and tested in numerous business and other studies. The chosen methods correspond with the envisaged research objectives. The methods are feasible and they answer the overall research problem set out in the problem statement,

namely to ascertain the position on CI in which the South African pharmaceutical industry finds itself. All respondents will complete the questionnaire anonymously. Privacy, confidentiality and anonymity of all the research participants will be maintained. Limitations to the study will be governed by respondents failing to submit their returns on time or failure to respond at all.

1.6 STRUCTURE OF THE STUDY

In Chapter two the nature and importance of the CI cycle will be discussed, as well as the rationale for establishing a CI culture, its implementation in an organisation and an overview of CI research conducted in South Africa. Finally an attempt to solve two sub-problems will conclude this chapter: What is CI and why is CI needed in organisations?

In Chapter three an overview of CI research conducted in South Africa will be given.

Chapter four will explore the characteristics of the South African pharmaceutical industry. Reference will be made to South African legislation and regulatory bodies that have an impact on the industry.

In Chapter five the focus will be on data analysis based on a questionnaire that was used as a predetermined instrument to gauge the responses of senior managers to determine how CI is applied in the South African pharmaceutical industry and to what extent it is valued as a business tool.

Chapter six summarises the contents of the study from Chapter one to Chapter five. Conclusions, recommendations and areas for future research are outlined in this chapter.

CHAPTER 2: NATURE AND IMPORTANCE OF CI

2.1 INTRODUCTION

The global economy is in a state of flux, constantly evolving to accommodate change, risks and opportunities as markets develop and subside. The global economy thrives on competition and for an organisation to become a market leader, it needs to remain competitive. In order to leverage this objective, Strauss (2008:11) asserts that CI is "a tool that transforms information into actionable intelligence that, if used in strategic decision-making, could enhance an organisation's competitiveness."

Adding to this, Gilad (2011: 4), while criticising global competitiveness, states that "studies attribute between 35 percent and 55 percent of all business failures to strategic blunders." For example, competitors constantly jockey to attain a place on the Fortune 500 list. Firms disappear annually from this prestigious list as a result of aggressive competition. Gilad (2011:4) aptly titles his article, *Strategy without intelligence, intelligence without strategy*. Ultimately an organisation's competitiveness seems determined by its level of strategic decision-making generated by intelligence gleaned to secure its position in changing markets. This kind of example presents a strong case for CI capability and capacity in all forward-looking organisations.

This chapter proposes to evaluate the nature and importance of CI. Attention will be directed at the:

- CI cycle;
- Establishment of a CI culture;
- Implementation of CI in an organisation; and
- Benefits of CI.

Interwoven into the mix as detailed above, the sub problem 'What is CI?' will be addressed.

CI as a business tool has evolved over the years as a direct result of the need to scan the external environment regularly, while still focussing on the internal business environment. Consequently, as a business tool, its function has grown in stature too

over the years, being nurtured by professional bodies such as The Society of Competitive Intelligence Professionals (SCIP), more recently renamed Strategic and Competitive Intelligence Professionals (SCIP).

Advances in technology, fuelled by globalisation, have contributed to CI's use and implementation. Organisations have noted the need to have a competitive strategy to penetrate new markets and maintain global positioning in existing markets. Hence the surging interest in CI. Fleisher (2000:14) asserts that the "CI boom of the last decade was driven by the increasingly widespread recognition that good information has a direct impact on the bottom line."

Before detailing the CI cycle in Section 2.2, it is important to point out that the intelligence needs of management should be fully expressed: "asking the right questions (at the) beginning of the cycle helps to ensure that the produced intelligence is used by the decision makers" (GCC Consulting, 2006 :3).

2.2 THE CI CYCLE

The essence of the CI cycle is described by the Competitive Intelligence Association (CIA) as "... the process by which raw information is acquired, gathered, transmitted, evaluated, analysed and made available as finished intelligence for policy makers to use in decision-making and action" (Johnson, 2012 :4-5).

However, to apply the above principles and practices successfully, the CI process requires that an organisation's structure be 100% supportive. This entails that senior management lead from the front and that a CI culture is firmly entrenched, with supporting adequate resources (Begg, 2007:85).

According to Fleisher (2000:20) the core activities of the CI cycle are:

- **Planning**: there are three critical aspects of planning for CI: gaining a clear understanding of the users' needs, including their resources constraints (e.g. budget, human and time), a data collection and analysis plan and an effort to keep users informed.
- **Data collection**: the gathering of data from and about sources or targets.

- **Analysis**: process of subjecting the data collected to review, testing and challenging. The analysis is processed, reducing the data into a useable form for decision-making.
- **Dissemination**: the actions taken to use the intelligence outputs to the company's advantage.

There are a number of illustrations of the CI cycle. The two diagrams (see Figures 2.1 and 2.2) are frequently cited in different CI articles, depending on which constraints or elements are meaningful in the context of that particular organisation. Controversy does exist on which CI cycle to use. Some CI practitioners have added new elements, while others are critical of the CI cycle in its present form.

Figure 2.1 The CI cycle (Kahaner,1996b:15)

Kahaner's (1996b) simplistic CI cycle (Figure 2.1) focuses on the intelligence cycle and its four interdependent steps, namely planning and direction, collection, analysis and dissemination.

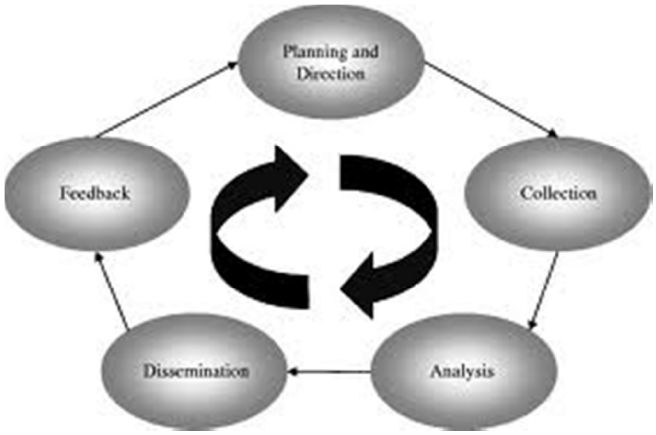

Figure 2.2 The CI cycle modified (Murphy, 2005:8).

Figure 2.2 refers to Murphy's additional step, namely feedback, which he introduced in 2005. While the richness of a visual image adds focus to an understanding of the CI cycle, the aim of this section is to address a fuller comprehension and appreciation of the different interdependent elements. Furthermore, it will justify its contextual positioning regarding the nature and importance of CI in business circles. The interdependent steps remain a cornerstone of Kahaner's CI cycle theoretical construct. Over the years there has been constructive criticism of the cycle, with modifications as in the case of Murphy's feedback step.

2.2.1 Planning

It is at this step or phase where an organisation's rivals need their "knowledge assets" (Johnson, 2012:1) profiled for continuous assessment. In other words, whatever the needs and requirements of the firm are, they should be identified on behalf of senior management. Sewlal (2004:3) adds that planning should focus on giving "guidance and establish the purpose and results of the findings". Bernhardt (2003:48) takes another approach, namely that planning should be "user driven and that timely intelligence products" are required. Fleisher (2000:20) concurs too with the importance of timeliness.

He gives more detailed attention to three other aspects of planning. He calls the first aspect “resource constraints” [in the form of] “budget, human and time.” Resources such as money, human input and timeliness respectively are critical to identifying the needs and requirements of senior management. Prescott and Miller (2002) are authors who advocate these constructs. Fleisher too (2000:20) proposes the importance of considering the needs of senior management. Fleisher’s second aspect of planning for CI is a reference to data collection and analysis (as will be discussed in the next two sections). A professional analyst would have to work through great amounts of secondary sources if no strategic plan should be in place to regulate and curtail the sourcing of irrelevant information. The third aspect stated by Fleisher (2000:20) in relation to planning focuses on “an effort to keep the user informed.”

Ultimately the user and the CI analyst should together be establishing a plan of action in terms of appropriate material required and needs to be identified before the next phase of the CI cycle collection falls into place.

Herring (1999:8) propagates the use of a systematised process to identify and define the intelligence user’s key intelligence needs (KINs) (including the time frame), as endorsed and mentioned earlier by Fleisher (2000) and Bernhardt (2003). The principle about KINs is that while “planning the collection and analysis of information activities”, it is important to keep senior management who are the end users of the intelligence, “well informed of progress” (Viviers, Saayman & Muller, 2005b:578).

KINs are important in the planning activity because their focus is not on collecting information but on focusing on issues important to senior management. Ironically Murphy (2005:56) states that “many senior executives regard CI as a comfort blanket rather than a guide to better decision making.” They are lulled into a false sense of being well briefed and competent to make strategic decisions. KINs are used as a method to “organise and prioritize CI needs” (Murphy 2005:56), as they help to focus on issues that are important to intelligence users. When properly done, KINs give the CI function the ability to continuously adapt to an organisation’s changing needs in its competitive environment (Herring, 1999:12). Because KINs are a part of an

organisation's on-going management activities, the resulting intelligence is inherently actionable (Herring, 2003: 1).

Murphy (2005:57) itemises the KINs' categorisation below. This categorisation was devised by Herring (1999:10) to assist the CI effort in focusing the intelligence process. It is still widely used today.

- Strategic decisions and actions. These are the moves that will have a significant impact on the performance and value of the business and should be based on a sound understanding of the competitive environment.
- Early warning topics. Issues that are not at present included in management's assessment of their competitive situation, but which could be of future significance.
- Description of key players in the market. The traditional role of the more limited 'competitor intelligence'.

A fourth topic, namely counter-intelligence, has been added subsequently to the categorisation by Bernhardt (2003:88-89), who sees a need for counter intelligence because in today's world "business and commercial targets are becoming increasingly more important to foreign intelligence services than military or political targets." Bernhardt (2003:88) cites a few definitions of counter-intelligence. For the purposes of this study, the following definition seems most appropriate: "Counter intelligence is fundamentally directed at coping with, or countering, threat. This threat may be immediate, latent or potential" (Bernhardt, 2003:88).

Bernhardt (2003:89) suggests that any organisation which does not practise information protection regarding its sensitive documents and records is at risk, even if the staff is loyal. Murphy (2005:241) also refers to the importance of counter-intelligence. Organisations need to know that plans are in place where necessary and where possible to protect them from penetration by outsiders and staff in the organisation.

The planning area is the starting point of the CI cycle. An answer to an intelligence need gives rise to more questions and the process of data collection, analysis and dissemination starts all over again (Herring, 2005:202).

2.2.2 Data Collection

This second core task of the CI cycle involves the gathering of data and information available in the public domain that can be accessed and collected ethically and legally. Sources include any publicly published material, from government documents to rival companies' annual reports.

Taylor (2010:1) states that "the data collection element is the most challenging" of all the steps in the CI cycle. This is attributable to the information "smog" or information explosion, which requires expert management. He further suggests that "as society becomes more technologically dependent, collections are able to explore the vulnerabilities of technology and collect raw data."

Data collection has many facets. It has to manage the flood of information, from the different sources, whether these be primary or secondary, and consider the "data gathering methods" which "range from reactive to ad hoc methods." The latter entails senior management being sent irregular "pieces of information and analysis by employees to automated and fully digital tracking systems" (Fleisher, 2000:23).

The human intelligence (HUM-INT) kind of intelligence falls under primary sources. Although the World Wide Web (WWW) and the Internet have infinite resources, human intelligence still seems to have the edge for information collection (Fleisher, 2000:24).

Although there are other sources, which government and the military use, the practice of CI in commercial firms limits itself "mainly to open-source and HUM-INT" collection disciplines (Bernhardt, 2003:50). Bernhardt states further that more emphasis should be put on human-source information, which offers more about competitors than open-source information. Bernhardt (2003:51) notes that raw HUM-INT frequently consists of biased information, with an edge over open-source information. He itemises four points to confirm its advantage; It

- Can provide 'decisive' confirmation or verification of intelligence obtained by other means;
- Goes beyond numbers and is largely qualitative;

- Provides prima facie evidence of rivals' motives, intentions, plans and deceptions; and
- Reveals information hidden or denied by other forms of surveillance or monitoring.

According to SCIP (2013) there is evidence of primary sources contributing to intelligence gathering via people: "primary sources used 61.1% comprise company employees and only 29.3% suppliers." Such a high percentage is indicative of the role company employees can play in a CI-friendly environment. Suppliers can contribute too, but only marginally in a CI-friendly culture.

Furthermore, Bernhardt (2003:51) refers to the importance of elicitation and states that related 'social' skills are attributes that collectors should possess when working in CI and "counter-intelligence operations."

In addition, the collection step highlights that primary and secondary sources are equally challenging for the CI professional worker because despite methods, strategies and advances in technology, they are responsible too "for examination and verification" (Sewlal, 2004:3). The intelligence offered to senior management is only as good as the CI professional analyst's skills.

2.2.3 Analysis

On the point of human input, McGonagle and Vella (2002:39) attest to the importance of the CI analyst to access the people who provide the data, as well as the data. "Data provides only the past; people can help you see into the future." The key point to analysis is that it has the 'value-added' element of intelligence (Bernhardt, 1994:12). This intelligence should be precisely what senior management will want for strategic decision-making. Analysts who work with this part of the CI cycle find it difficult because it requires judgement. The analyst has to "weigh information" and look for things that correlate so he/she can come up with "different scenarios" (Kahaner, 1996a:9).

The element of analysis is the crux of the CI cycle because it is the quality of an analysis that adds value by converting raw data and information into actionable intelligence. The human attributes of experience, intuition, common sense and 'smart'

thinking skills help to make sound judgements and come up with 'different plausible scenarios.' Bernhardt (1994:12) cautions that managers should not allow themselves to accumulate "facts or information; they need an analytical intelligence product, delivered on time and in a format that can be easily and quickly assimilated. Indeed analysis for intelligence purposes must be 'time-based'."

There is further support for the significance of timeliness of actionable intelligence having added value (Bernhardt 1994:12). Senior management wants to engage with intelligence that offers the best current option. Other researchers, such as Fleisher (2000:25), promote the notion that "analysis outputs produced should be actionable (future-orientated)", to assist senior management "develop better competitive strategies." Ultimately these strategies, assisted by actionable intelligence, aid decision-makers in producing "better business results."

The essence of analysis is seen as a craft by Murphy (2005:133). He sees it as a combination of "both scientific and artistic elements." Furthermore, he regards analysis as coming "out of the complexity, confusion and uncertainty of the business environment. The analyst has to fashion meaning and offer a credible guide to decision making."

Consequently it is the ability of a good analyst who is able to perform "appropriate analysis and interpretation", formulating "a vital aspect of the process of CI" (Strauss, 2008:38).

In South Africa, research on the expertise of CI professionals by Viviers, Muller and Du Toit (2005a:252) states that "analytical skills are not yet honed to be capable to integrate a variety of factors" when scanning the internal and external environments of their respective organisations. Furthermore, CI professionals are not yet skilled to "use a variety of complementary analysis techniques into insightful competitive pictures." These researchers conclude that what is required is "in-depth training on CI, in particular competitive and strategic analysis and the management of CI."

Intelligence analysis deals with the future and although data describe the past, its legacy is needed to help make sense of the internal and external environment in which

the modern organisation finds itself. Hence the importance of the intelligence collection operations previously discussed. The fourth step of the CI cycle is 'dissemination' and the method by which the intelligence is communicated to the user.

2.2.4 Dissemination

This element is also known as communication in the CI cycle because the CI professional has to determine "what kind of communication format the client requires" (Strauss, 2008:39) and deliver the processed intelligence accordingly. Johnson (2012:5) states that the dissemination is *"*evaluated information and finished intelligence, packaged in a format appropriate as much to the intelligence itself as it is to the customer for the intelligence, the decision maker.*"*

Senior management will respond positively to a CI professional, provided dissemination competencies are utilised correctly. Fleisher (2000:26) endorses the importance of these competencies. *"*Use persuasive presentation skills, demonstrate empathy and use counselling skills where appropriate organize findings and convey them with assertiveness and diplomacy ... and realize that listening can also be a form of presenting.*"*

In addition, Bernhardt (2003:55) cautions about two interesting aspects of dissemination. He notes that "dissemination is also the weakest link in the intelligence cycle." The CI professional needs to cater to the format preferences of the recipient, for example, decisive, flexible, hierarchic or integrative styles. The second interesting note is that the CI professional needs to deliver a presentation "as part of well-coordinated dissemination procedures" (Bernhardt, 2003:56).

Bernhardt (2003:55) advocates and supports the idea that a level of classification of an intelligence product should be implemented to stop the likelihood of competitive damage happening if it fell into the wrong hands. He mentions the CI professionals' consideration of four key factors that involve effective intelligence dissemination:

- Oral delivery. It is at this juncture where intelligence staff can confirm whether the decision-makers' needs have been met. During a dialogue between both parties involving face-to-face interaction, the essence of feedback will help confirm it.
- Inclusion of intelligence reports from the field. During the dissemination process, any "local assessments of intelligence issues or problems" complement the analysis completed by a CI unit, as there is more credibility when two aspects of 'intelligence' amalgamate.
- Laying out the evidence. In this key area, decision makers value being able to evaluate the evidence that the CI professional brings to the dissemination process. Senior management has the final say and to be able to study the analysis and conclusion with the CI professional, provides an enabling platform for decision-making.
- Inclusion of optional actions and implications. Ultimately it is the senior manager who will decide on a course of action, based on the intelligence given to him/her.

Bernhardt (2003:56) points out "historically most so-called 'intelligence failures' can be attributed to a failure in dissemination." Bernhardt cites different reasons. The main ones are:

- A natural disconnection between intelligence users – the juxtaposition of seasoned senior manager and the newly-appointed young CI professional is bound to be problematic.
- Bureaucracy and culture – in many organisations, internal barriers such as department silos prevent the intelligence from reaching the decision-makers on time. In addition, internal politics, such as power struggles curtail or impede the process of intelligence getting to the right individual.
- Politicisation – the intelligence analysis can be biased or manipulated to serve a personal or departmental agenda.
- Technical – technical problems in the system could prevent an end user from accessing the intelligence.

Consequently, if one or more of the above problems occur, the intelligence is of no value if the end user fails to gain timely access to it.

2.2.5 Feedback

Taylor (2010:1) asks the question, "How does one know that the information or the analysis of the information is truly accurate?" The responsibility rests with the CEO or management team when using the processed and packaged information. They need to monitor whether their strategies have given their company the edge over rivals. Success and failure should be fed back to all involved in the CI cycle process.

Feedback should be a genuine account by managers to admit that they are not always aware of their own flaws in judgement and there might have been "blind spots" (Hall & Bensoussan, 2007:54). Senior managers need to use "bench marking how others in the same industry see their needs" to assist them in overcoming limitations. Bernhardt (2003:55) views the feedback as part of the dissemination process when "oral delivery" is being conducted.

McGonagle (2007:80) states that there are three fundamental flaws in the 'classic' CI model.

- Firstly, it is highly bureaucratic in nature and based on historic evolution, which is outdated for twenty-first century application. McGonagle (2007:81) posits that there is a "divergence between theory and practice". This flaw needs to be addressed and corrected at some stage in the future.
- Secondly, it endorses a process that relies on senior management spelling out their needs to a CI unit, which then takes on the responsibility of capturing those needs and responding to them. McGonagle (2007:71) feels "that expression of the model is defective." The design is only scheduled for CI to support strategy and fails in supporting other aspects where intelligence is required.
- The third fundamental flaw, according to McGonagle (2007:73), occurs where the CI cycle fails to provide a workable model for "those individuals who both provide, and use, CI." In other words, such individuals cannot use the classic CI cycle because they operate differently. These individuals are successful as CI

professionals, despite operating differently. They wear many hats at any time, i.e. the collector, analyst and an end user make up a formidable combination of capacities, which once processed results in actionable intelligence as a value product for the company by which they are employed.

Despite many researchers, among others McGonagle, offering valid criticism, the CI cycle has survived a historic evolution. However, users need to be mindful of the question of ethics when implementing the CI cycle.

2.2.5.1 Ethics and legal frameworks

CI is by its very nature infused with serious issues "of legality and business ethics" and "could fall prey on occasions to illicit intelligence gathering" (Murphy, 2005:47). To counteract this problem, CI professionals have devised a code of ethics to raise ethical standards (see SCIP website at www.http://www.scip.org for the SCIP code of ethics). Murphy (2005:50) poses the question, "Does the SCIP code work?" He admits that "there is a gap between ethical theory and actual conduct". Murphy states that despite this drawback there are organisations that expect their CI professionals to operate within the SCIP code of ethics, supplemented by their own in-house code of CI conduct. In his conclusion Murphy (2005:51) notes that, "The SCIP code demands higher standards of conduct than required by the law." It is the genuine CI professionals who are "scrupulous in conforming to the law."

Ultimately the question of whether the intelligence gathered is devoid of ethically or legally negative implications rests with the CI professional on delivery. The responsibility rests with CI practitioners whose observance of their own code of ethics needs to dovetail with the organisation's CI code of conduct and SCIP's code too, for a high standard to be maintained. The question of ethics and legal aspects need to be addressed consistently when a CI culture is being established and when a CI cycle is in operation. The next section will focus on the rationale for establishing a CI culture in organisations.

2.3 ESTABLISHING A CI CULTURE

Once an organisation endorses the CI cycle, despite evidence of flaws and controversy discussed earlier, the next stage is to establish a CI culture where all employees ideally become active participants in contributing to a business advantage.

To establish a CI culture, employees would need to be informed about what information is required, as well as the purpose of sharing this information with the CI unit. Research done by Viviers *et al*. (2005b: 586) in South Africa confirms that "CI awareness and culture has increased." However, in their recommendations they noted that when CI is "integrated throughout the company, it should be embedded in (consistent), and aligned with, the company's infrastructure."

Establishing a CI culture is not an easy task, but it can be achieved provided the appropriate structures and processes are put into place with senior management leading from the front. Lloyd-Reason and Sear (2007:183) suggest "there needs to be an appropriate organisational awareness of CI and a culture of competitiveness." Employees too, need to see its value, as they are potential contributors to the intelligence product, helping to take it to a new level.

2.4 IMPLEMENTATION OF CI IN AN ORGANISATION

CI, when used as a business tool, can strive for ethical and legal credibility and functionality. Provided the organisation's structure and CI champion (top senior management) support it, given the opportunity, it should function according to professional criteria.

Moreover, Tyson (2002:1) states that "the emphasis in the past was on developing strategies; today it is implementing them." Bolland and Fletcher (2012:14) comment on the significance of strategy for decision-making and emphasise that the way in which organisational structures are designed affects decision-making. CI as a business tool is apparently able to provide a solid platform for strategy to reach its full potential so that effective and efficient decision-making is achieved. Bolland and Wellman (2012:75) emphasise the importance of strategy as a "plan of action for accomplishing a specific intent." For the same reason they state that strategy also "provides a framework for

prioritisation and decision-making." Boland and Fletcher's (2012:106) focus is on organisational structures. They maintain that these structures "need to fit with environmental demands buffering uncertainties and environmental changes."

Mechanisms should be set up to support the collecting and sharing of information. Tyson (2002:4-6) suggests using the organisation's intranet for storing value-added intelligence on a CI web page and also the implementation of email for 'hot news' alerts and/or a dedicated CI telephone. Secondly, Tyson (2002:5-6) promotes the notion that "for strategic management to become a routine effort, continuous streams of information are required."

Senior managers need to understand that good CI is critical to an organisation's competitive decision and competitive performance (Hall & Bensousson, 2007:101). They need to start practising CI routinely and comprehensively and use the intelligence in their strategic decision-making (Viviers *et al.*, 2005a:253).

Once senior management starts leading from the front and establishing adequate information processes within their organisation, CI principles and practices will fall into place. This is because the end product, intelligence, is "the process of reducing managerial decision" (Lloyd-Reason & Sear, 2007:182). In other words, CEO's and executives of companies need to acknowledge that established CI functionality can help simplify their strategic decision-making. In short the whole concept of CI is a friend to their needs and all they need to do is to befriend it completely.

The findings of Viviers *et al.* (2005b:586) resulted in a set of recommendations being made. In order to enhance a CI culture, the following itemised activities could create an established and engaged CI capability:

- Institute structural change, such as development of integrating mechanisms, e.g. establish a central pool point for information.
- Appoint CI co-ordinating officers throughout the company.
- Create an intelligence database.

- Develop a sensitisation programme that is continuous and that should focus on telling employers what CI is, what they can and should contribute, and demonstrate the value in sharing information. Employees should know what they should be looking for and what should not be shared outside the company.
- Provide incentives for CI activity. For example, in order to encourage people to gather and share information, establish a CI award for the best snippets of competitive information that an employee gathered or shared.
- Make discussing CI and the importance of a learning/knowledge-based organisation a regular item on any meeting's agenda.
- Start joint work on CI projects and training by academia, the private and public sectors, as well as expert international partners, to achieve results in the long run.
- Establish a simple code of ethics that provides guidance to employees on how not to conduct CI.

Implementing CI in an organisation rests with management: the CEO, executives and front line managers who need to accept the responsibility for managing CI and knowledge in their companies in the competitive global environment. Hall and Bensoussan (2007:11) confirm that "if managers are to make good competitive decisions in this extremely competitive environment, they need access to timely, relevant and reliable information."

Hall and Bensoussan (2007:14-16) itemise key implications for senior managers, which they will need to address properly if CI is going to make an impact on their organisation in terms of competitive advantage:

- Know how competitive your markets are.
- Know the needs of your managers for CI.
- Do not conduct CI only on known rivals.
- Avoid collecting masses of information.
- Be prepared for competitive challenges.
- Know your real CI capability.
- Target appropriate CI capability levels.

- Take responsibility but delegate effectively.
- Resource CI as required and appropriate.
- Build a competitive culture.
- Measure, monitor and improve continuously.
- Address impediments to improve CI.

Badr *et al*. (2006:33), in their recommendations for future research, cite the following point: “Investigation into the physiology of effective CI managers in a high technology/ innovation-driven industry such as pharmaceuticals” is required.

Another aspect for senior managers to mull over is the question of “blind spots”. Liebowitz (2006:53) puts forward a strong argument that the “cause of intelligence failure is not what is seen but what is not seen.” He refers to this issue raised at a SCIP conference where Holtzman had addressed the audience on the topic titled, *Adding Strategy Value by Overcoming CI Blind spots*. Liebowitz (2006:53) outlined the following points to support his argument.

- Behaviour and psychological blind spots: blinded by biases;
- Internal blind spots: caused by potential ignorance of the company’s strengths and weaknesses;
- Big picture blind spots: caused by organisational silos;
- Philosophical blind spots: consciously imposed constraints on CI managers, such as internal politics;
- Opportunity blind spots: not understanding how to define and scope a business opportunity.

2.5 BENEFITS OF CI

When organisations start considering CI as an important business asset to hold their current positions in the global economy, they should consider the long- and short-term benefits. In a developing country such as South Africa, the local pharmaceutical industry needs to compete in highly dynamic international markets. Local pharmaceutical manufacturers can ‘think smart’ when competing with resident multinationals who have their CI functionality assessed at headquarters in their mother countries, i.e. Glaxco,

Kline and Smith Pharmaceuticals (GKS). Since 2008, under the leadership of Andrew Witty, GKS has started charting a new strategy aimed at replacing large profits with more stable earnings (Gilad 2011:8). This kind of business model necessarily had an impact on other shareholders in the pharmaceutical industry. A leading South African enterprise, Aspen Pharmacare, has in recent years penetrated international pharmaceutical markets.

Two proponents of the benefits of CI, namely Calof and Wright, (2008:718), state in their research on the role which CI plays in modern organisations that skilled CI practitioners are able "to act as the 'glue' between disparate activities." This results in the "CI input and output" having an impact "on marketing activity and as such the two fields enjoy a mutually beneficial complementary role in the enlightened firm." Furthermore, in the same article they pose the question: "To what extent have corporations recognised the need to develop what is known as an intelligence capacity?" (Calof & Wright, 2008:719). They substantiate the benefits of this intelligence capacity with the statement that Business Week (2001) magazine reported on how companies with well-established CI programmes enjoyed greater earnings per share spaces than companies in the same industry without CI programmes (Calof & Wright, 2008:720). Murphy (2005: 216 -217) refers to the importance of "where management are operating with a faulty or incomplete knowledge of their existing or potential competitors, filling this gap is a major benefit of creating a CI function." In other words, implementing a CI function in an organisation seems to have tendered "advice that guides future decisions."

Gilad, Gordon and Sudit (1993:110) state that many organisations have serious blind spots concerning their competitors' capabilities and intentions. CI can help them to identify competitive blind spots to make strategic decisions. CI also creates a strategic early warning process that may be capable of overcoming top management's blinders (Gilad, 2011b:4).

Viviers *et al.* (2005a:247) claim from their research that CI as an instrument enhances competitiveness and by extension "the innovative capability of South African companies, organisations and institutions and South Africa as a whole." Seemingly CI

has a positive effect, once it is implemented and fully valued. It has the capability to increase its prowess in South African companies, organisations and institutions.

2.5.1 Pharmaceutical companies benefitting from CI

The South African pharmaceutical industry firstly needs to look at companies in which CI has been researched in order to get a perspective of the potential benefits. As stated in Chapter one, South African peer-reviewed articles on CI in the pharmaceutical field are practically nonexistent. However, in other countries, CI has had a better profile in the last decade. For example, Badr *et al*. (2006:15) refer to the successes of some pharmaceutical organisations that have embraced CI, although "not taking full advantage of CI effort at every stage of the strategic decision-making process."

According to Wright *et al.* (2008:2), the pharmaceutical industry needs to maintain its position by keeping "abreast of all decision influencing factors, including competitors". Moreover Badr *et al.* (2006:19) post that Astra Zeneca was one of the few pharmaceutical companies that "had devised a fully integrated early warning system" concerning the impact of biotechnology on the industry. Furthermore Badr *et al*. (2006:19) state that the "frenzy surrounding the provision of AIDS drugs to Africa" was due to "the inadequacies of CI function in many leading pharmaceutical companies."

The international pharmaceutical industry has historically been a very powerful economic force until 2008, when global financial climates became less favourable and investors sought other asset markets. For example, biotechnology had begun earlier on to attract finance from new investors. Badr *et al.* (2006:18) argue that "the modern day pharmaceutical industry ... is highly fragmented." The industry was surprised by the appearance and dynamism that biotechnology offered. Its potential to grow resulted in the "many mergers and linkages which characterize the industry" today.

The literature reviewed suggests that the pharmaceutical industry has been experiencing major shifts since 2008. In a non-peer-reviewed, but trend-pointing article, Henderson (2011:35) states that, "The past decade has not been kind to the pharmaceutical industry. While many of its biggest blockbusters stating anti-depressants and painkillers have drifted out of patents, others have been forced off the

market by serious side-effects with health services driving a harder bargain than ever and the cost of research and development pushing £630 million ($1 billion) for every new drug."

Health services too are experiencing financial constraints and are increasingly demanding cost-effective medicines and healthcare products. Informed customers frequently prefer purchasing healthcare products from non-pharmaceutical companies. These customers make choices that are more cost-effective to their pockets, by accessing the Internet for information before confirming their purchases (Wright *et el.,* 2008:2).

In another non-peer reviewed article, Cloud (2011:40) comments on the nutraceutical market, that it "is growing so fast among aging boomers that even giant food and drug companies are stumbling as they attempt to maintain their position."

Although CI has helped to yield some positive returns in the pharmaceutical industry, it is sobering to note that like any business tool, it has not always yielded the expected results. Research by Wright *et al*. (2008:12) refers to the traditional strategic frameworks used by some pharmaceutical companies, which manage their threats, risks and opportunities poorly. They focus on "brand and fixed assets." The researchers' findings suggest that any European firm needs to put the same effort into "developing sophisticated and robust approaches to its intellectual assets as it does its brand and fixed assets."

The benefits of using CI in the pharmaceutical industry can be considered to mitigate the threats, risks and opportunities, which are now more evident since 2008. Gray (2008:2) argues that new hurdles exist. What is important is no longer efficiency, safety and quality, but what constitutes "value" in healthcare and the importance evidence plays. First-world patients demand to be told the facts so that they can make informed decisions about their health. They want value for money and to be aware of clinical side-effects that they might experience when agreeing to medical treatment.

Gray (2008:2) also stresses the importance of innovation when considering patients and their providers; they too make an input and need recognition, as innovation is a driving

force for success. He states that “innovation will need to be proven in the clinic, with real patients and providers, in a cost effective manner to demonstrate what works best for whom and what circumstances.”

What was deemed to be the international global pharmaceutical industry’s established territory is no longer guaranteed, despite acquisitions and mergers. The whole question too of generics is another serious debate, where the pharmaceutical industry’s traditional area of dominance is under attack.

Gilad (2011:8) refers to Andrew Witty, CEO of GKS as a case in point. Witty has charted “a new strategy at de-risking his company, replacing large profits with more stable earnings.” GKS researchers are reported to be “looking for more drugs with small or potential markets and pushing into emerging markets.” Gilad (2011:9) furthermore concludes that Witty uses gleaned intelligence to adopt ‘unique’ strategies, thereby electing no longer to imitate other pharmaceutical companies.

There are additional benefits that CI can bring to the industry. CI‘s chief benefit to any organisation, is its ability to monitor a company’s competition within the industry and the wider market continuously. This is currently of great importance as there are opportunistic firms that have penetrated the traditional, monopolistic pharmaceutical industry. Buck-Luce (2011:1) confirms this trend: “IT firms, telecommunications companies, data management firms, internet services companies and social media sites” are encroaching on the lucrative international pharmaceutical industry.”

Kahaner (1996a:28-31)) states the reasons why companies would benefit from CI:

- The rapid increase in the pace of business. Businesses are required to handle more projects and make more decisions at greater speed than before.
- Information overload. Technological development has accelerated the speed and availability of communication and information.
- Increased global competition from new customers. Increased access to resources (e.g. capital, skills and transportation) increased the number of competitors and decreased the importance of close physical proximity.

- Increasing aggressiveness of existing competition. Many marketplaces are maturing, resulting in companies increasing their market share at the expense of their competitors.
- Quick and forceful effect of political changes. Many countries have moved from communism or socialism to capitalism in the last decades.
- Rapid technological change. The last decades have seen the introduction of wireless communication, personal computers, the internet and biotechnology.

Since 2008, South Africa, along with the rest of the modern world, has witnessed evolving business platforms where complexity, rapid change and a competitive environment co-exist. In order to grow in this new global economy, organisations tend to address the advantages of implementing CI. SCIP promotes the process of CI as "enhancing market place competitiveness through a greater understanding of a company's competitors and competitive environment" (Viviers *et al.*, 2005a:248). Furthermore, they state that CI is more than a process, it is a product of "actionable intelligence" that is used to make strategic decisions.

Some of the main overall CI benefits, which will add value to any organisation, are provided by Sewlal (2004:56):

- Identification of new business opportunities
- Improvement of an organisation's ability to anticipate surprises
- Helping an organisation to guard against threats
- Assistance with forecasting of a competitor's strategy
- Helping to discover new or potential competitors
- Learning from the success or failures of other competitors in the industry
- Learning about new technologies that can affect the company
- Learning about how government regulations are affecting the competition
- Allowing managers to predict changes in business relationships.

On the question of thinking through the consequences of their actions, Wright, Eid and Fleisher (2009:7) make a worthwhile recommendation on the use of CI in retail banks, which is equally applicable to any other organisation. CI's main function is to process

the end product, actionable intelligence, and as an added benefit, it can encourage and requires “decision makers to think through the consequences of their actions before, rather than after, the event” (Wright *et al*., 2009:8).

From the literature surveyed, evidence confirms that the inclusion of the CI discipline will give organisations a competitive edge, as they will be using their ‘wits’ and turn “raw information into useable intelligence to further their economic status” (Kahaner, 1996a:33).

Ultimately the benefits that an organisation will glean from adopting and establishing a successful CI function will become evident once it enters the global economy. Porter (1990:92) advocates that “it is better to grow internationally than to dominate the domestic market.” Companies should rather pursue a foreign acquisition, as it will hasten globalisation and “supplement home-based advantages.” Any astute CI friendly manager knows that analysed information to which he has access will assist him to counter-attack any competitiveness he might encounter as he penetrates new global markets.

Findings by Martin (2002:4) suggest that CI intelligence in the form of a compass can assist companies to “navigate the unchartered waters ahead.” Adding to this comment, Martin (2002: 9) views intelligence as the “the bedrock of today’s knowledge based economy”, thereby justifying the reason why CI is important for South African organisations to have on their business agenda if they want to succeed in today’s global landscape. The phrase ‘agilty in the new landscape’ (Martin 2002:7) aptly supports the premise that the global economy is demanding in every way.

2.6 SUMMARY

This investigation has attempted to highlight what CI benefits can be gleaned by organisations in the context of CI’s nature and importance in industry. From the literature reviewed, CI has not yet reached its potential in terms of full recognition as a business tool. However, where it has been nurtured and used, senior management has benefitted, as in the case of GKS, which has chosen not to imitate what other pharmaceutical organisations are doing but to chart a new strategy so that the company

is more sustainable in the global context. GKS is targeting sustainable smaller profits in place of single big profits. The benefits of CI are crucial to senior managers, whose aim is to achieve a business advantage over their rivals.

The CI cycle itself, a process based on interrelated steps of planning, data collection, analysis, dissemination and feedback is equally important to senior management. Although there is valid criticism of the CI cycle, it remains a worthwhile construct in business.

The establishment of a CI culture and its implementation in organisations requires top management to champion its value consistently. On the question of ethics, SCIP has devised a code of ethics to raise ethical standards. A legal and ethics framework is part of CI's strength and indirectly will support decision making.

The next chapter will discuss CI research conducted in South Africa.

CHAPTER 3: CI RESEARCH IN SOUTH AFRICA

3.1 INTRODUCTION

In the previous chapter, the nature and importance of CI were discussed. This chapter will focus on the need for CI and CI research conducted in South Africa.

The chapter will therefore address the following sub-problems: Why is CI needed and what CI research has been conducted in South Africa?

3.2 NEED FOR CI IN SOUTH AFRICA

Information is a commodity that functions within the knowledge economy. It is used by companies to leverage business revenue. Notably, Du Toit (2003:115) poses that differences are evident between KM and CI. She advocates that "Knowledge Management is the capturing, filing and categorising, analysing and actioning of data." KM is thus the process through which corporate knowledge is used to improve organisational performance while CI is a process for gathering usable knowledge about the external business environment.

KM in South Africa is a well-known and fully utilised theoretical construct. Its professional body has actively contributed to its profile, whereas CI has never achieved the same status. South African universities have successfully imparted KM principles and practices to its business and information management students, whereas CI, seems to have made slow progress in institutions of higher learning.

According to Montague and Oosthuizen (2010:22), the South African government intends to transform the country's economy, to become more knowledge-based. The Department of Science and Technology has a ten-year plan to accelerate and implement this aim. The pharmaceutical industry has been identified as a growth sector and is reportedly set to become a meaningful participant in the global pharmaceutical industry by 2018 (Montague & Oosthuizen, 2010:22).

Further literature reviewed indicates that there is a need for CI development in South Africa. Heppes and Du Toit (2009:50) state that it is not yet "at a level of that in countries such as US, Australia, Japan, France and Canada." CI has not gained full

recognition yet and clearly needs to be elevated to a higher level of implementation and gain value, as its essence is intelligence, which is a necessary asset in company strategy. Heppes and Du Toit (2009:50) posit that competing in the global economy is fraught with numerous "risks and competitive challenges." Consequently CI is a much needed business tool required to monitor the different aspects of competitiveness. Besides CI being evaluated as a business tool to create competitive advantage and enhance competitiveness, Viviers *et al.* (2005a:247) endorse its enormous value in companies that are enabled to "anticipate and plan to exploit market developments rather than merely react to them."

Van Wyk (2011) confirms the importance of companies being able to anticipate and plan in order to exploit market developments in their favour because "today's red hot competitive market place requires organisations to constantly adjust to a rapidly changing world where knowledge becomes easily outdated because of innovation."

A definition for the concept *competiveness* needs to be more clearly addressed, as its meaning is constantly being challenged in a changing global environment. Hall and Bensoussan (2007:29) perceive competitiveness "as market competitiveness" that will be "affected by such things as the velocity of competition, the level of globalisation of the market and the predictability of changes that occur."

A more simplified definition by Viviers *et al.* (2005b:576), is: "Competiveness could be defined as the ability of a country or a company to generate more wealth than its competitors in world markets."

According to Viviers *et al.* (2005a:246), South Africa has a strong case to use CI as an 'instrument' to enhance global competitiveness with evidence from their research pointing to "various global, competitive rankings measurements." They have indicated over a number of years which areas are lacking in competitiveness. More examples of these rankings will be discussed later in this chapter. Viviers *et al.* (2005a:247) further attest to the importance of CI being used as an instrument to promote competitiveness in the wide competitive landscape. Since 1994, with a new political dispensation for South Africa, a SCIP chapter was clearly and urgently needed. Various SCIP chapters

were launched, e.g. SCIP Southern Africa (SCIPSA) and South African Society of Competitive Intelligence Professionals (SAACIP). However, the membership ratings were very low and since 2008 none of these CI groups were functioning (Viviers & Muller, 2004:24). In September 2012, a new chapter was launched. SCIP is a principal forum for CI professionals. South Africa's isolation in the global economy before 1994 contributed to the lack of CI's professional development and exposure to global competitiveness.

3.3 CI RESEARCH CONDUCTED IN SOUTH AFRICA

Little has been published about CI's functionality and development in South African companies. The word 'practice' used in this study will refer to CI activity in South African industries. Findings in some studies completed between 2002 and 2009, their findings provide evidence of some CI practice. Two of these studies were conducted at a national level, namely those of Du Toit (2003) and Viviers, Saayman, Muller and Calof (2002). It would seem that South African companies, after 1994, have begun to see the merit of CI as they gradually penetrated competitive global markets that have welcomed them back into the global fold. They have realised too, that "knowledge and information are fundamental to economic growth" (Du Toit 2003:111).

3.3.1 CI capacity levels in South Africa

According to Heppes and Du Toit (2009:50) "competitive challenges and risks will increase significantly in the future." They maintain, that to remain a global market contender, "there is increasing need to continuously monitor the competitive landscape to remain competitive." Heppes and Du Toit (2009:54-62) also found that despite the slow development of CI in terms of complexity and importance, a case study involving one South African retail bank did show the advantage of using CI. In addition, their findings concluded that for this South African retail bank, there was a mid-level of maturity in CI activity. They noted that this level had reached 65.7% and in terms of "the maximum world class CI function, the enterprise had a growth opportunity of 34.3%."

This result is a good indication of the level of CI in the South African retail banking industry, despite being for “decades economically, politically and socially isolated from the rest of the world“ (Heppes & Du Toit, 2009:54).

In addition, Heppes and Du Toit (2009:54) point out that those South African banks have had “new bank legislation and regulatory requirements introduced with competition too, from foreign banks which have entered the domestic market.” Considering the serious effect these examples of ‘blind spots’ would have had on the competitive retail banking landscape in South Africa, Heppes and Du Toit’s research demonstrates how one retail bank had the ability to hold its dominance using CI as a business tool. Their findings are clear evidence of the need for further debate and investigation.

Such findings of CI activity in South Africa are supported too by other studies in the work of Begg (2007), Strauss (2008) and Du Toit and Strauss (2010). The 2005 study by Viviers *et al.*, with reference to CI culture in South African, can be noted, although its empirical findings are part of their 2002 national study, which will be discussed later in this dissertation (Viviers *et al*., 2005a).

In Begg’s study conducted in 2007 - although restricted to one mass import retail organisation - the findings suggest that there is evidence of CI practice. Regular “monitoring [of] changes in the external environment to keep tabs on competition” and the “frequency of collecting information and sharing knowledge about competitors” (Begg, 2007:160-161), all point to the establishment of a CI culture within the organisation. It is important to note that analysis did take place, despite insufficient monthly input, when one considers the theoretical principles and practices of a discipline such as CI. There was no single champion in the company to promote and drive CI. Consequently Begg’s research recommended that the above-mentioned organisation set up a formal CI unit “to achieve optimal competitive performance“ (Begg, 2007:167). This recommendation was deemed necessary, despite aspects such as collecting information, sharing and monthly analysis being successful and functionally operative.

3.3.2 South African government's commitment to CI

The survey findings of Du Toit and Strauss (2010) looked at how South African organisations could use CI to increase their competitiveness. Their findings state firstly that organisations were aware and recognised the value "of CI as a means of improving the competitiveness of South African organisations in the global economy." Secondly, the majority of organisations represented in the survey confirmed that CI had been around "for more than five years but less than ten years" (Du Toit & Strauss, 2010:29). In their recommendations they advocated that the South African government, because of its major influence in economic activity, should promote "aggressive sponsorship and commitment of government leaders in a CI campaign" (Du Toit & Strauss, 2010:30). Ultimately it is the responsibility of the South African government to create CI awareness and "strive to create appropriate mechanisms for initiating, supporting and sustaining the CI effort in Africa" (Du Toit & Strauss, 2010:30).

In order for the South African government and businesses to undertake the creation of appropriate mechanisms to establish CI, they would have to render support, starting with educational institutions such as universities, where CI training can be accessed. Currently there are some universities and business schools and companies that provide CI courses.

3.3.3 Effect of CI skills levels on competitiveness

In Strauss's research, based on a survey of CI organisations, she found besides other aspects that "the skills rated highest in the self-evaluation of the respondents did not reflect the skills viewed as important" (Strauss, 2008:66). Although there is CI awareness of what respondents viewed as important skills, this did not tally with "their competency levels concerning those identified skills" (Strauss, 2008:68). Strauss further suggests that such inequality might in future require adjustment of courses and/or training programmes. Another aspect advocated by Strauss is the importance of a CI professional having a specialised qualification, as opposed to a generalised one (Strauss, 2008:66).These findings support the notion of better CI education opportunities required to assist organisations to achieve success in the global economy.

Strauss (2008:72) cautions, however, on the status of "South Africa's competitive position declining and consequently also the situation of companies." Once a country's competitive status declines its influences on innovation in companies will be affected because market forces thrive on competition. Lack of well-trained CI professionals too could unwittingly contribute negatively to this scenario. According to Kűhn (2005:34), although CI is growing rapidly in South Africa, it lacks highly skilled people to source, analyse and activate intelligence. It is a well-known fact that competitiveness is the driving force for innovation and Strauss's study (2008:29) attests to the fact that "skills shortages will impact negatively on South Africa." Calof and Viviers (2001:64) state that appropriate education in CI is the only way to develop coorect attitudes towards CI. According to Calof and Viviers (2001:65) CI courses should be presented at MBA level or at least as part of management and leadership training. Research conducted by Viviers *et al.* (2002:29) indicated that South African organisations were spending too much time collecting information and too little time on analysing the information.

3.3.4 Competition – a way forward

To compete in the global economy, it is necessary for a country to generate more wealth than its competitors in world markets. This notion is supported by various international competitive indexes. Research by Du Toit and Strauss (2010:18) found that in 2008-2009 South Africa was placed 45th out of 134 countries in the World Economic Forum's (WEF) index. This index assesses global competitiveness. In the 2010-2011 report, South Africa was placed 54th and in 2011-2012 it was placed 50th out of 142 economies. Although the index looks comfortable, South Africa is placed at stage two, which is where China is positioned. South Africa still has to do the transition to stage three, which is innovation-driven. When compared with the other BRICs countries, South Africa is second for 2011-2012, a moderate success while China at 26th ranks first position (World Economic Forum, 2012). Notably it is the threat of weaknesses which could undermine South Africa's future competitive rankings. Examples are taken from the Global Competitiveness Report 2011-2012 and measured against 142 economies. Some examples are labour market efficiency (95th), rigid hiring and firing

practices (139th), lack of flexibility in wage determination by companies (138th), and labour-employer relations (138th). (World Economic Forum, 2012).

A more recent evaluation of the South African economy refers to the Index of Economic Freedom 2012 which states that for the country to ensure long-term economic development, "aspects like lingering corruption and weak rule of law add to the cost of doing business and erode overall economic competitiveness" (Index of Economic Freedom, 2012:1).

In addition the World Competitiveness Scoreboard 2011, which assessed the overall rankings for 59 economies, the ranking is most to least competitiveness. The BRICs countries and the years 2011 and 2012 are itemised below in Table 3.1 for comparative assessment.

Table 3.1 Position of BRICs countries in World Competitiveness Scoreboard 2011-2012 (World Competitiveness Scoreboard, 2012)

COUNTRY	2011	2012
Brazil	44th	53rd
China	18th	26th
India	31nd	56th
Russia	51st	49th
South Africa	52nd	50th

South Africa does not seem to be able to improve significantly on its global competitiveness rankings. It gained two places in 2012, being placed 50th, whereas in 2011 the country attained 52nd position.

3.3.5 South African national CI studies

A study on the role of CI in manufacturing companies was undertaken by Du Toit (2003). From a sample of 108 manufacturers, 78 (72.2%) returned completed questionnaires. The list of Du Toit's (2003:117) findings has been selectively chosen, to help understand the status of CI in South Africa.

- Formal intelligence units were utilised by only 26% of the respondents, with 76% having some kind of CI systems in place.

- 49% of the respondents viewed CI as very important, while 8% considered formal CI units as unimportant.
- Only 21% of CI units regularly interviewed CEOs to understand their needs.
- The majority of companies used informal communication networks to check on their industrial rivals.
- 87% of senior managers "accepted the credibility of the data ... in their own decision making".
- Only 43% of the companies used formal environmental scanning systems.

In summary, Du Toit (2003:119) concludes that "proper intelligence management" is needed along with "skills and flexibility associated with intelligence to aid South African manufacturers survive globally."

A second national study by Viviers *et al.* (2002) looked at CI practices in South Africa. Viviers *et al.* selected 2462 companies as the sample for the national study. A response rate of only 4.9% was attained, as cited in Viviers *et al.* (2002:30). The findings of these authors reveal some negative and positive aspects of CI practices in South African companies:

- Organisations were very poor in the formal organisation and processing of information. For example, no legal and ethical guidelines were given to help employees conduct intelligence activities (Viviers *et al.*, 2002:30),
- The model of intelligence tended to be a part-time one, which suggested few organisations committed full-time resources to their CI efforts. It was also found that in the CI process respondents spent most of their time collecting information (35%) and analysing it (25%) (Viviers *et al.*, 2002:31).
- Despite companies collecting information from people inside or outside their organisation, the process followed was poor and rarely validated. This makes South African organisations vulnerable to misinformation and/or disinformation

(Viviers *et al.*, 2002:33).

- The weakest area in the CI practices of the responding South African firms was analysis, with few firms using advanced techniques (Viviers *et al.*, 2002:33).
- Some of the senior managers believed that CI can create a competitive advantage. A high percentage believed that CI was legitimate and a necessary activity for increasing intelligence within their firms (Viviers *et al.*, 2002:35).

In summary, Viviers *et al.* concluded that South African companies' interpretation and implementation of CI principles and practices were poor because they lacked the appropriate skills to glean 'intelligence' effectively and efficiently.

A third study conducted by Sewdass and Du Toit (2012) found that the majority of CI professionals have postgraduate degrees and were in either top management or senior/middle management level of their organisations. Only 55% of the respondents are of the opinion that they cope above average with changes in the business environment and 60% of the respondents strongly agreed that the most important CI activity in their organisation is to use CI to remain cognisant with government legislative trends.

Both national studies reveal tardy and limited understanding and acceptance of CI practices in South African organisations. Further national CI studies need to be pursued to help South African organisations to achieve further success in global markets. To date there have been some successful South African companies that have extended their footprint into other countries, for example Aspen Pharmacare with its recent acquisition of Sigma in Australia (Bodibe, 2012: 1).

Overall, the studies of Heppes and Du Toit (2009), Begg (2007), Strauss (2008) and Du Toit and Strauss (2010) and three two national studies mentioned in this section confirm that the current CI practice in South Africa has not reached its full potential. Although its potential value is acknowledged, there are seemingly few organisations that fully embrace its merits and sanction its full integration into the South African business landscape. Consequently it is not fully utilised by South African companies and their senior managers for the different reasons discussed earlier in the section. The South

African government also needs to realise the importance of developing awareness and support of the critical role CI plays in the global economy and give backing to any CI effort undertaken by educational institutions and organisations in the country. One further study by Viviers *et al.* (2005a:252) concurs that not enough attention is paid to mastering CI skills. Viviers *et al.* (2005b:525) found that "analytical skills are not yet honed to be capable to integrate a variety of factors, internal and external to companies."

This statement too is backed by the findings of Du Toit and Muller (2004:1), who quote a former CEO of Motorola's suggestion that CI needs to be "run by a small cadre of professionals, not amateurs or part-timers." Such evidence stresses the importance of training CI professionals.

In terms of the current South African pharmaceutical industry, certain characteristics that would define a CI culture are lacking. For example, as noted in the findings of the two national studies discussed earlier, there is a lack of trained CI professionals, an area of expertise much needed by the industry.

3.4 SUMMARY

In this chapter an overview of CI research conducted in South Africa was given with the emphasis on national CI studies and other academic studies. Comparisons were made between the BRICS countries to illustrate South Africa's competitiveness rankings.

The next chapter proposes to discuss the South African pharmaceutical industry as a current entity striving to survive in a rapidly changing environment. It will make reference to the competitive landscape of the industry and the significant impact and influence of South African legislation and regulatory bodies. Finally, it will highlight the current challenges facing the pharmaceutical industry.

CHAPTER 4: SOUTH AFRICAN PHARMACEUTICAL INDUSTRY

4.1 INTRODUCTION

The international pharmaceutical industry is dynamic, highly competitive and also at risk and so is the South African domestic healthcare and pharmaceutical industry in relation to the threats and opportunities that abound on the African continent.

This chapter will focus on the South African pharmaceutical industry, paying attention to the following aspects:

- Competitive landscape of the pharmaceutical industry
- Regulation of the South African pharmaceutical industry
- Regulatory bodies
- Challenges facing the pharmaceutical inustry.

It will consider another sub-problem, in the context of the above points, namely: What are the characteristics of the South African pharmaceutical industry?

4.2 COMPETITIVE LANDSCAPE OF THE PHARMACEUTICAL INDUSTRY

Timur (2006: 8) identifies a set of universal characteristics which are equally applicable to the South Africa pharmaceutical industry. He states that pharmaceuticals are “the world’s most research-intensive industry, generating new drugs that satisfy vital consumer needs in healthcare by saving lives and significantly increasing quality of life”, which is fundamental to the pharmaceutical industry’s existence. Timur (2006:8) credits the industry as a “crucial component in delivering healthcare.” When making business decisions, a holistic approach is justified, the rationale being that business markets need to take cognisance of the competitive environment that embraces many elements. Before attempting to address the South African pharmaceutical industry, further reference needs to be made to work conducted by Le Fanu (2011), Baines (2010) and Sharp (2009), as each of their studies has an indirect bearing on South African markets.

In his book, *The Rise and Fall of Modern Medicine*, Le Fanu (2011:433) levels criticism at the pharmaceutical industry. He states that “drug companies are very rich but they

are also desperate because marketing their wares is now so costly." He comments further on how some, if not most, unscrupulous drug companies are orchestrating medical doctors to become "the respectable front for the drug companies ..." A classic example detailed by Le Fanu (2011:433) is his reference to cholesterol-lowering drugs, which provide "the rationale for their almost universal prescription." Le Fanu (2011:434) also claims that "patients have become over-medicalised and the nation's drug bill continues to escalate." Furthermore, he contends that "drug companies in capitalist enterprises cannot escape from the imperative to innovate." In this example he is referring to the USA but it can be used in a broader context, i.e. the developing world. In South Africa, life choices frequently have an impact on patient numbers increasing exponentially. For example, with the growing burden of the diseases HIV/AIDS, TB and diabetes, heavy healthcare budgets become the norm and not the exception.

Le Fanu (2011:435) makes a statement about the medical professional that seems to be either misguided or chooses to turn a blind eye to the negative aspirations of the pharmaceutical industry, whose mission is to consolidate profit margins in a competitive trade. Baines (2010:434) criticises efforts made by the pharmaceutical industry to "pursue even legitimate avenues in promoting the drugs up to and including subverting the integrity of the medical professional." Further evidence of such findings in current marketing practices of pharmaceutical companies can be found in the developing world. For example in a report by Bala-Miller, Macmillan and Upchurch (2008:6) on CI, Consumers International draws attention to how drug companies influence health in the developing world. They target doctors, medical clinics and hospitals with promotional material, irresponsible advertising and aggressive drug promotion to obtain big profits for their industry (Bala-Miller *et al*., 2008:6-8).

Bala-Miller *et al*. (2008:7) state that in emerging countries there is poor regulation by governments to "effectively monitor and regulate the marketing of medicines." India, despite its strong civil society, is inadequate too. According to a "2003 memorandum of the All India Drug Control Officers Confederation, in order to be effective, the number of drug inspectors needed to more than quadruple from 700 to 3000" (Bala-Miller *et al.,* 2008:7). There is also the impact of irresponsible marketing where "it is estimated that

up to 50% of medicines in developing countries are inappropriately prescribed, dispensed or sold" (Bala-Miller *et al.*, 2008:9). Bala-Miller et al. (2008:7) refer to both Brazil and India where existing legislation is also inadequate to control irresponsible advertising.

While the world's ageing population is swelling the "ranks of those requiring treatment for chronic degenerative diseases" (Le Fanu, 2011:440). The pharmaceutical industry has noted this demographic shift. Consequently drug manufacturers can look forward to future healthy profits. Criticism levelled by Le Fanu is equally applicable to a developing country such as South Africa, although on a much smaller scale. On the other hand, Baines (2010:9) is far more understanding of the plight in which the pharmaceutical industry finds itself today. The issues confronted by the industry "are very complex and cover a wide variety of areas including research and development, commercial, political and geographical to name a few" (Baines, 2010:9). He posits that "only the companies that are willing to change or modify their strategies ... will have long term success" (Baines, 2010:9). Changes emanate from the overall economic downturn, the rising cost of healthcare and the costs associated with the development and sales of pharmaceuticals (Baines, 2010:8). Baines outlines four major challenges facing the industry.

- Decline in the discovery, approval and marketing of new chemical entities (NCE).
- Fewer and fewer highly successful drugs are making it to the market.
- Competition from generic drugs.
- Regulatory pressures.

In South Africa all four challenges outlined above are pressing factors that pharmaceutical manufacturers have to deal with on a daily basis. Medical aid schemes too are feeling the pressure from another source, namely biologics. Buthlezi (2012:15) reported on the unsustainability of the costs of these medicines in the next few years, despite an increasing demand for these specialised expensive drugs. He noted too that Liberty Medical Scheme was concerned with the extensive biologics pipeline, resulting in future unsustainable medicine expenditure. Discovery Health also contributed to the

argument that health-care funders and policymakers need to find a way to make these expensive medicines sustainable and affordable (Buthlezi, 2012:15).

Before referring to Sharp's 12 elements, which itemise the entire competitive landscape, her comparison between two constructs, namely *competitor intelligence* and *competitive intelligence*, needs to be highlighted to understand about the business tool, CI. Sharp states that these two constructs are "not synonymous but there is a significant difference. 'Competitor intelligence' has a narrower focus that excludes critical information, competitive intelligence takes a broader, more objective and accurate view of what business faces and what can derail or challenge the company." (Sharp, 2009:37). According to Sharp (2009:38), there are 12 elements that need to be explored in terms of the competitive environment. These elements make up a competitive landscape consisting of jigsaw pieces, which display an entire competitive environment:

- Demographics
- Distribution
- Government and industry regulations
- Economy
- Customers
- Prospects
- Other industries
- Substitutes
- Culture
- Technology
- Suppliers
- Competitors.

Once all 12 elements have been addressed within the context of a particular industry, a holistic picture emerges, allowing an organisation to start focusing on formulating a strategy (see Figure 4.1).

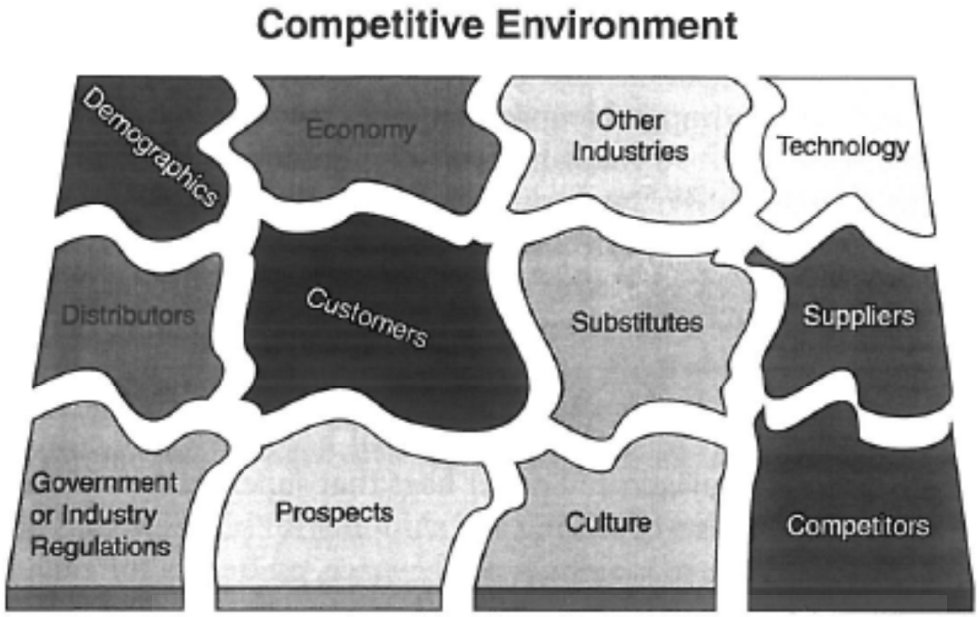

Figure 4.1 The entire competitive environment (Sharp, 2009:38)

Currently within the South African pharmaceutical industry, most of Sharp's 12 elements can be identified, acknowledged and addressed, using contemporary examples from the South African markets. With reference to the jigsaw piece *Government or Industry Regulations*, a determined effort and energy are emanating from the government regulations which dictate to, and affect, future strategies on the economy and customers. Only very recently government regulations have agreed to bring down drug prices, which for a long term prohibited the price rises manufacturers needed to "push through to offset these higher costs" (South Africa Pharma: Aspen reaps rewards, 2011:1). Admittedly and understandably this input is driven by the current government's brief to focus on transformation in every sphere of South African society. Although it is a noble ideal to redress the grievances of the past, there is valid criticism of the way this is done. More recently, Lee Padayachee, the parliamentary liaison officer of Business Unity South Africa, was reported as saying that the currently proposed labour laws are "problematic for businesses as their impact is largely unknown" (Sathekge, 2012a:16).This is an example of the kind of risks that businesses would need to

consider in their decision–making processes. The jigsaw piece *Suppliers* in Figure 4.1 too has undergone a transformation process in terms of the active PPPF introduced by government policy. The *Customer* profile in Figure 4.1 has changed dramatically, as the economy struggles to survive with generic medication and HIV/AIDS medicines taking centre stage. The jigsaw piece *Distribution* has been affected because new entrants into an established network tend to ignore these frameworks, resulting in ARVs recently being in short supply in six provinces. The problem occurred when *Suppliers* were unable to meet their contractual commitments (Fix the ARV shortage, 2012:18). *Prospects* for the future are problematic for local manufacturers because of pending wage costs, the weaker rand and higher electricity costs, which threaten to affect margins (South Africa Pharma: Aspen reaps rewards, 2011:2).

Since 1994, the new dispensation has unwittingly introduced an era of rapid market growth and wittingly harnessed previously disadvantaged capacity, which has reshaped and continues to reshape company strategies in the pharmaceutical industry.

Organisations urgently have to address the global challenges on issues of competitiveness not experienced before. Local competition was constrained by the previous government's political ideology. In addition, the government of the day used to contribute to manufacturing establishments with tax breaks and government subsidies to assist organisations in trying to access global markets when South Africa was branded as a pariah in the international world.

Liebowitz (2006:60) provides interesting yet constructive criticism on the analysis of this entire competitive landscape. He illustrates that the theoretical concepts of CI, KM and BI, when synthesised, takes on an enabling role to generate strategic intelligence. Furthermore Liebowitz (2006:60) posits that "CI is an important ingredient toward developing, monitoring and adapting the strategy based on internal and external factors." In contrast to other CI experts such as Bernhardt (2003), Fleisher (2000), Kahaner (1996a) and McGonagle (2007), Liebowitz (2006:60) advocates that it is not CI alone which promotes strategic intelligence, but a "merging of CI, KM and BI." This kind of synthesis results in strategic intelligence (SI) becoming 'enabled.' Ultimately Liebowitz (2006:62) states that "SI through leveraging the internal and external

intelligence from KM, BI and CI, is created to help the organisation maximize its strategic mission and vision." Notwithstanding this, Liebowitz does stress that CI still has an edge on the other two theoretical constraints in terms of making good decisions. CI as a business tool allows an organisation to know its competition and what internal and external factors need to be analysed to improve decision-making.

The South African pharmaceutical industry is undergoing rapid transformation spurred on by the current economic climate, government policy and an evolving local existing customer base. Also within this cauldron of factors is the dominating framework of globalisation. South Africa, like many developing countries, needs to embrace an open-market economy to develop competitiveness which, in turn, will "enhance its competitiveness to improve living standards" (Blanke, 2007:3).

As stated in Section 3.3.4, South Africa's competitive position is declining over the past ten years. Two major South African pharmaceutical companies, Aspen Pharmacare and Adcock Ingram, have adapted to the competitive landscape successfully. They are operating well within the structures of globalisation. New statistics on the State's intervention in the South African economy is seen as meddling with its economic freedom ranking. Davie (2012:16) reports that in the 2011 annual Economic Freedom of the World Rankings measurement of 141 countries, South Africa has fallen from 42nd to 84th place.

Aspen Pharmacare is Africa's largest generic pharmaceutical manufacturer and major supplier of brand pharmaceuticals and healthcare products to the Southern African market (Ashton, 2012:20). Stephen Saad, CEO of Aspen Pharmacare, cited in Ashton (2012:20), suggests that the next growth will occur in Australia and Asia. According to Saad, Aspen Pharmacare already holds 24% of the generic market in Australia and "investment in personnel in the region" has started "to pay dividends" (Ashton, 2012:21). Aspen Pharmacare continues to expand, with particular interest in Brazil, which according to their CEO "is 7x the size of South Africa" (Ashton, 2012:21). Aspen Pharmacare, too is "eyeing the growing international demand for its low cost generic products" (South Africa Pharma: Aspen reaps rewards, 2011:2). With the European Union economic fallout in 2012, brands became too expensive and customers were

starting to exchange loyalty for cost-effective medicines. The second largest successful pharmaceutical company in South Africa, which has continued to thrive, is Adcock Ingram. In a RNCOS Industry Research Solutions Report (2011:1) it was stated that the South African pharmaceutical industry is to grow 22% by 2013. It affirms too that the industry – despite challenges – remains "pleasantly buoyant ... private players are making intensive investments." It states that "several factors [are] driving this growth, namely growing healthcare spending and burden of diseases (HIV/AIDS, TB, Diabetes), have boosted the usage of these high priced drugs."

In addition, because the South African government provides state funded healthcare, a domino effect on the purchasing of an enormous volume of primary healthcare medicines "such as generics, antibiotics and OTC (over the counter) drugs" will have a snowball effect (RNCOS Industry Research Solutions Report, 2011:1). The report also shows that South Africa's healthcare has great growth potential, especially for "private players to set up their own manufacturing bases, as South Africa is highly dependent on importing drugs" (RNCOS Industry Research Solutions Report, 2011:1) The active pharmaceutical ingredient (API) industry has the potential to attract private investment and grow exponentially, provided the present government learns "from its failed strategy in the biotechnology industry" (RNCOS Industry Research Solutions Report, 2011:1).

Joshi (2003:1) notes that "Patents protect the development and marketing of pharmaceutical products which are made up of two main components, namely the API or bulk drug and formulation (i.e. a suitable final dosage form)." Furthermore, Joshi explains that APIs are either produced by chemical synthesis or are of plant, animal or biological origin. Moreover, both API technology and biotechnology require huge sums of money to invest in R&D. Because some APIs are chemically derived the more traditional pharmaceutical manufacturing concerns have to deal with expensive lawsuits as patients/customers complain about toxic side-effects. They are considering alternative medicines to suit their pockets better and avoid chemical side- effects. Consequently APIs are becoming less viable. The company Big Pharma has already infiltrated the new era of biotechnology, which seems a better viable option. The South African government wants to capitalise on a future knowledge economy and as a

consequence will have to assist local, small manufacturers to establish centres of drug manufacturing excellence if they are to compete in the global arena (Joshi, 2003:2).

4.3 SOUTH AFRICAN PHARMACEUTICAL COMPANIES

The South African pharmaceutical industry has extended into Africa despite having to weather “adversity in an unfavourable local trading environment“ (SA pharmaceutical industry extends to Africa, 2012:1). It is estimated by the IMS Health Global Pharma Prognosis that “South Africa will account for 23% of African pharmaceutical sales by 2014“ (SA pharmaceutical industry extends to Africa, 2012:1).

4.3.1 Aspen Pharmacare

One local pharmaceutical company which has a world-wide geographical spread is Aspen Pharmacare. This organisation has a competitive advantage due to several strategies itemised by England (2012:1):

- …cutting its own path into its domestic market and beyond, expanding its business from Philippines to Brazil, largely through mergers and acquisitions;
- Acquiring a portfolio of over-the-counter (OTC) products from Glaxco Smith and Kline for R2.1billion;
- Being able to use the strategy of buying brands and making them successful in emerging markets;
- Spending R6.1billion on Australia-based Sigma Pharmaceuticals to help consolidate its foothold in the Asia–Pacific region; and
- Maintaining 18 manufacturing facilities across six continents.

Aspen Pharmacare seems to have overcome global competition by consolidating these strategies, a remarkable achievement to grow opportunities out of a complicated domestic market.

4.3.2 Adcock Ingram

Adcock Ingram has its major operations in South Africa, its strength being the OTC segment (Pharma manufacturer Adcock Ingram, 2012:1). However, even that strength is under review; as Malepa reported that there was “a 12% decline in headline earnings in the six months ended March, despite Adcock Ingram being South Africa’s largest supplier of OTC, hospital and critical care products” (Malepa, 2012:12). The same article reported that the group would continue to search for acquisition opportunities……particularly in Africa and India (Malepa, 2012:17). More recently Dr Jonathan Louw opened a newly upgraded critical care factory in Gauteng to the value of R300million. Such a capital outlay was necessary for first-time compliance with International Pharma Inspection Convention and Pharmaceutical Co–Operative Scheme Standards. This venture was launched to meet world class standards at optimum efficiency through a labour intensive process. Dr Louw stated in the report that the organisation wanted world-class standards at optimum efficiency (Adcock opens integrated manufacturing plant, 2012:1). It is not surprising that the heavy financial input required for these “world-class facilities to meet world standards” could have contributed to many local companies closing down rather than over-extending their budgets.

4.3.3 Litha Healthcare

The Litha Healthcare group, after it merged with Myriad Medical Holdings, was listed on the Johannesburg Stock Exchange (JSE) in 2011. This group distributes vaccines from “several major international pharmaceutical companies” (Makholwa, 2011:26). Furthermore, it supplies paediatric vaccines to the South African government. Its construction of a biotechnology division to manufacture its own vaccine some years ago is proving to be a fruitful strategic decision (Makholwa, 2011:26). Litha Healthcare also has plans to move into African markets by 2017 with other pharmaceutical products such as medical equipment for distribution from local and international deals. In addition, the company “has a strong but small pharmaceutical division to market and distribute generics and over-the-counter products” (Makholwa, 2011: 26).

4.3.4 Cipla Medpro

Cipla Medpro seems to have a competitive advantage, as it is government-aided with sound BEE credentials. Cipla Medpro is ”backed by a group of 13 BEE consortiums who have an 18.4% share in the company”. It remains “the fastest growing of the four listed companies” (SA Pharmaceutical Industry extends to Africa, 2012:1). The same report states that its progress has been somewhat affected by South African regulatory controls because of slow product registration by the MCC. Consequently it needs to use its political advantage and partnership with Cipla India more effectively, as the latter is able to provide them with “an attractive pipeline” (SA Pharmaceutical Industry extends to Africa, 2012:1).

4.4 REGULATION OF THE SOUTH AFRICAN PHARMACEUTICAL INDUSTRY

Every country has a different set of government rules and regulations, which all organisations need to consider when planning and implementing their strategies. Regarding the subject of regulations, Sharp (2009:54) states that it is regulations which increasingly shape “the structure and conduct of industries.” Either industry or government regulations seem to pose “the single biggest uncertainty that can affect market decisions.” In South Africa the question of government’s transformational policies of affirmative action and Broad-based Black Economic Empowerment (BBBEE), along with employment equity, are gradually being met. Such legislation has made an impact on multinational organisations, which have responded in different ways. Their main focus is the need to get profitable and sustainable returns on their financial investments. Fortunately for most multinational organisations, if errors occur in strategic decision-making because of legislation, unlike local small-to-medium organisations, they are able to cushion the blow or impact more easily.

After the Preferential Procurement Policy Framework (PPPF) Act was passed on 7 December 2011, Rob Davis, the South African Minister of Trade and Industry, was reported to have said that this Act would not affect foreign direct investment as local meant manufactured in South Africa – regardless of whether the company was foreign

or locally owned (Davies, 2011:15). This Act is an accredited rating on all organisations in terms of the BBBEE codes drawn up to regulate transformation in business.

The South African government plans to grow the South African pharmaceutical industry by 2018. This plan seems to have resulted in strategic failure, despite the potential and challenges outlined by the 2000 Fund for Research into Industrial Development Growth and Equity (FRIDGE) report. In promoting training and capacity building in health research, the South African government invested funds ”to use research, development and technology transfer,” [for the health of its population] “through institutions like the Medical Control Council” (Ndhlovu, 2007:2).

However, such noble sentiments have to date not been put into practice despite ”the huge investment in time, financial and human resources” that was made available to develop the South African pharmaceutical industry (Ndhlovu, 2007:4). The 2000 FRIDGE report was commissioned by the National Economic Development and Labour Council (Nedlac) in 1999. Since the South African government wanted to promote the local industry as a growing sector, the objectives of the report (FRIDGE report: 2000: 2) were to:

- Establish the drivers of competitiveness in the market for generic pharmaceuticals.
- Propose collective and individual actions by labour, government, industry associations and individual companies to address competitive issues.
- Build capacity and co-operate between shareholders in the pharmaceutical sector.

Nedlac’s brief was that a comprehensive study should look at major opportunities and threats for domestic manufacturers of the pharmaceutical industry in South Africa, with the emphasis on generics (FRIDGE report: 2000:2). The FRIDGE report confirms what Ndhlovu (2007) highlighted in her research namely that the South African government as an enabler of industry had identified the local pharmaceutical industry for development. “Particularly in the area of drug production where it could capitalise and develop its industrial base.” (FRIDGE report: 2000:167). The term ‘Manufacture’ is

defined clearly by the South African Medicines and Medical Devices Regulatory Act of 1998. “All operations, including purchasing of material, processing, production, packaging, quality control, release and storage of medicinal products and related control.” While such operations outlined in this definition might seem straightforward, the complexity can never be underestimated.

Thom (2010:1) criticised the activities of the Medical Control Council (MCC): “South Africa’s beleaguered Medicines Control Council (MCC) is slowly starting to make inroads into its massive backlog; however it will take a long time to repair the damage done by years of political meddling and incompetence.” Thom’s criticism is a reminder of how professional an organisation such as the MCC needs to be in terms of its portfolio mandate.

The FRIDGE report reports on some of the challenges the industry has encountered. Significantly negative aspects which have capitalised on the pharmaceutical industry’s growth, have been the issues of globalisation and restructuring “affecting the South African industry severely slashing employment to half that in the 1980’s” (FRIDGE report, 2000:167). Secondly, the manufacturing industry was “in crisis with declining investments, legislative and regulatory chaos, plant closures” (FRIDGE report, 2000: 177). Many organisations started to look at offshore manufacturing to ensure survival (FRIDGE report, 2000:168). Fourthly, “although South Africa is a small and not very wealthy market, it has a general inability to achieve economies of scale in production”. To put it more meaningfully, “production runs are short for the local market and with only higher inputs current production would claim higher unit costs” (FRIDGE report, 2000:111).

Nevertheless belief in developing the pharmaceutical domestic industry is strong among the three stakeholders namely government, business and labour, which supports the idea that the pharmaceutical sector “has the potential to play a considerable role in the development of the economy and society” (FRIDGE report, 2000:168).

Ndhlovu (2000:6) offers a positive solution to grow the industry. She recommends that next time round, government could consider a focused cluster strategy to direct investment on health issues. She cites HIV-AIDS-TB as a possible cluster strategy.

Two authors, Kaplan and Laing (2005: i), wrote a paper on why they thought local production of pharmaceuticals in a developing country should not produce medicines domestically from a policy and public health viewpoint. They questioned how compulsory licensing under Trade Related Aspects of Intellectual Property Rights would affect the industrial capacity of a developing country such as South Africa (Kaplan & Lang, 2005:4).

Further criticism from the FRIDGE report warned that already by the year 2000, over 30 companies had closed plants over the past five years due to downsizing/rationalisation/mergers and imports, as well as medicines approval times (FRIDGE report, 2000:172). At the time of the study, the FRIDGE report stated that there were 79 manufacturing sites with less additional packaging sites (FRIDGE report, 2000: 168). In 2012 "only 10 of the 94 pharmaceutical firms registered in South Africa have production facilities here" and they import the bulk of their raw inputs, as few local firms produce the necessary active pharmaceutical ingredients (API) (Kahn, 2012:1).

Another criticism of the industry stated by Ndhlovu (2007:6) concerns the industry's manufacturing capacity; she points out that it has capability but its "capacity remains limited" (Ndhlovu, 2007:7). She confirms that despite the South African government being active through an extensive series of funding and investment programmes, the strategy over the last 10 years has not yielded the results aimed for; collectively the investment is said to be "about a billion rands" (Ndhlovu, 2007:1).

A positive analysis by the FRIDGE report is that South African manufacturing companies need to improve on research and development (R&D) to become competitive exporters so that the spinoff will create an "opportunity to expand over time into new chemical entities" (FRIDGE report, 2000:156). Such a move would result in utilising a "local base of traditional remedies and the bio-diversity of plant material" (FRIDGE report, 2000:156) and the manufacturing of plant-derived pharmaceuticals and

APIs (FRIDGE report, 2000:163). South Africa has a wealth of botanical diversity through which research and fair regulation could help grow phytomedicines. Such a move could assist local industry whose revenues are shrinking as "traditional companies choose between investing in manufacturing facilities or spending their earnings on new product development" (FRIDGE report, 2000: 159).

Both the biotechnology and traditional pharmaceutical industry sectors undertake R&D and move through the value chain to a finished product (Ndlovu, 2007:2). Other sectors that are included are retailing and distribution, which add to the final costing of a product. In order for the pharmaceutical industry to compete globally, the value chain and business strategy need to be addressed. The FRIDGE report confirms that business strategy is crucial, as the pharmaceutical manufacturing industry becomes more vulnerable with the growth of imports and the decline of the rand (FRIDGE report, 2000: 178). The report evaluates three areas of management and planning that need attention (FRIDGE report, 2000:178).

- The legislative environment in South Africa, the effects of global restriction as well as issues such as State Tender Board practices have resulted in South African management focussing on short-term budgeting, rather than long–term goal-setting and objectives. Such short-term-focussed strategies and tactics are clearly not conducive to the long-term sustainability of the industry. All efforts should be made by all role-players to create a business environment which would enable management to introduce long-term strategic plans and objectives, essentially through more consultation and information-sharing as well as public-private partnerships.
- Successive planning at all levels and in particular management level is not well exercised.
- The performance evaluation of both management and workers is regarded as poor. It is recommended that industry-wide objectives and scientific measurements be evaluated.

The pharmaceutical industry is highly competitive, driven by the need to innovate and discover new, expensive drugs. The time span of 20 years to discover and market a

new drug is an added reason why the industry is highly competitive. By becoming more globalised, multinational organisations can reduce their dependency on local markets where competition has increased, especially in the pharmaceutical industry. Global markets offer a better return on investments. In particular, the global affluent ageing populations with higher disposable incomes are an enticement to multinational organisations, which have to contend with the current South African government's decision to give business to foreign manufacturers that offer donor-funded discounts (RNCOS Industry Research Solutions, 2011:1). Consequently, when profit margins are under pressure, multinational organisations need to move to global markets earlier. RNCOS Industry Research Solutions (2011:2) supports this notion by stating that their "overseas expansion strategy is being driven by a need to reduce its dependence on its home market."

Seemingly a current characteristic of the South African pharmaceutical industry is to encourage multinational organisations to keep their bases on South African soil, as this is where the huge disease burdens occur, for example diabetes, TB, high blood pressure and HIV/Aids (RNCOS Industry Research Solutions, 2011:3). These organisations could expand globally to gain a profitable return on their investments, but keep their options open in the hope that new government regulations, economic and political agendas will become more favourable. Notably the incidence of clinical trials for HIV/Aids is significantly lower than in other countries (Montague & Oosthuizen, 2010:23), providing further reason for multinational organisations to continue doing business in South Africa.

Medical schemes have to decide annually which patients should benefit in the current economic climate from expensive biological drugs because there is a growing demand from a minority of patients who need to be serviced by these new drugs (Kahn, 2012:10). These specialised drugs are used for chronic conditions. The majority of clients would have to have their monthly premiums increased to accommodate these escalating costs, which are unlikely to drop, as biologics are sought after innovations and pharmaceutical companies need to get a return on their investments. Pushing up costs is a dilemma for patient, doctor and medical scheme (Kahn, 2012:10). Dr Rajesh

Patel, head of risks and benefits at the Board of Healthcare Funders, affirms the analysis and suggests that the South African government's NHI could have a central fund that would be a solution to finance biologics (Kahn, 2012:10).

In 2011 doctors and HIV clinicians warned of a pending national shortage of antiretroviral (ARV) drug supplies. Those responsible are the suppliers rather than the manufacturers per se, because contracts are awarded annually to government-favoured suppliers, in this case 30% to Sonke Pharmaceutical and 70% to Aspen Pharmacare. In addition, there has been a significant increase in the number of HIV patients requesting treatment and the USA's contribution has been dwindling (Bodibe, 2012:2). The Department of Health seems to lack the capacity to put timely pressure on contracted suppliers to be answerable to their mandate (Bodibe, 2012: 1). Admittedly the fallout was addressed in June 2012 by the Department of Health. It requested other suppliers to assist; among others Aspen Pharmacare exceeded its contractual mandate. Subsequently the cause of the problem was related to an increase in the number of patients requesting ARV drugs because of government's advertising of free testing and free medication. In addition, the previous international non-governmental organisations donors did not fulfil their commitments, stating that the South African government had enough funds to supply the drugs. Government was caught unprepared (Ashton, 2012:10).

Some players like Pharma Dynamics, are cutting prices on certain drugs to benefit "a greater proportion of the population" (Buthelezi, 2012:19). These examples help to illustrate the dynamics that characterise the current industry.

Recent government legislation i.e. BBBEE and PPPF, also bring fresh challenges to a fragile economy landscape still suffering from the aftermath of the 2008 world financial fallout. Such legislation results in a systemic change within the structure of a country's economy. The revised Preferential Procurement Regulations enable economic transformation and service delivery. In addition, Achmat Toefy of the law firm, Webber and Wentzel, says it will reduce but not eliminate corruption and fronting (Tiro, 2011:13). Other bills that threaten the economy, according to the CEO of the South African Chamber of Commerce, Neren Rau, are the proposed labour legislation amendments

(Sathekge, 2012b:16). Rau is cited as stating that the comments submitted on the amendment bills Basic Conditions of Employment Act and Labour Relations Act are still pending, subject to national government's debates in Parliament. The local pharmaceutical industry is no exception. Davies, Minister of Trade and Industry, is reported to have said that the PPPF Act was passed to "compel state institutions from local municipalities to government departments, to buy locally." This would in turn stimulate local manufacturing (RNCOS Industry Research Solutions Report, 2011: 5).

Two important acts that the pharmaceutical industry has to consider in the light of the MCC regulations are:

- The Medicines and Related Substances Control Act 101 of 1965, which has included annexures and amended parts of the Act to suit the needs of the country in the 21st century. Its main focus is to govern pharmaceutical manufacturing.
- The guidelines on Good Manufacturing Practice Guidance documents, which suggest excellent professional control of the products that are manufactured.

In 2008, according to Thom (2010:10), the health department proposed the introduction of regulations to deal with the registration of complementary and alternative medicines. These regulations would differ from scientific medicines. The Medicines Act was passed but not implemented, thus paving the way for the establishment of a new authority which would be more independent of the health department (Thom, 2010:10).

4.5 REGULATORY BODIES

4.5.1 The Medicines Control Council

The MCC is an overall controlling statutory body that regulates the industry and the performance of clinical trials. It registers all new medicines and medical clinics. An MCC expert committee reviews all applications involving any trials, medical clinics and medicines. Before approving any of the above, this committee "evaluates the scientific, medical and ethical issues of all new applications" (Medical Control Council, 2012:1) before these go through to Parliament for final approval into law. The MCC is responsible for issuing a licence of good manufacturing practice, together with a licence

to manufacture or import drugs into South Africa. The MCC consists of 40 members and their main function is to promulgate regulations.

Since the purge of top management of the MCC in 1998, the quality of its work has declined dramatically (Thom, 2010:1). However, Thom does add a positive comment on the current health of the MCC, stating that "South Africa's beleaguered Medicines Control Council (MCC) is slowly starting to make inroads into its massive backlog. However it will take a long time to repair the damage done by years of political meddling and incompetence" (Thom, 2010:1).

4.5.2 The Pharmaceutical Society of South Africa

The Pharmaceutical Society of South Africa (PSSA) is the second important body which has effective representation at all government and official levels. It promotes the pharmaceutical profession and is an active professional organisation, which determines legislation to assist its members. It holds annual conferences for its members to engage with government officials and manufacturers on the broader aspects of innovation and commercialisation. It has strong connections with a vibrant collection of associations and each association will be expanded on in this section in more detail as they individually have a different function (Pharmaceutical Society of South Africa).

- The Academy of Pharmaceutical Sciences of South Africa (APSSA) organises conferences and calls for papers to represent this body.
- The Community Pharmacist Section (CPS) protects the interests of pharmacy owners in matters concerning the retail industry. It was formerly known as the South African Retail Chemists and Druggists Association, established in 1949.
- The South African Association of Hospital and Institutional Pharmacists (SAAHIP) has seven objectives, one of which is to represent the views and interests of the members on all pharmaceutical matters, including representing the members in dealing with government and similar agencies.

- The South African Association of Pharmacists in Industry (SAAPI) provides an electronic bulletin authored by different individuals, i.e.Van Zyl Zweygarth wrote the bulletin “Good Manufacturing Practice – making Medicines Better“.

- The South African Pharmacy of Standards Federation (SAPSF’s) mission is to serve students. It has are nine branches.

- An offshoot of the PSSA is the Health Systems Trust (HST). The HST informs its members of current regulations that have been passed. It publishes an electronic bulletin, which is a leading resource on health systems and primary healthcare in South Africa (Pharmaceutical Society of South Africa).

4.5.3 Pharmaceutical Industry Association of South Africa

The Pharmaceutical Industry Association of South Africa (PIASA) is an important trade association comprising companies involved in manufacturing and/or marketing of prescription drugs. PIASA is structured to address the most pressing needs of its industry (Pharmaceutical Industry Association of South Africa, 2008:7). It has no regulatory function other than assisting its membership with issues currently affecting the industry (Pharmaceutical Industry Association of South Africa, 2011:2 & 8):

- Healthcare funding
- International benchmark pricing of medicines
- NHI
- Transformation
- Delays in registering medicines
- Promotion of clinical research.

PIASA has a high profile in the South African pharmaceutical business community and accounts for 30% of the private sector share (Pharmaceutical Industry Association of South Africa, 2011:20). Regulations and associations such as PIASA add value to the industry, which is of critical importance to its health and welfare. Such a complex and wealthy industry needs guidance and assistance.

4.6 CHALLENGES FACING THE PHARMACEUTICAL INDUSTRY

There are numerous challenges facing both the international and local pharmaceutical industries. The global financial meltdown of 2012 contributes to the weakened growth of pharmaceutical markets, along with other industries. According to Baines (2010:2), the international pharmaceutical organisations are attempting to address some of these problems by "engaging in a variety of strategies aimed at paving the way for future success." For example, mergers and acquisitions and the establishment of new manufacturing sites in foreign countries are some of the solutions the industry has attempted to pursue. Baines (2010:2) refers to examples, "Merck's recent merger with Schering Plough and Pfizer's buyout of Wyeth and Roche's acquisition of Genentech. Others have pursued the path of diversification as in the case with Johnson and Johnson, Novartis or Abbot which have significant business activities outside of the traditional pharmaceutical area." For example, they have engaged with markets "like consumer products, healthcare services, medical devices and medical diagnostics" (Baines, 2010:3). Other companies, like Astra Zeneca and Glaxo, Smith and Kline, have focussed on emerging markets such as China and India respectively (Baines, 2010:3).

Some pharmaceutical organisations are working with former competitors. For example Eli Lilly, Merck and Pfizer have been cooperating on oncology in Asia (Baines, 2010:3), while others have signed service agreements. Merck is trying out a new way to engage with customers (Baines, 2010:3).

Many of the local pharmaceutical manufacturing organisations have either failed or formed partnerships with some international concerns to survive, e.g. Glaxco, Smith and Kline have a partial partnership with Aspen Pharmacare.

4.7 SUMMARY

With reference to the sub-problem, 'What are the characteristics of the South African pharmaceutical industry?' the South African pharmaceutical industry has undergone dramatic changes in trying to adapt to the new order since the new political dispensation after 1994. Government and business operate in the same environment and their

integration defines characteristics for the pharmaceutical industry. The South African government has identified the pharmaceutical industry as a growth sector by 2018.

The South African local pharmaceutical manufacturers have opportunities, complex and diverse but challenges make progress very slow and prevent them from successfully implementing timeous business strategies, which in turn affects decision-making. There have been some mergers and acquisitions while extending their reach into Africa, Brazil and Asia. The focusing on China and India has helped the local industry to weather unfavourable local trading markets.

The four main listed companies, Cipla Medpro, Adcock Ingram, Aspen and Litha Healthcare, continue to compete in the global and local markets in an oversubscribed competitive industry. These South African pharmaceutical organisations try to implement government policy in terms of transformation, skills training, revised labour laws and upheavals, while dealing with other issues such as political interference. They are finding such complexity challenging, when problems need to be solved strategically in order to satisfy profit margins and yet accommodate government policies.

There are a number of regulatory bodies that maintain standards in the South African pharmaceutical industry. This augurs well for any developing nation, as credibility and validity are hallmarks of professional input and regulation.

In chapter five there will be a detailed account of the empirical survey.

CHAPTER 5: EMPIRICAL SURVEY

5.1 INTRODUCTION

The previous chapter attempted to investigate the competitive South African pharmaceutical industry. The findings of studies by Le Fanu (2011), Baines (2010), Sharp (2009) and Liebowitz (2006), are that the same peculiar pharmaceutical issues experienced worldwide resonate in South Africa as well.

This chapter will focus on the research methodology used to conduct the empirical survey. It will investigate what the CI capacity situation is in the South African pharmaceutical industry.

5.2 RESEARCH APPROACH

The literature analysed for this study has shown a dearth of CI practices in the South African pharmaceutical industry. The study will use a descriptive survey, as it will describe the respondents' attitudes, opinions and some demographic information (O'Leary 2005:105).

Social science is concerned with human behaviour. Consequently the study takes into account the variability of human behaviour, which "can only proceed to the basis of levels of probability" (Allison, O'Sullivan, Owen, Rice, Rothwell & Saunders, 1996:7). These authors furthermore confirm that "research in social sciences which adopts the scientific method is based on certain assumptions or postulates about the uniformity of human behaviour." (Allison *et al*., 1996: 7)

Further elucidation on the topic states that this form of research referring to social science, when adopting the scientific method, "can generally be described as positivistic and is characterised by an absolute or varying level of generalizability" (Allison *et al.*, 1996 : 8). Finally, the use of "positive research frequently draws upon measurable evidence", thereby confirming it as quantitative (Alison *et al*., 1996:8). In this study the nature of the research approach deals with human behaviour, i.e. attitudes, value thinking and opinions, hence the use of a questionnaire, which is able to make assessments across a wide geographical area from a population of senior managers.

The survey will be quantitative in nature. In turn, the numerical data gathered will be submitted for statistical analysis as part of the process of data collection.

5.3 RESEARCH METHODOLOGY AND DESIGN

According to Leedy (2001:139) the main purpose of research methodology and design is to provide a blueprint that will set a pathway to obtain data and quality results and give answers to the research problem. Leedy (2001:140) explains that qualitative methods are more appropriate for the gathering of verbal data and quantitative methods are more suitable for the collection of numerical data.

5.3.1 Why use a survey?

Mouton (2001: 144-147) believes that empirical research is the derivative of experimentation and observation and it has been stated that this is characteristic of conducting research in the social sciences realm. This study will therefore use an empirical quantitative research approach in order for the problem statement to be solved. In the previous chapters the theoretical aspects of CI were discussed. Empirical research is the procedure of gathering data based on the theory and analysing it to be presented as facts to support the foundation of knowledge within the theory (Dalton, 1991:118).

Zikmund (2003:742) defines a survey as a means of gathering information from a representative sample of a certain population using questionnaires. The main advantage is that a survey can “generate standardized quantifiable empirical data” (O'Leary, 2005: 104). Babbie (2005:251) states that the use of surveys is valuable, since it enables the evaluation of the attitudes in large populations. This study merits having its data collected using a survey. This approach lends itself to collecting data from senior managers to understand their attitudes and opinions and general thinking about the value of CI in their organisations.

5.3.2 Sample

When selecting from a population, “the idea is to get a snapshot or picture of what people really do and what they really think” (O'Leary, 2005: 87). There is no complete list of manufacturing pharmaceutical companies in South Africa, except for a list of viable current manufacturers used by retail pharmacies (MIMS, 2011:2063-2064). Additional manufacturer’s contacts were accessed via telephone directories and the Internet and eventually a list of 68 manufacturing pharmaceutical companies was compiled. These 68 companies were the research population of the survey.

Population sample refers to individuals who represent senior management in the company responsible for strategic planning across South Africa (geographical coverage). The total number of email addresses for the targeted individuals numbered 68. These people received the covering letter and embedded questionnaire. One international company based abroad declined to participate. Another company reported that its staff members were too busy. A total of about 80 phone calls were made to different pharmaceutical manufacturers seeking permission to use the appropriate contact’s email address.

5.3.3 Questionnaire

A questionnaire was used for the survey so that statistical data could be more easily analysed. According to O'Leary (2005: 106), a number of issues should be addressed when developing a questionnaire:

- Formulating the questions
- Deciding on response categories
- Providing background information and clear instructions
- Making determinations about organisation and length
- Working on aesthetically pleasing layout and design
- Administering the survey

All these issues were addressed when compiling the questionnaire. This questionnaire consisted of 24 questions divided into Sections A, B, C, D and E (See Attachment A). Section A required background information while Section B explored the respondents’

thinking on CI activities. Section C attempted to elicit the extent of CI capacity in the respondent's company. Section D focused on analysis and interpretation of a senior manager's use of CI as a tool to help with information analysis. Section E queried whether respondents, who used CI, could comment on the value CI adds to strategic management.

The questionnaire was pre-tested by six different respondents involved with the medical and pharmaceutical industry to detect any design errors (Zikmund, 2003: 740). They appreciated the significance of strategic planning and knew about CI. Consequently justifiable constructive criticism was levelled at the existing questionnaire. A few minor changes were made to accommodate the valid criticism.

An electronic questionnaire as an instrument of data collection was chosen because of its practicality in surveying the perceptions of busy senior managers spread across a wide geographical base. Access to the questionnaire was via an electronic link embedded in the covering letter. The link is part of the web-based surveymonkey tool (www@surveymonkey.com). It was used as a format to capture completed responses, which could be automatically submitted once each respondent had completed the questionnaire. The distribution of the questionnaire as a self-administered survey meant that respondents could record their responses at their leisure, at their own time and place (Cooper & Schindler, 2003: 339). The Statistical Consultation Service (Statkon) at the University of Johannesburg assisted with data capturing analysis, using Statistical Package for Social Science (SPSS) software.

The main disadvantage of an electronic questionnaire over most other forms of surveys is that response rates can be low (O'Leary, 2005:106). Furthermore, O'Leary (2005:104) admits that in her experience "constructing and administering a survey that has the potential to generate credible and generalised data is a truly difficult task." There is no guarantee that questionnaires sent out will automatically generate a response. To address the problem, the researcher reminded potential respondents every week to participate by sending out friendly email reminders.

5.3.4 Anonymity

Nachmias and Nachmias (1996:225) deem surveys conducted through questionnaires to usually be anonymous. There are two main issues which determine anonymity: Firstly the respondents expect that in a research context no one will be able to link their identity with the findings, hence the significance of anonymity (O'Leary, 2005:73).

Surveys conducted through questionnaires are deemed to be anonymous because the confidentiality of a study needs to be guaranteed if respondents feel comfortable in answering questions about their perceptions and thinking on the behaviours of the company they work for. O'Leary (2005:73) confirms the above notion by stating that "anonymity goes a step beyond confidentiality and refers to protection against identification even from the researcher." The second issue referred to is the question of confidentiality. O'Leary (2005:73) furthermore states that "all identifying data remains solely with the researcher and that should be the eventual destruction of raw data."

For this study ethical issues such as anonymity and confidentiality were crucial for respondents working within the pharmaceutical industry.

5.3.5 Physical format

A covering letter accompanied the questionnaire, giving a detailed explanation of the purpose of the survey. It was be signed by the study leader, who is a bona fide employee of the University of Johannesburg (UJ). This letter provided credibility to the research project, with particular reference to issues of privacy.

The actual physical format of the questionnaire for the study has clearly distinguished question items and space for answers in the form of a cross (X), and numbered appropriately.

Responses to survey questions can be either open or closed. In this questionnaire there were a total of 24 closed questions. In the closed response category respondents were asked to choose from a range of predetermined responses. One category requested yes/no/don't know responses. Such a format is problematic, because as O'Leary (2005:110) points out, it "allows for a lot of fence sitting." A third category

consisted of questions where respondents could choose from a list and had an opportunity to respond if they had an alternative answer.

A fourth category was used to assess background information on the respondents. Here the fixed alternative items allowed for only one response. A fifth category was the contingency type question. In other words, a special type of structured question was compiled. If respondents answered yes, they could choose answers from a predetermined list.

A sixth category was the Likert-type scale category. These scales offer a range of responses using phrases such "strongly disagree" to "strongly agree." O'Leary (2005:111) cautions that an investigator needs to consider "the number of points you will use; whether you will force a side by using an even number of responses; and whether you think your respondents are likely to 'get on a roll' and keep circling a particular number."

5.3.6 Administering the questionnaires

Permission to use the contact's email address was obtained earlier through a series of telephone calls with an explanation about the current study. An email was sent directly to the contact responsible for strategic planning in the organisation. The email included a covering letter with a link embedded for the recipient to access the questionnaire. The letter was signed by the study leader, with a clear explanation about the research project, giving assurances of the anonymity of all respondents. It also stated that after the completion of the study, companies would be able to access the results via published articles in peer-reviewed journals. Clear, brief instructions were given on the actual electronic questionnaire (see Appendix A).

The number of questionnaires that were returned added up to 30. This gave a response rate of 44%. According to O'Leary (2005:89), the most basic statistical analysis requires a minimum of about 30 respondents; anything smaller makes it difficult to show statistical significance. She substantiates this statement by pointing out that this is the case "if findings are widely distributed and have a large standard deviation." This study's return ratio is within the percentage ratio of normal returns. The completed responses were printed out and sent to Statkon at the University of Johannesburg for statistical

analysis of the data. It was put into statistical format for the investigator's benefit so that the investigator could analyse and make appropriate recommendations for possible further research into the contextualisation of CI within the industry.

5.4 ANALYSIS AND INTERPRETATION OF THE QUESTIONNAIRE RESULTS

Results from all five sections of the questionnaire will be discussed in this section.

5.4.1 Background information

This section on biographical information of the sample concerned age, qualifications and position in the company. These three characteristics of senior management impinge on the role CI as a business tool plays when assessing strategy in the company.

5.4.1.1 Age distribution

According to Figure 5.1, the majority of respondents were between the ages of 40 and 49 years (44.8% (13)), with 27.6% (8) respondents falling into the 30 to 39 years range and 20.7% (6) respondents in the 50 to 59 years level. One respondent fell in the age category 18 to 29 years and another in the over 60 years level. In findings by Strauss (2008:51), she noted that the majority of respondents fell into the age category 40 years and above, while Sewdass and Du Toit (2012:230) found that 50% of respondents were younger than 50 years. All three findings suggest a tendency for a younger generation of CI professionals starting to filter through.

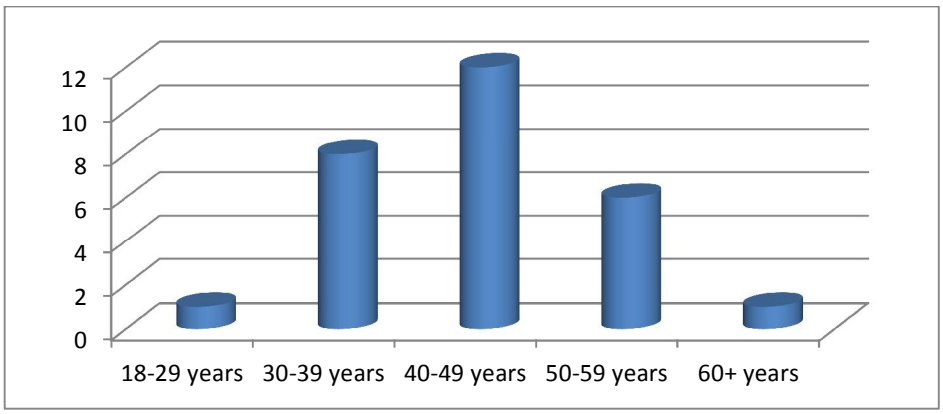

Figure 5.1: Age distribution

5.4.1.2 Qualifications

According to Figure 5.2 the majority of respondents (30% (9)) have a post-school diploma/certificate. However, 39.9% (12) of the respondents have a post-graduate degree – 13.3% an honours degree, 23,3% a masters degree and 3.3% a doctoral degree. Pietersen (2006:71) found that a CI professional should be 'highly qualified', thus adding value to the company, as conducting CI analyses requires specialised training. Furthermore, Viviers *et al.* (2005b:581) refer to "analytical skills [that] are not yet honed" in South African companies. What is surprising is the high number of respondents with only a post-school diploma/certificate. This may be a potential problem area, as senior managers responsible for strategy require specialised qualifications. Current research on other companies in South Africa show that 85% have postgraduate degrees and are in "either top management or senior/middle management levels" (Sewdass & Du Toit, 2012:230).

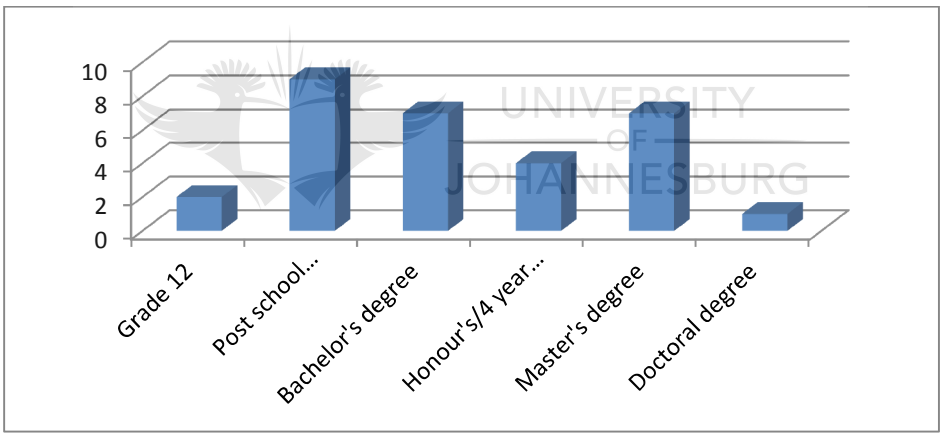

Figure 5.2 Qualifications obtained

5.4.1.3 Position in the organisation

According to Figure 5.3, 6.7% (2) respondents were from a lower management level and 10.0% (3) respondents were at middle management level. The majority of the respondents (80.0% (24)) were at top management level, with 3.3% (1) operating from an executive PA position. These findings suggest that CI is being supported by senior management, which is in keeping with the position of taking on responsibility for a company's strategy. The survey was pitched at senior management and the result of

80.0% (24) is a satisfying confirmation that top management engaged with the survey by completing the questionnaires.

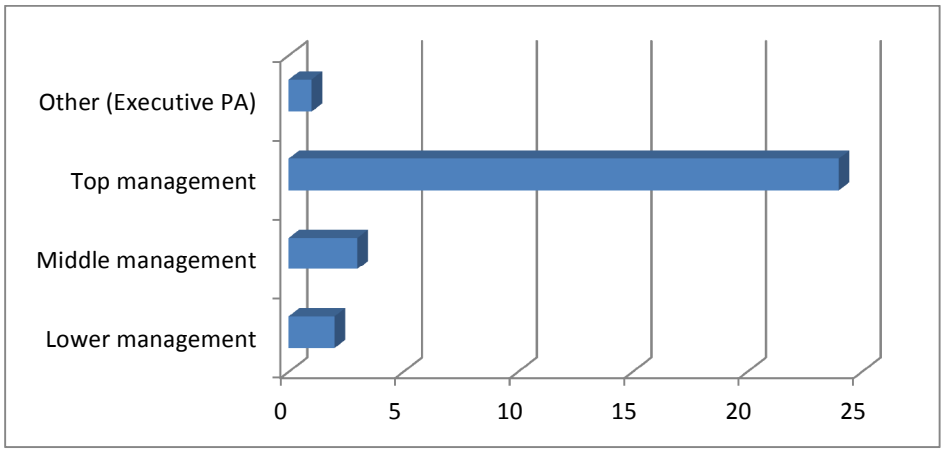

Figure 5.3: Position in the organisation

5.4.2 CI activities

In this sector the questions were posed to find out whether CI activities were conducted in the pharmaceutical industry, opening up a space for further understanding of CI's capacity and value.

5.4.2.1 Formal CI function in company

Figure 5.4 shows that a formal CI function is only available in 42.3% (11) of the companies, while 15.4% (4) of the respondents answered that they did not know. One can surmise that part of the 57.7% of companies who do not have a formal CI function could be small companies that have not invested in a formal CI function because of overhead costs. Consequently their CI activities would be minimal, as costs are not justifiable, especially in the current uncertain markets. It is only since 1994 that CI has made its presence known in industry and moved from intelligence in government to participate actively in commercial intelligence. Du Toit's (2003:117) findings help one to understand the status of CI in manufacturing companies in South Africa. Formal intelligence units were used by only 26% of the respondents, with 76% having some kind of CI system in place. When comparing the present results, where only 42,3% of the pharmaceutical manufacturing companies have a formal CI function, no real improvement since 2003 is evident for companies operating in 2012. Research by

Sewdass and Du Toit (2012:231) found that 60% of the companies they surveyed had a formal CI function.

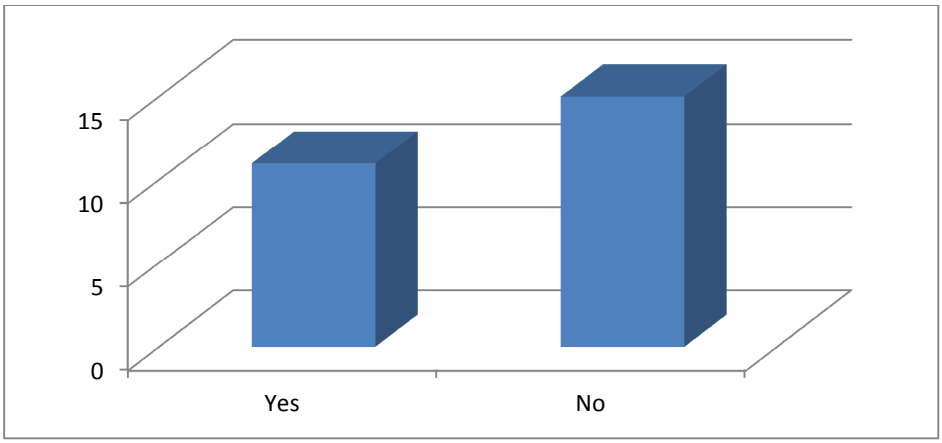

Figure 5.4: Formal CI function in company

5.4.2.2 Number of years CI function has been in existence

According to Figure 5.5, the CI function has been operating in the majority of companies for less than ten years. Only 23.1% (3) of respondents confirmed that the CI function has been operating in their companies for more than 10 years. Nineteen respondents said they do not know, indicating that they did not have a CI function in their companies. These findings support the research by Du Toit and Strauss (2010:29) that CI has been around for more than five years but less than 10 years and that of Sewdass & Du Toit (2012:231) that "the CI function has been in existence for more than five years in 65% of the companies" surveyed.

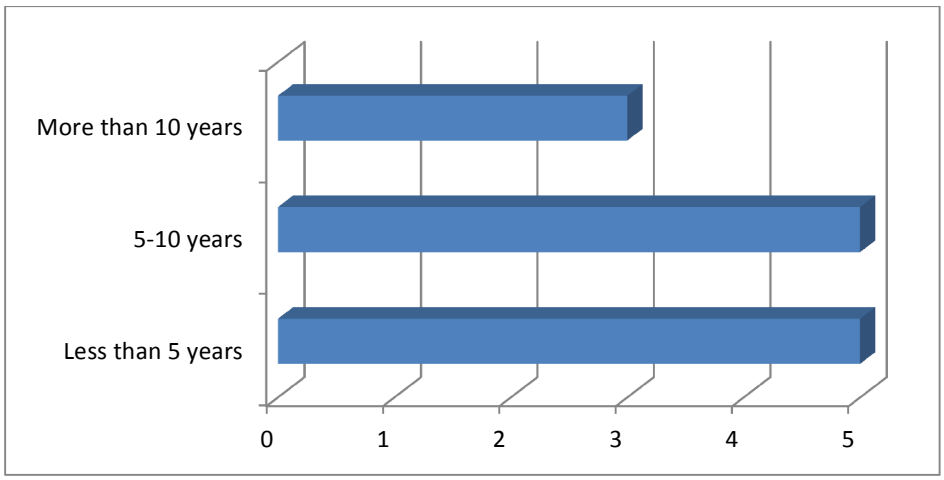

Figure 5.5: Number of years CI function has been in existence

5.4.2.3 CI allocation

In Figure 5.6 the question posed was what capacity of CI portfolio was allocated to the respondent. Figure 5.6 illustrates that 22.2% (4) of the respondents acknowledged a full CI portfolio, while 66.7% (12) acknowledged a partial CI portfolio, with 11.1% (2) of respondents referring to other types of portfolios. Twelve respondents left their answer blank, indicating that no CI portfolio had been allocated to them. The majority was pinned at having a partial CI portfolio. This suggests that organisations in the pharmaceutical industry currently do not appreciate the full value of CI and its implementation. Begg (2007:167) recommended that the retail clothing company he studied would benefit if it set up a formal CI unit, which is a full CI portfolio "to achieve optimal competitive performance."

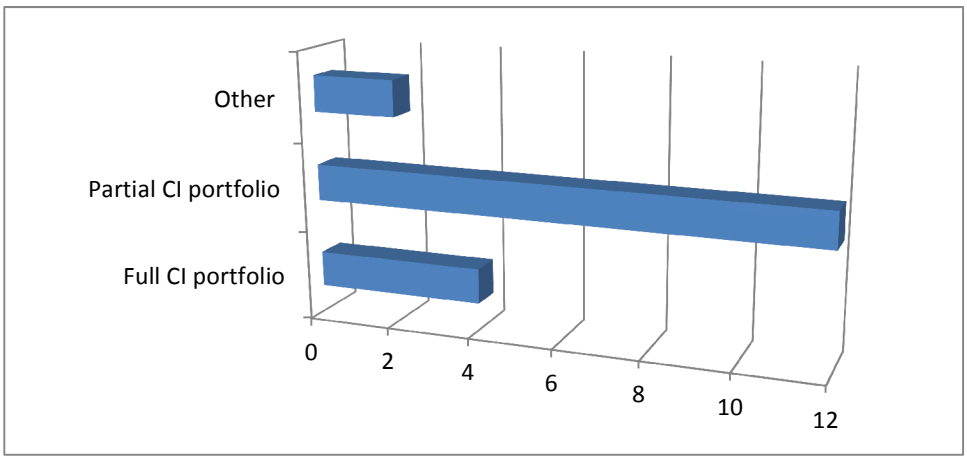

Figure 5.6: CI allocation responsible for

5.4.2.4 First exposure to CI

Respondents were asked how they became aware of the discipline of CI and their exposure to CI training (See Figure 5.7). The majority of the respondents (53% (16)) learnt about CI from work experience, with 40.0% (12) of respondents being self-taught through personal reading, seminars and conferences. Only 6.7% (2) of the respondents studied CI at university or at a tertiary institution. A further 6.7% (2) of respondents had alternative training i.e. in-house training. A possible reason for most employees having to 'learn on the job' could be the influence of exposure to international pharmaceutical company profiles. They are being socialised indirectly with CI principles and practices by competing globally. Local companies are gradually being exposed to the importance of this valuable business tool. Du Toit (2003:111) suggests they have realised too, that "knowledge and information are fundamental to economic growth." One can surmise further that company senior employees are beginning to see CI's value as they interact with a younger generation who have received CI training and begin to see the connections where competitive global markets are concerned.

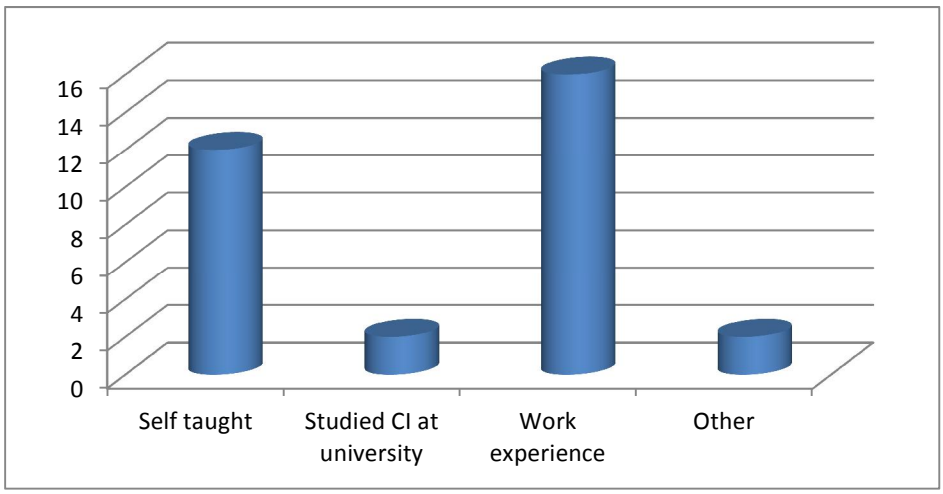

Figure 5.7: First exposure to CI

5.4.2.5 Years of practical experience in CI

In Figure 5.8 the respondents showed their practical experience of using CI as a business tool in years, with 52.6% (10) of respondents having one to five years experience. A further 31.6% (6) had five to ten years' exposure, while only 15.8% (3) of respondents had more than ten years' experience. Eleven respondents did not answer this question, indicating that they did not have any CI experience. These findings are supported by the findings of Du Toit and Strauss (2010:27), who indicated that the majority of respondents had no to four years' CI experience.

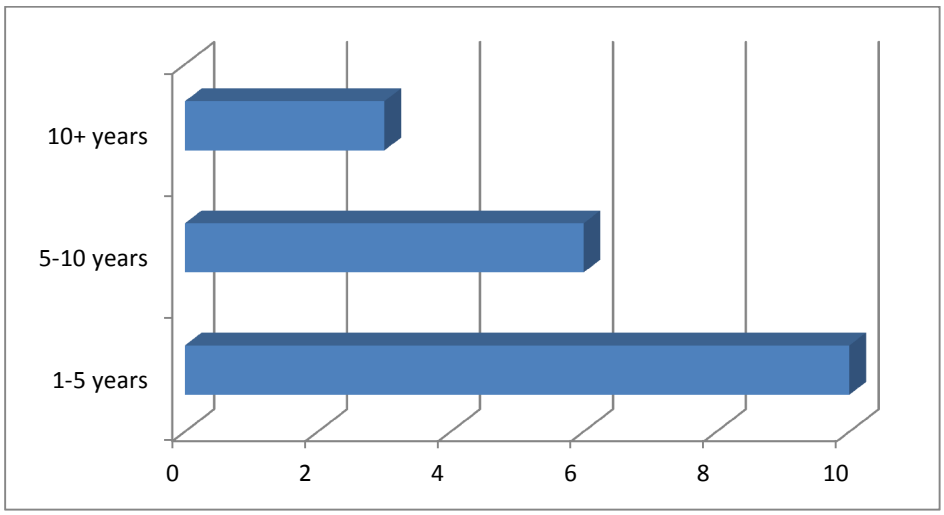

Figure 5.8: Years practical experience in CI

5.4.2.6 Importance of environmental scanning

Respondents to this question were asked how they perceived the importance of environmental scanning to gain a competitive edge in their industry (see Figure 5.9). The majority of respondents (69.6% (16)) viewed it as extremely important. Seven respondents did not answer the question. According to the findings of Du Toit (2003:117), only 43% of the companies used "formal environmental scanning systems." The 69.6% mentioned above shows that there has been some improvement in the importance pharmaceutical companies using formal environmental scanning. This result suggests that the pharmaceutical industry is starting to take CI more seriously and using it to get a competitive edge.

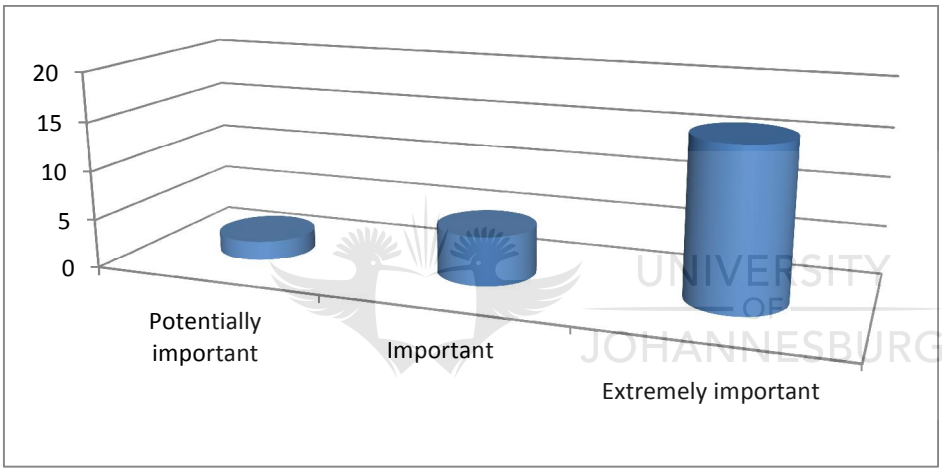

Figure 5.9: Importance of environmental scanning

5.4.2.7 Management of competitors

In Figure 5.10 respondents indicated whether their companies had strategies in place to manage competitors. The majority of respondents (68.0% (17)) have strategies in place to manage competitors on a continuous basis. According to CI principles and practices, in order to manage competition in a dynamic industry such as the pharmaceutical industry, Du Toit (2003:119) advocates that "proper intelligence management" is needed. It is encouraging that the majority of South African pharmaceutical companies seem to be monitoring competitors on a continuous basis.

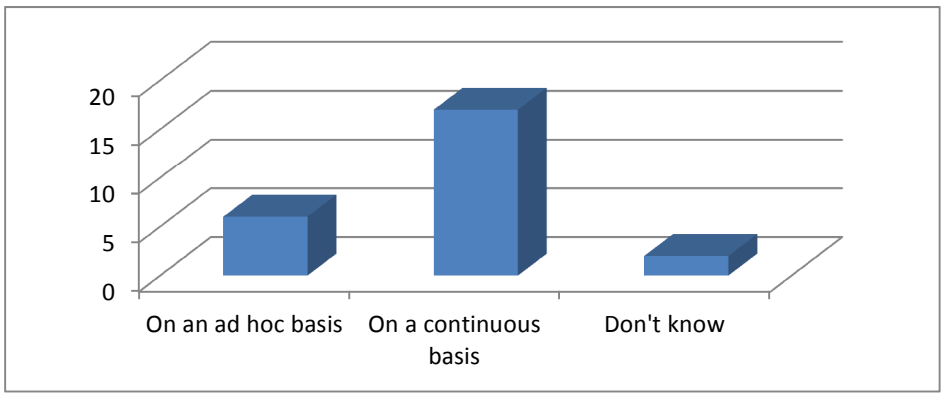

Figure 5.10: Management of competitors

5.4.2.8 Competitive action team

The results of Figure 5.11 elucidate whether respondents' companies had established a form of competitive action team. Only 32.0% (8) of the respondents answered that their company had an ad hoc team while 20.0% (5) of respondents reported on their company having a formal team. Notably 40% (10) of the respondents said there was no such team, while 8% (2) of respondents did not know and five respondents did not answer the question. From these results one can deduce that the CI function is not being fully used in South African pharmaceutical companies. The evidence for these companies suggests that an ad hoc team has more value than a formal action team, whereas it should be the other way round. Gilad (2011a:4) emphasises the importance of strategy which comes from analysis, while criticising global competitiveness. He states that "studies attribute between 35 percent and 55 percent of all business failures to strategic blunders." A formal CI action team would spearhead a more successful strategic planning programme to aid decision-making.

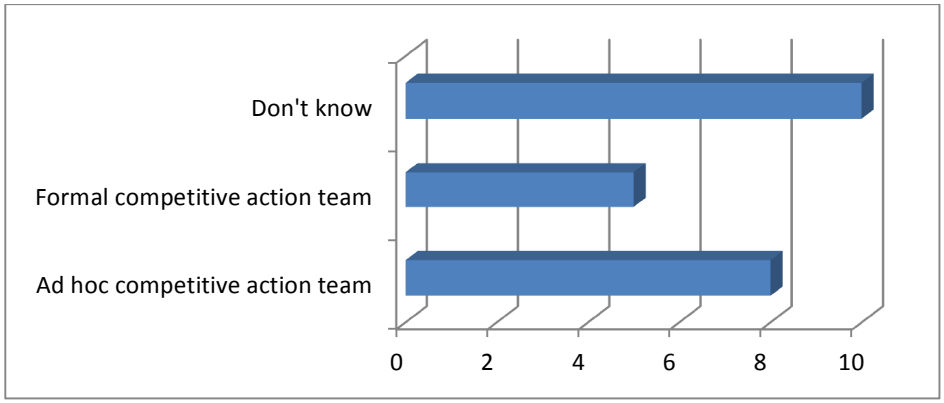

Figure 5.11: Competitive action team

5.4.3 CI capacity in the company

This section focuses on how senior management views CI capacity generally, in terms of their attitudes and the frequency of the CI operations in their organisation

5.4.3.1 CI capacity to generate profit

Respondents were asked whether CI capacity is used in their company to generate profit (see Figure 5.12). The majority of respondents (52.2% (12)) confirmed that it is. A further group of 13.0% (3) respondents said they did not know. Finally, seven respondents did not answer this question. Gilad (2011a:8) refers to Andrew Witty CEO of GKS as a case in point. Witty has charted “a new strategy at de-risking his company, replacing large profits with more stable earnings.” Gilad furthermore concludes that Witty uses intelligence gleaned as a fundamental CI construct to strategise so that there is a return on investments. In the light of these findings, the majority of South African pharmaceutical companies see the merit of using CI capacity to generate profit.

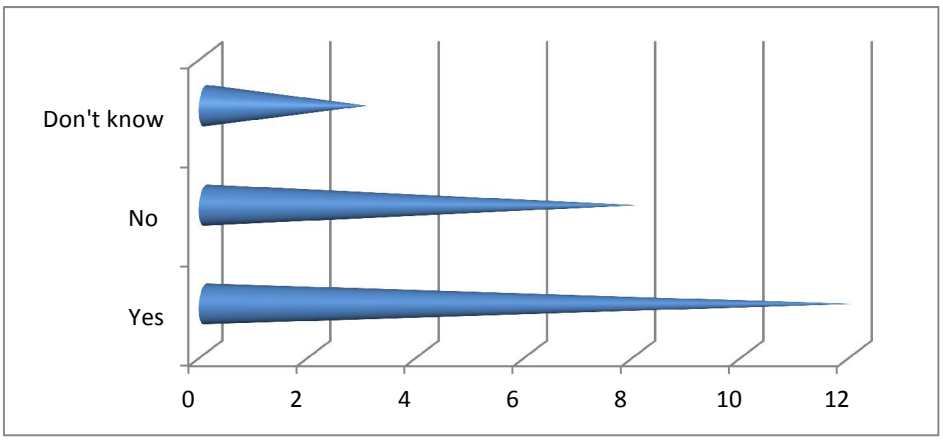

Figure 5.12: CI capacity to generate profit

5.4.3.2 CI as used in company

According to Table 5.1, CI is often used to guide decision-making processes in 71.4% (15)) of the companies. CI is often conducted in an organised and systematic way by 42% (9) of the companies, while it is sometimes used for early warning of competitive activities by 33.3% (7) of the respondents. CI is often used as early warning of emerging industry trends by the majority (52.4% (11)) of respondents and it often helps to consolidate intelligence for strategic reasons at 42% (9) of the companies. At 42% of the respondents, the CI stature sometimes affects strategic planning. This evidence shows that CI is often considered by the majority of respondents to be a worthwhile business tool to be used in the company. It is suggested that those respondents who disagreed with the statements above possibly had not fully understood the essence of CI and had not being fully exposed to its merits (See Table 5.1: the modal category for each option is shaded).

Table 5.1: CI as used in company (The modal category for each option is shaded)

	Never		Rarely		Sometimes		Often		Always		Total	
CI is used to guide decision-making processes	0	0%	3	14.3%	2	9.5%	15	71.4%	1	4.8%	21	100%
CI is delivered in an organised and systematic way	2	9.5%	5	23.8%	5	23.8%	9	42.0%	0	0%	21	100%
CI is used for early warning of competitor activities	1	4.8%	2	9.5%	7	33.3%	6	28.6%	5	23.8%	21	100%
CI is used for early warning of emerging industry trends	1	4.8%	2	9.5%	4	19.0%	11	52.4%	3	14.3%	21	100%
CI helps to consolidate intelligence for strategic reasons	1	4.8%	3	14.3%	3	14.3%	11	52.4%	3	14.3%	21	100%
CI stature impact on strategic planning	1	4.8%	1	4.8%	2	9.5%	9	42.0%	8	38.1%	21	100%

5.4.3.3 Collection of information on external environment is time-consuming and costly

Seventeen respondents (73.9%) said that they considered information on the external environment to be time-consuming and therefore costly to collect and process (See Figure 5.13). It is encouraging to note that most respondents appreciated that finding information on the external environment is time consuming and costly, showing that they have had feedback from their line managers. Their majority response to collecting information from the external environment suggests awareness of its importance, even though it is costly and time-consuming.

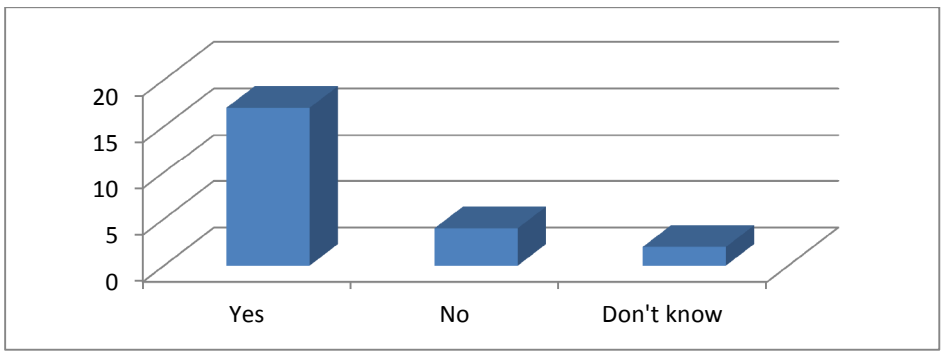

Figure 5.13: Collection of external information is time-consuming and costly

5.4.3.4 Key intelligence needs

The majority of the respondents (82.6% (19)) were aware of the KINs of senior managers in their companies (see Figure 5.14). This finding could be the result of the fact that 80% of the respondents are in a top management position (see Section 5.4.1.3) and therefore are aware of their KINs. The fact that the majority answered in the affirmative suggests that companies understand the importance of getting the right intelligence to senior management. This finding shows an improvement on how companies' viewed the CEOs' needs in comparison to the findings of Du Toit (2003:117) in 2003 where "only 21% of CI units regularly interviewed CEOs to understand their needs."

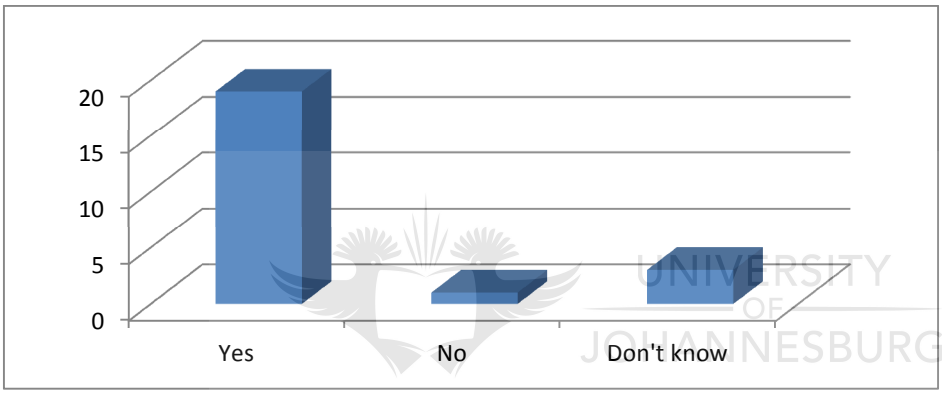

Figure 5.14: Key intelligence needs

5.4.3.5 Information-sharing

With reference to the question, 'Do the different sections in your company share information?' all respondents confirmed that they did. However, eight respondents failed to answer this question. The fact that companies are allowing different sectors to share information is a promising development, because employees are able to cross-pollinate information, thereby easing the flow of information and encouraging new ideas about product innovation and service delivery. Both of this is necessary, with customer bases becoming more critical of quality and individual customer needs. Liebowitz (2006:53) discussed the disadvantage of not sharing "big picture blind spots caused by organisational silos."

5.4.3.6 Environment of collaboration on competitive issues

Table 5.2 confirmed the findings of the previous question (see Section 5.4.3.5), that employees share information and confirmed that they also network with regard to competitive issues in the company. The fact that 86.4% of the respondents said that they collaborate to a large or moderate extent indicates that efficient methods are used to disseminate information in the companies.

Table 5.2: Environment of collaboration on competitive issues

	Number	Percentage
To a large extent	8	36.4%
To a moderate extent	11	50%
To a small extent	3	13.6%
Total	22	100%

5.4.3.7 Influence of information-sharing on decision-making

Respondents were also asked about the influence of information-sharing on decision-making in their companies. The majority of the respondents (70.0% (21)) said that generally, better decisions are made (see Figure 5.15). Poor decisions have been made as a result of incorrect information in one company.

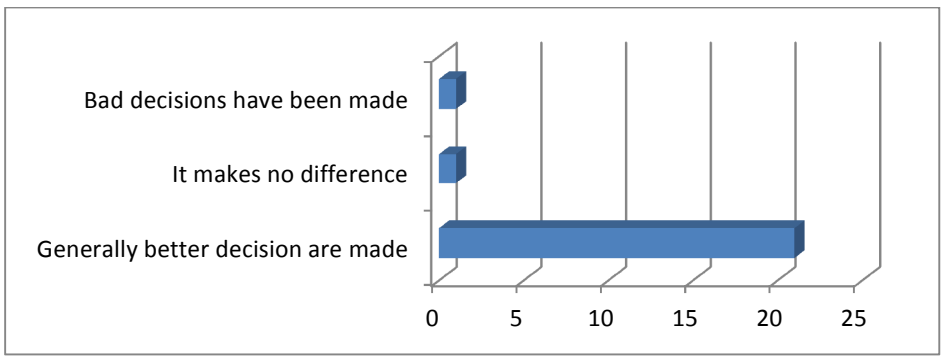

Figure 5.15: Influence of information sharing on decision-making

5.4.3.8 CI database

With regard to the question, 'How are details of CI held collectively by your company?' the majority of respondents (42.1% (8)) said that data were held in a database that was only available to the CI unit professionals (see Figure 5.16). A large number of

respondents (26.3% (5)) also did not know. These may be the companies that did not have a formal CI function. These findings suggest that the company should offer more direction, as seemed to be divided on the collation of company employees. The ideal is one integrated database where all employees could access data.

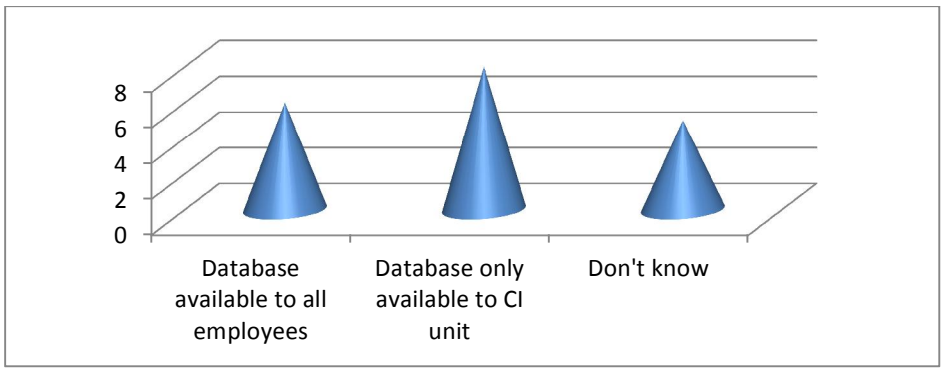

Figure 5.16: CI database

5.4.3.9 Use of primary sources

According to Table 5.3, the most important primary sources are staff attending conferences and seminars on a quarterly basis (54.5%), employees reporting back on competitor actions on a monthly basis (45%) and members of professional trade and industry associations on a monthly basis (40.9%). Employees in competitor organisations are seldom used, indicating that the respondents use ethical ways to collect primary information. Suppliers, customers (33.3% of respondents) and distributors (26.1% of respondents) are accessed on a daily basis. Industry experts were accessed quarterly by 36.4% (8) of the respondents, which supports the finding by Sewdass and DuToit (2012:232) that industry experts were an important source (See Table 5.3: the modal category for each option is shaded).

Table 5.3: Use of primary sources (The modal category for each option is shaded)

Source	Daily		Weekly		Monthly		Quarterly		Annually		Never		Total	
Consultants, market researchers	0	0%	0	0%	8	34.8%	3	13%	7	30.4%	5	21.7%	23	100%
Suppliers, customers	7	33.3 %	5	23.8%	1	4.8%	5	23.8%	2	9.5%	1	4.8%	21	100%
Distributors	6	26.1 %	4	17.4%	4	17.4%	4	17.4%	2	8.7%	3	13%	23	100%

Industry experts	0	0%	1	4.5%	5	22.7%	8	36.4%	6	27.3%	2	9.1%	22	100%
Staff joining from competitors	2	10%	0	0%	3	15%	3	15%	7	35%	5	25%	20	100%
Members of professional trade and industry associations	1	4.5%	2	9.1%	9	40.9%	4	18.2%	3	13.6%	3	13.6%	22	100%
Employees in competitor organisations	0	0%	1	4.8%	4	19%	2	9.5%	2	9.5%	12	57.1%	21	100%
Journalists	0	0%	1	4.8%	3	14.3%	7	33.3%	2	9.5%	3	38.1%	21	100%
Staff attending conferences and seminars	0	0%	1	4.5%	3	13.6$	12	54.5%	5	22.7%	1	4.5%	22	100%
Recreational social activities	0	0%	1	4.5%	4	18.2%	4	18.2%	3	13.6%	10	45.5%	22	100%
Employees report back on competitor actions	3	15%	5	25%	9	45%	2	10%	1	5%	0	0%	20	100%
Employees report back on customer needs	5	23.8 %	7	33.3%	8	38.1%	0	0%	0	0%	1	4.8%	21	100%
Other	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	2	100%

5.4.3.10 Use of secondary sources

According to Table 5.4, the most important secondary sources are trade literature, which is accessed monthly by 59.1% of the respondents, promotional material, which is accessed monthly by 54.5% of the respondents, information on regulatory bodies, which is accessed monthly by 50% of the respondents, and general newspapers, which is accessed daily by 50% of the respondents. Survey summaries are seldom used by the respondents. This finding is in direct contrast to a similar finding by Sewdass and Du Toit (2012:231) that survey summaries are accessed quarterly and monthly by South African companies. Corporate websites (accessed by 22.7% of the respondents on a monthly and quarterly basis) and industry analyst reports (accessed by 45.5% of the respondents on a quarterly basis) were not as frequently accessed, according to the findings of Sewdass and Du Toit (2012:231).

Table 5.4: Use of secondary sources ((The modal category for each option is shaded)

Source	Daily		Weekly		Monthly		Quarterly		Annually		Never		Total	
Corporate websites	1	4.5%	4	18.2%	5	22.7%	5	22.7%	4	18.2%	3	13.6%	22	100%
Sales forecasts	4	19%	6	28.6%	5	23.8%	2	9.5%	1	4.8%	3	14.3%	21	100%
Operational performance data	4	19%	6	28.6%	4	19%	5	23.8%	1	4.8%	1	4.8%	21	100%
Internal financial information	3	13.6%	7	31.8%	7	31.8%	2	9.1%	0	0%	3	13.6%	22	100%
Information on regulatory bodies	3	13.6%	2	9.1%	11	50%	4	18.2%	0	0%	2	9.1%	22	100%
Customer demographics	1	4.5%	1	4.5%	8	36.4%	6	27.3%	6	17.3%	0	0%	22	100%
Information on potential business partners	2	9.1%	1	4.5%	5	22.7%	11	50%	3	13.6%	0	0%	22	100%
Research reports	1	4.5%	1	4.5%	8	36.4%	7	31.8%	4	18.2%	1	4.5%	22	100%
Trade shows/conferences	0	0%	1	4.5%	3	13.8%	11	50%	7	31.8%	0	0%	22	100%
Trade literature (journals)	1	4.5%	3	13.8%	13	59.1%	4	18.2%	0	0%	1	4.5%	22	100%
Promotional material	2	9.1%	3	13.8%	12	54.5%	3	13.8%	0	0%	2	9.1%	22	100%
Corporate annual/quarterly reports	0	0%	2	9.5%	1	4.8%	9	42.9%	7	33.3%	2	9.8%	21	100%
Industry analyst reports	0	0%	2	9.1%	2	9.1%	10	45.5%	6	27.3%	2	9.1%	22	100%
Survey summaries	0	0%	0	0%	2	9.5%	5	23.8%	8	38.1%	6	28.6%	21	100%
Market research reports	1	4.5%	0	0%	6	27.3%	9	40.9%	5	22.7%	1	4.5%	22	100%
Specific government literature	1	4.5%	2	9.1%	7	31.8%	8	36.4%	3	13.6%	1	4.5%	22	100%
General newspapers	11	50%	5	22.7%	3	13.6%	0	0%	0	0%	3	13.6%	22	100%
Other	0	0%	0	0%	0	0%	0	0%	0	0%	1	100%	1	100%

5.4.4 Analysis and Interpretation

This section assessed what business models and methods are used in the organisation to promote the value of CI.

5.4.4.1 Analytical Methods/Models

Table 5.6 shows that the respondents often use industry analysis (59.1% of respondents), GAP analysis (57.1% of respondents) and benchmarking (54.5% of respondents). Only 31.8% of the respondents always use SWOT analysis, while the sophisticated methods Porter's™ Four Corner model and blind-spot analysis are seldom used by the respondents. (See Table 5.6: the modal category for each option is shaded).

Table 5.5: Analytical Methods/Models used

Method/Model	Never		Rarely		Sometimes		Often		Always		Total	
Benchmarking	2	9.1%	1	4.5%	6	27.3%	12	54.5%	1	4.5%	22	100%
Porter's™ Four Corner Model	8	38.1%	8	38.1%	1	4.8%	4	19%	0	0%	21	100%
Blind-spot Analysis	7	33.3%	7	33.3%	4	19%	2	9.5%	1	4.8%	21	100%
Competitor Analysis	1	4.5%	2	9.1%	3	13.6%	10	45.5%	6	27.3%	22	100%
GAP Analysis	2	9.5%	1	4.8%	3	14.3%	12	57.1%	3	14.3%	21	100%
Industry Analysis	1	4.5%	0	0%	4	18.2%	14	59.1%	4	18.2%	22	100%
Macro-environment (STEEP) Analysis	3	14.3%	3	14.3%	6	28.6%	7	33.3%	2	9.5%	21	100%
Patent Analysis	5	22.7%	3	13.6%	6	27.3%	7	31.8%	1	4.5%	22	100%
Scenario Analysis	3	13.6%	4	18.2%	5	22.7%	8	36.4%	2	9.1%	22	100%
Strategic Group Analysis	4	18.2%	4	18.2%	4	18.2%	9	40.9%	1	4.5%	22	100%
SWOT Analysis	1	4.5%	1	4.5%	3	13.6%	10	45.5%	7	31.8%	22	100%
Value Chain analysis	4	20%	3	15%	3	15%	7	35%	3	15%	20	100%

5.4.5 Adding Value to Strategic Management

This final section taps into the thinking of senior managers on how they value analysed information and its frequency in contributing to strategic planning.

5.4.5.1 Importance of analysed information for decision-making

Recent findings by Sewdass and Du Toit (2012:231) confirm that 30% of companies they surveyed in South Africa strongly agreed that they use CI for decision-making. According to Figure 5.17 the majority of the respondents in this survey (68.2% (15)), agree that analysed information is extremely important, while 31.8% (7) agree that it is important in their company.

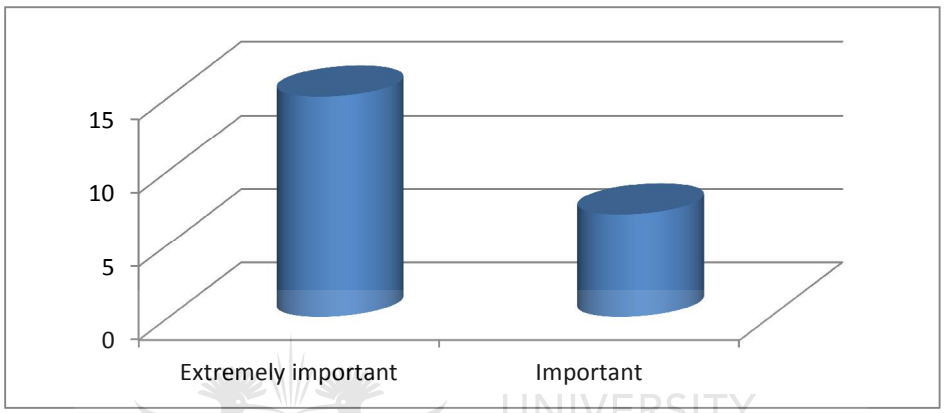

Figure 5.17: Importance of analysed information for decision-making

5.4.5.2 Use of CI in strategic decision-making

With regard to the question on how often CI is used in strategic decision-making, the majority of the respondents (47.6% (10)) use CI on a continuous basis (see Figure 5.18). This is encouraging, because it shows that CI is a business tool in the pharmaceutical industry. It is important to note that because of the rapid changes in the external environment, continuous use of CI is imperative for a company to survive.

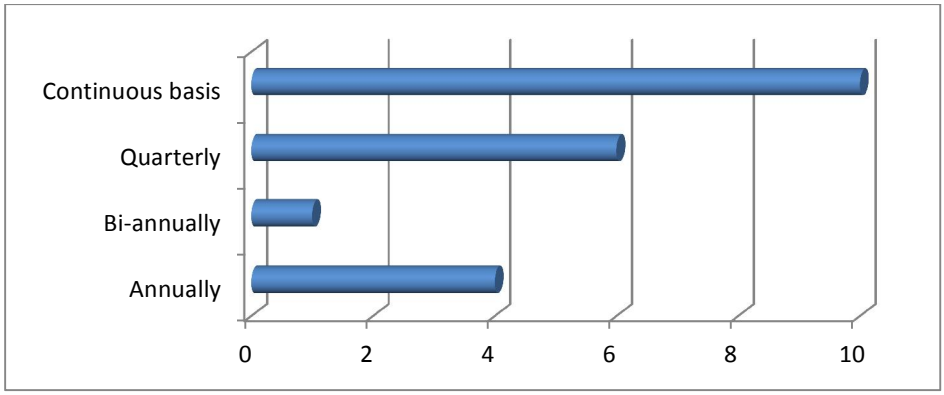

Figure 5.18: Use of CI in strategic decision-making

5.5 SUMMARY

To conclude this chapter, the major findings are:

- In terms of age distribution, most of the respondents fell between the ages of 30 to 59 years.
- The number of post-graduate qualifications, when packaged together, was considerably higher than post school diplomas/certificates.
- Top management positions constituted the largest number when compared to the rest of the management levels.
- Establishment of a formal CI function in companies had less prominence than an informal CI function.
- The CI function has been in existence for more than 10 years at only a small number of companies.
- The allocation of responsibility for CI gave more prominence to a partial CI portfolio rather than a full CI portfolio.
- First exposure to the discipline of CI came through work experience, followed by self-taught input.
- The majority of respondents have between one and five years of practical experience in CI.
- Respondents found that environmental scanning is extremely important.

- The majority of respondents said they used company strategies on a continuous basis rather than on an ad hoc basis to manage competitors.
- Few respondents have a formal competitor action team.
- The majority of respondents were in agreement that CI capacity generates profit.
- A level of frequency was evaluated for the way CI is used in the company, with the majority of respondents stating that CI was often used as a worthwhile business tool.
- The majority of respondents were in agreement that information on the external environment was time-consuming and costly.
- There were acknowledgement and awareness of the importance of the key intelligence needs of senior management.
- A large percentage overall endorsed the statement that different sections in their company shared information.
- Most respondents supported the fact that an environment of collaboration on competitive issues exists to a large and moderate extent.
- The majority of respondents said generally better decisions were made because of information-sharing.
- Details of CI are held collectively by the company in databases only available to the CI unit.
- The most important primary sources are staff attending conferences and seminars on a quarterly basis, employees reporting back on competitor actions on a monthly basis, and members of professional trade and industry associations on a monthly basis.
- The most important secondary sources are trade literature, promotional material, information on regulatory bodies and general newspapers.
- Respondents often use industry analysis, GAP analysis and benchmarking as analytical methods/models.
- Respondents agreed that analysed information is very important in decision-making.
- The majority of respondents use CI continually in strategic decision-making.

CHAPTER 6: SUMMARY, RECOMMENDATIONS AND AREAS FOR FUTURE RESEARCH

6.1 INTRODUCTION

This chapter provides a summary of the whole study. It will provide conclusions based on the findings of the empirical research and make recommendations for future research.

6.2 SUMMARY

The objective of this study was to determine the situation of CI within the South African pharmaceutical industry. In Chapter one the problem statement and reasons for the study was discussed and the concept *competitive intelligence* was defined.

Chapter two attempts to elucidate what CI is and why CI is needed. Detailed attention was directed firstly at the CI cycle, with reference to establishing a CI culture and ethical and legal frameworks. Secondly, it discussed what constitutes the establishment of a CI culture in an organisation. The rationale is that all employees need to be acknowledged contributors to the culture of CI. Thirdly, it explores how a framework on the way in which CI is implemented in an organisation depends on senior management's full endorsement. Fourthly one of the benefits of CI is that it provides decision-makers with a sound discipline to assist in their strategy planning scenarios. Finally, regarding the sub-problem what CI is, it was concluded that the implementation of CI has an edge on other business tools, as its analysis component provides credible actionable intelligence to senior managers.

Chapter three emphasises the CI situation and the need for CI in South Africa because it is part of the global market arena. As a business tool, CI can enhance global competitiveness and by extension encourage innovation. Following this is a reference to the CI research conducted in South Africa, where some studies on manufacturing organisations indicate evidence of CI practice. The lack of input by the South African government to promote CI is compounded by the lack of highly skilled people to source, analyse and activate intelligence, with proper intelligence management. This presents a conundrum, as CI capacity although urgently required, is in short supply. Another

aspect discussed in this chapter is the CI challenges faced by organisations operating in South Africa.

Chapter four discusses the competitive landscape of the South African pharmaceutical industry by focusing on some of the dominant and successful companies. The importance of the regulatory bodies is also discussed within the above mentioned context. Another aspect discussed in this chapter is the challenges faced by pharmaceutical organisations operating in South Africa.

Chapter five reports on the empirical study that was conducted. In terms of the problem statement that considers the situation with CI capacity and the pharmaceutical industry, the findings suggest that there is sustainable commitment to the principles and practices of CI, although the enhancement of a CI culture through organisations seems to be lacking. An encouraging trend is emerging, namely that a younger generation of CI professionals are making their debut. While the majority of respondents acknowledged a partial CI portfolio rather than a full one, such evidence suggests active CI intervention in the industry. The use and importance of CI environmental scanning showed positive development, thereby expanding CI capacity. The fact that CI capacity can generate profit and is used to guide the decision-making process was a positive result. A good response from the findings was that information-sharing in organisations is happening, thus dismantling organisational silos. Most organisations tend to access primary sources quarterly and monthly rather than continuously, which is a better option in terms of CI capability. Staff attending conferences and seminars and employees reporting back on competitive actions were the most popular primary sources. Secondary sources are accessed daily, quarterly and monthly, with trade literature and promotional material being the most popular. The results show that blind-spot analysis is seldom used as an analysis method/model and there is room for concern, as it is part of the analysis toolkit necessary to glean intelligence. The findings do support the importance and value of analysing information for continuous strategic decision-making. Most organisations attempt to nurture CI capacity in the industry.

6.3 RECOMMENDATIONS

In order to contribute to the existing pool of CI evidence in the industry, the following recommendations based on the findings of the empirical survey are detailed for further consideration:

- Senior management of pharmaceutical manufacturing companies needs to take advantage of the current climate of information-sharing and collaboration that exists and promote CI values.
- Companies in the pharmaceutical industry should try to establish a formal rather than an informal CI function.
- Senior management needs to capitalise and consolidate CI that is used on a continuous basis in strategic decision-making.
- The frequent use of analytical methods and models to generate CI requires fine-tuning with more sophisticated analysis techniques.
- Companies should organise CI information systems to reduce time and the costs of monitoring of external environment profiling.
- Companies should capitalise and consolidate on the use of CI activities to promote strategic decision-making.
- Although primary and secondary sources are accessed mainly monthly and quarterly, there should be a directive from management to access these sources daily wherever possible.
- Senior management needs to promote a full CI team by upgrading the ad hoc team that will service CI principles and practices.
- There needs to be more nurturing within companies to establish a thriving CI culture.
- Senior management should endorse the need to have one full CI database into which all employees feel valued to add their snippets of gossip and any other more serious items of information. The CI professional will be able to select and continue with appropriate analysis.
- More training is required for all employees to become knowledgeable about CI's value in the company.

- Innovation is generated from applied sciences, accumulated knowledge and human creativity, consequently a highly specialised industry like pharmaceuticals needs to rigorously adopt a full CI package to help find solutions to global competitive markets.

6.4 AREAS FOR FUTURE RESEARCH

- Research should be conducted to determine whether the discipline of CI assuages the chaotic and volatile changes that continue to challenge existing business models.
- This research determines the current state of CI in the South African pharmaceutical industry. Within the next three to five years, it will be necessary to determine whether management is creating a bottleneck by preventing CI's full integration into the South African pharmaceutical industry.
- The current CI study, although focusing on the pharmaceutical industry, can be used to research the use of CI in other sections of industry.
- Research could be conducted on the use of CI in specific pharmaceutical companies in order to determine the weaknesses and strengths of the company strategy being used on a continuous basis rather than an ad hoc basis to manage competition.

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ATTACHMENT A

UNIVERSITY OF JOHANNESBURG

Competitive Intelligence in the Pharmaceutical Industry

Dear Participant

Mrs Anna Fatti is a registered student for the M Phil degree in Information Management in the Department of Information and Knowledge Management and is engaged with research on whether the South African pharmaceutical companies collect information on their competitive environment. Global competitiveness has become a topical issue amongst South African companies. The manner in which an organisation manages competition is seen to shape its future whilst protecting it from competitor threats. Competitive intelligence (CI) has long been recognized as a strategic management tool that could enhance competitiveness and innovation.

Because little research has been done about this specific topic in South Africa, the results of the survey will benefit strategic managers of companies. The need to enhance South African companies' competitiveness has grown rapidly and applying CI can be used to create and sustain a competitive edge.

I realize that we are all short of time, and that completing the questionnaire will take up some of your time. However, we need your help and co-operation .Please adheres to timeframe for submission of responses, closing date Friday 26 October 2012. All the information is treated as strictly confidential and your anonymity will be guaranteed.

Mrs Fatti will feed back the results by publishing articles in peer-reviewed journals. Thank you in advance for taking the time to complete the survey! Any further queries contact Mrs Fatti 0792152613 or anna.fatti@gmail.com.

Kind regards

Prof Adeline du Toit
Study leader

QUESTIONAIRE

Please answer each question by entering only ONE 'X ' in the appropriate box to the question.

SECTION A: BACKGROUND INFORMATION

1) Your age in years

18 - 29	
30 - 39	
40 - 49	
50 - 59	
60+	

2) What is your highest qualification?

Grade 12 (completed school)	
Post school diploma or certificate	
Bachelor's degree	
Honours's degree or other 4 – year degrees	
Master's degree	
Doctoral degree	

3) Which one of the following best describes your position in the organization?

Lower management	
Middle management	
Top management	
Other	
Please specify	

SECTION B: COMPETITIVE INTELLIGENCE ACTIVITIES

4) Do you have formal Competitive Intelligence (CI) function in your company?

Yes	
No	
Don't know	

5) If yes, how long has the CI function been in existence in your company?

Less than 5 years	
5 – 10 years	

More than 10 years	
Don't know	

6) What CI allocation are you responsible for in your company?

The full CI portfolio	
A partial CI portfolio	
Other	
If other , please specify	

7) How did you become aware of the discipline Competitive Intelligence (CI) . Mark all applicable.

Self- taught through personal reading ,seminars, conferences	
Studied CI at university	
Other	
If other , please specify	

8) How many years of practical experience do you have in CI? (i.e using it as a business tool)

1 -5 years	
5 – 10 years	
10 + years	

9) How important do you believe environmental scanning is, to gain a competitive edge in your industry?

Not at all important	
Somewhat of importance	
Potentially important	
Extremely important	

10) Complete the following sentence. My company has strategies in place to manage competitors……

on an ad hoc basis	
on a continuous basis	
Don't know	

SECTION C: COMPETITIVE INTELLIGENCE CAPACITY IN YOUR COMPANY

11) CI capacity is used to generate profit in your company.

Yes		**No**		**Don't know**	

12) Please indicate to what extent you AGREE with the following statements below.

	never	rarely	Sometimes	often	always
External intelligence is time consuming and costly to collect and process					
CI is used to guide decision – making processes					
CI is delivered in an organized and systematic way					
CI is used for early warning of competitor activities					
CI is used for early warning of emerging industry trends					
CI helps to consolidate intelligence for strategic reasons					
CI stature impacts on strategic planning					
CI professionals are aware of the key intelligence needs of senior management					

13) Do the different sections in your company share information?

Yes		**No**		**Don't know**	

14) To what extent does an environment of collaboration exist about competitive issues within your company?

To a large extent	
To a moderate extent	
To a small extent	
To no extent (not at all)	

15) **What influence does information sharing about competitive issues, have on decision making?**

Better decisions	
Makes no difference	
Bad decisions have been made due to incorrect information	
Other	
If other, please specify	

16) **How are details of competitive intelligence held collectively by your company? (Mark all applicable)**

Within a database available to all employees	
Within a database only available to the CI unit professionals	
Don't know	

17) **Has your company established…….**

An ad hoc competitive action team	
A formal competitive action team	
No competitive action team	
Don't know	

18) **Which are the following primary sources (human interaction) of information your company uses to assess the competitive environment?**

	Daily	Weekly	Monthly	Annually	Never
Consultants, outside market researchers					
Suppliers/Customers					
Distributors					
Industry experts					
Staff joining from competitors					
Members of professional, trade and industry associations					
Employees in competitor organisations					
Journalists					
Staff attending conferences and seminars					
Recreational social activities (i.e. golf)					
Employees report back on competitor actions					

Employees report back on customer needs					
Other					
If other please, specify below					

19) Which of the following secondary sources of information does your company use to assess the competitive environment?

	Daily	Weekly	Monthly	Annually	Never
Corporate websites					
Sales forecasts					
Operational performance data					
Internal financial information					
Information on regulatory bodies					
Customer demographics					
Information on potential business partners					
Research reports					
Trade shows / Conferences					
Trade Literature (Journals)					
Promotional Material					
Corporate Annual/ Quarterly Reports					
Industry analyst reports					
Survey summaries					
Market research reports					
Specific Government Literature					
General newspapers					
Other					
If other, please specify					

SECTION D: ANALYSIS AND INTERPRETATION

20) Which of the following Analytical Methods or Models are used within your organization to generate CI ?

	Not at all	Very little	Somewhat	Great extent	Very great extent

Benchmarking (Best practices)					
Blind-spot analysis					
Competitor analysis					
GAP Analysis					
Industry Analysis					
Macro-environment (STEEP) Analysis					
Patent Analysis					
Scenario Analysis					
Strategic Group Analysis					
SWOT Analysis					
Value Chain Analysis					
Other					
If other, please specify					

SECTION E: ADDING VALUE TO STRATEGIC MANAGEMENT

21) How important is analysed information to decision making?

Extremely important	
Important	
Not important	

22) How frequently do you make CI available to assist strategic decision–making?

Annually	
Bi-annually	
Quarterly	
On a continuous basis	

23) Add any further comments below.

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