

ESTABLISHING A COMPETITIVE INTELLIGENCE CULTURE IN A MULTINATIONAL CONSULTING ENGINEERING COMPANY: A CASE STUDY

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ABSTRACT

Intelligence is not a new concept and dates back to over 5 000 years. The concept of competitive intelligence is however still an evolving field and its modern-day business interpretation has been changed and refined. The essence however stays the same and lies in the ethical gathering and interpretation of information to drive innovation and inform strategic decision-making. If successful, this assists companies, including engineering companies, with gaining a competitive advantage. A culture of competitive intelligence is thus necessary. The consulting engineering industry is experiencing major challenges and even disruptions. To combat this, and gain competitive advantage and growth, competitive intelligence must be embedded in company culture to inform innovation and strategic business decisions. The aim of this study was to investigate competitive intelligence in a multinational consulting engineering company with offices across Africa, Asia, Australia, the Middle East and New Zealand by means of a case study and data collection. Firstly, the nature of competitive intelligence and the need for establishing a successful competitive intelligence culture were investigated. Following this, the challenges with implementing competitive intelligence across borders were examined and the relationship between competitive intelligence, innovation and business strategy studied. Lastly, the types of information gathered, stored and distributed within the company as part of competitive intelligence activities were investigated as part of the empirical study.

Keywords: competitive intelligence; consulting engineers; engineering company; multinational

1. INTRODUCTION

According to Du Toit (2003, 111), “The realisation that knowledge and information are fundamental to economic growth, whether at national or company level, is beginning to permeate economic and management thinking”. Bulley, Baku and Allan (2014, 83) hold a similar view and emphasise the importance of competitive intelligence in companies, by stating that it adds value to the planning and decision making processes in a company. This fact, grouped with current difficult economic conditions, fluctuating markets and increased competition, drives businesses to seek new and improved ways to gain a competitive advantage. The consulting engineering industry (as with all industries) faces many challenges that can even be experienced as disruptions, including:

- the entry of new, international companies into emerging markets;
- a surge in the number of mergers and acquisitions of companies in emerging markets by large multinationals;
- the so-called Arab Spring, that is, a wave of protests, riots and civil wars that began in 2010 in the Arab League and surrounding countries that led to a subsequent downturn in the economies of that region;
- the global collapse in commodity prices resulting in a significant downturn in the resources industry;
- the rapid development of technology.

The effect of these global disruptions is making it more important than ever for companies, especially multinational companies, to keep and increase their market share. To do this, it is imperative that they stay competitive through using available information and transforming it into actionable intelligence and foresight (Strauss and Du Toit 2010, 305), that is, competitive intelligence. This article reports on a case study conducted by Prinsloo (2016) within a multinational consulting engineering company.

2. RESEARCH PROBLEM

Competitive intelligence supports business needs in terms of the gathering, analysis/interpretation and distribution of information (Strauss and Du Toit 2010, 304) and is important as part of the strategic management activities of companies. This study focused on the implementation of competitive intelligence in a multinational consulting engineering company. The following research question was investigated in the study: “How is competitive intelligence being implemented at a multinational consulting engineering company?” In order to solve this problem, the following sub-questions were formulated:

- What is competitive intelligence?
- What influence do corporate culture and globalisation have on the successful implementation of competitive intelligence?
- To what extent are innovation and business strategy linked to competitive intelligence?
- What types of information are gathered, stored and distributed within the company as part of competitive intelligence activities and how important is this information to employees?

The sub-questions were addressed by investigating the nature of competitive intelligence by defining the competitive intelligence process; identifying the influencers and attributes of useful information; studying the need for and challenges of competitive intelligence implementation; and exploring some of the competitive intelligence tools/techniques. In addition to this, subject literature was studied to establish the need for a competitive intelligence culture by examining the concept of corporate culture and exploring the ways to foster a competitive intelligence culture and community. The challenges relating to the implementation of competitive intelligence across borders were examined. The relationship between competitive intelligence and innovation and competitive intelligence and business strategy were also studied. Lastly, the types of information gathered, stored and distributed within the company as part of competitive intelligence activities and its importance to employees were investigated. The findings of the background study into these aspects are detailed in the following sections. This is followed by details of the empirical study, the research findings and resulting recommendations.

3. THE NATURE OF COMPETITIVE INTELLIGENCE

3.1. What is competitive intelligence?

Intelligence is not a new concept and dates back to over 5 000 years of Chinese history. Historic texts and modern-day studies have traced the first main stream of intelligence activity back to 500 BC with a set of essays entitled *The Art of War* by Sun Tzu. Since then, two other main streams of intelligence activity have been identified, namely, national security and business intelligence (Prescott 1999, 37).

Although it has been in existence for millennia, the modern-day concept was only formalised in 1980 by Professor Michael Porter of Harvard University when he developed a technique to analyse the external environment by including industries and competitors (Du Toit 2003, 113). Since then, the definition has been changed and refined by various researchers (Calof 2013, 35; Gray 2005, 32; Rouach and Santi 2001, 553; SCIP 2014; Strauss and Du Toit 2010, 304).

According to Du Toit (2015, 15–16), the field of competitive intelligence experienced a boom during the 1990s resulting in less attention being given to competitive analysis and increasing recognition to the fact that “good information has a direct impact on the bottom line”. This recognition has led to the current understanding of intelligence being the essence of strategic management (Du Toit 2015, 16), that is, staying ahead of the competition by ethically gathering information, interpreting it and acting on it.

3.2. Competitive intelligence process

Competitive intelligence is a process that consists of linked phases (Nasri 2011, 56), where the output of one phase is used as the input of the next. Various models are used to describe this process, including cyclic processes, linear processes, four-point models, scientific methods and pyramids. The number of phases in each of these models differs and the phases are placed at different stages in the process creating confusion in the competitive intelligence field (Pellissier and Nenzhelele 2013, 2). The underlying concepts in most processes are however the same and critical to help companies make better decisions (Calof 2013, 36).

The confusion is somewhat clarified with the six key constructs in the competitive intelligence process as identified by Saayman et al. (2008, 385–386) and further expanded by Pellissier and Nenzhelele (2013, 3–5).

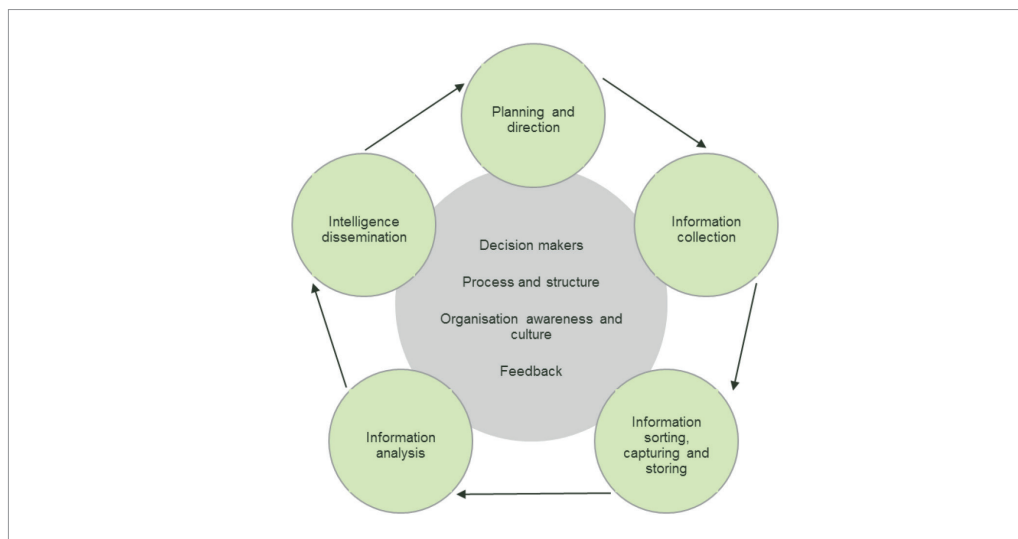


Figure 1: Competitive intelligence process model (Pellissier and Nenzhelele 2013, 6)

In this comprehensive model, the cyclical and continuous nature of the competitive intelligence process is highlighted by the fact that the output of one phase is the input of another. Buy-in and support from senior management and employees is vital to

the success of the process and it will be flawed without it (Jaworski and Liang Wee 1992–1993, 27; Nasri 2011, 56). Therefore, decision-makers, process and structure, organisational awareness and culture and feedback are placed at the centre of the model. Skills development is seen as part of organisational awareness and culture, which is why no distinct phase was added for this. Establishing competitive intelligence needs and planning and direction are combined in the phase “planning and direction”. To eliminate confusion created by previous models, information collection, sorting and storing and analysis are shown as three distinct phases. Decision-makers take action after dissemination of information, which is why there is no separate phase for taking action.

3.3. Need for and benefit of competitive intelligence in companies

In the current challenging and ever-changing market, companies need to implement competitive intelligence to gain a competitive advantage and studies have shown enhanced competitiveness in companies that have implemented successful competitive intelligence functions (Viviers, Saayman and Muller 2005, 583). This is more difficult for multinational companies as they have to navigate events, markets and clients across multiple regions and/or countries. However, for competitive intelligence functions to be successful, data on competitors should not only be evaluated to anticipate their moves, but rather add value by investigating ways in which the company can differentiate itself (Gilad 2011, 10). Companies can use competitive intelligence to:

- Identify and learn more about competitors:
 - Take an appraising look at the competitive environment.
 - Identify competitors’ thought processes.
 - Identify competitors’ strengths and possible causes of their own competitive shortcomings.
- Deepen their understanding of the market and environment:
 - Explore and fill knowledge gaps.
- Identify competitive opportunities.
- Strategise for gaining and sustaining a competitive edge:
 - Shape counter-competitive strategies against one or more competitors.
 - Identify competitors’ weaknesses and opportunities for competitive advantage.
 - Identify where competitors are vulnerable, can be attacked and where the risks of attack are too great.
 - Drive business performance through increased market knowledge, internal relationships and improved strategic plans.

- Align efforts with the vision of the company:
 - Share know-how in problem solving.
 - Create new knowledge and permanent learning.
 - Challenge conventional wisdom and question assumptions.
 - Meet the unique information needs of the company.
- Assess own position, assumptions and approaches:
 - Assess their own competitiveness through benchmarking against competitors.
 - Anticipate, through early warning, future opportunities and disruptions, such as new acquisitions/alliances and future competitive services/products.
 - Develop and shape strategies that will drive sustainable advantage (Aware: Competitive Intelligence for Business Success 2013; Fuld + Company 2014; IMA 1996, 3; Jaworski and Liang Wee 1992–1993, 26; Pretorius 2013, 56; SCIP 2013).

Even given the benefits, competitive intelligence has failed to make a real impact on companies' C-suites (executive management) in this time of "rising global competitive pressure". Gilad (2011, 3) argues that it is because companies never built real competitive intelligence capabilities. Executive management of companies has to understand that effective competitive intelligence requires a steady, ongoing intelligence programme and that without it the usefulness of the effort is significantly reduced (Vedder, Vanecek, Stephen and Cappel 1999, 113).

3.4. Challenges of implementing competitive intelligence

It may be evident that companies cannot be successful in the knowledge economy without competitive intelligence. In theory, the decision on implementation of the process and the resulting benefits seem to be logical. However, the actual implementation can be quite challenging, and include:

- Creating the process and structures, that is, formal, centralised units to virtual teams to execute competitive intelligence as effectively and efficiently as possible (Frost 2014, 1; Jaworski, Macinnis and Kohli 2002, 283–284; Prescott 1999, 46; Venter and Tustin 2009, 93).
- Defining what strategic intelligence analysts should look for (Gilad 2011, 9).
- Overcoming obstacles directly related to employees, including people, management, knowledge and structure (Frost 2014, 1; Pretorius 2013, 63; Sewdass 2009, 47) such as:

- negative attitudes of managers, resulting in inadequate management support;
 - the corporate culture not being conducive to competitive intelligence, that is, lack of widespread contribution;
 - previous failures resulting from the ineffective implementation of competitive intelligence programmes;
 - lack of understanding of the strengths and weaknesses of the company;
 - lack of skilled resources to conduct competitive intelligence;
 - the opinion that competitive intelligence adds an unnecessary burden to the bottom line;
 - lack of measurable benefits;
 - lack of relevance, quality, and usability of intelligence;
 - over-emphasis on formal learning, systematisation and determinant needs;
 - lack of responsibility and ownership.
- Cultivating understanding of regional differences by improving knowledge of local culture, language, sources of information and customs to enable effective cross-cultural competitive intelligence (Căpăţină and Vanderlinden 2012, 369).

However, irrespective of the challenges, companies should not give up on developing a competitive intelligence capability and should consider practical solutions to make it work (Gilad 2011, 9).

3.5. Tools and techniques

In total, there are over 100 analytical tools and techniques that can be applied either individually or in combination to implement competitive intelligence in companies (Fleisher and Bensoussan 2002; 2015; Pretorius 2013, 62). These techniques include, inter alia, competitor profiling; strengths, weaknesses, opportunities and threats (SWOT) analysis; environmental scanning; modelling; political, economic, social and technological (PEST) analysis; industry-specific analysis; market segmentation analysis; Porter's five forces analysis; financial analysis; win/loss analysis; scenario analysis and planning; war games (Calof and Wright 2008, 724; Fleisher and Bensoussan 2002; 2015; Gray 2005, 33–35; Pretorius 2013, 62); social media; and natural language processing (PwC 2012).

Not all of the techniques work equally well and companies have to select the tool(s)/ technique(s) or combinations thereof that will make implementation practical in their own company.

3.6. Quality of intelligence

Good decisions can only be made if the intelligence distributed to senior management has value. Jaworski, Macinnis and Kohli (2002, 287–300) identify four factors that have an influence on the usefulness of intelligence, namely, the:

- competitive intelligence network, that is, the informal information sources of the analyst(s);
- business environment, that is, internal factors, such as reward and time allocation, and external factors, such as market pressure, influencing the quality of intelligence;
- information environment, for example, the characteristics of the data to be analysed;
- characteristics of the analyst, for example, experience and job continuity.

In support of this, a number of attributes exist that can be used to measure the value of intelligence, including accuracy, clarity, usability, depth, relevance, responsiveness/readiness, timing and comprehensiveness (Nasri 2012, 29; Pretorius 2013, 58).

4. COMPETITIVE INTELLIGENCE CULTURE WITHIN COMPANIES

It is clear that management support and culture have an overarching influence on the successful planning and implementation of competitive intelligence activities (Pellissier and Nenzhelele 2013, 2; Saayman et al. 2008, 386).

Căpăţînă and Vanderlinden (2012, 367) define corporate culture as a system of shared values within a company, making sense to the individuals and giving sense as a managerial dimension. In a competitive intelligence context, culture emphasises what the members of a company monitor in the external environment and how the company responds to this environment.

Establishing a competitive intelligence culture in a company is a key element to the success of any competitive intelligence effort and can be done by:

- Structuring the company to fully benefit from competitive intelligence. This can be done by:
 - adding integrating mechanisms, such as a central point of information;
 - appointing competitive intelligence coordinators throughout the company.
- Addressing challenges around motivation and reward by:
 - rewarding staff for collecting and sharing information and knowledge.
- Continuity vs sustainability:
 - having continuous competitive intelligence awareness, sensitisation and training sessions;
 - constant gathering of information by everyone within the company;

- visible awareness and use of the intelligence by senior and top management;
- encouraging regular discussions about competitive intelligence and the importance of a learning/knowledge-based culture at meetings.
- Creating tools to support the competitive intelligence effort:
 - creating an intelligence database;
 - establishing practical codes of ethics to guide employees on what should not be part of competitive intelligence efforts.
- Collaboration vs partnerships:
 - joining forces with academia, the public and private sector as well as international experts to improve long-term results (Alony, Whymark and Jones 2007, 53; Căpățină and Vanderlinden 2012, 368; Jaworski and Liang Wee 1992–1993, 26; Jaworski, Macinnis and Kohli 2002, 293-294; Kahaner 1997, 53; Nasri 2012, 29; Pellissier and Nenzhelele 2013, 2; Qui 2008, 827; Saayman et al. 2008, 386; Venter and Tustin 2009, 93; Viviers, Saayman and Muller 2005, 581–586).

To enhance the competitive intelligence culture within a company, it should be integrated throughout the company; embedded in and aligned with the company's infrastructure; reflect trends in the industry; and be adaptable to change (Viviers, Saayman and Muller 2005, 586). However, this integration can be more difficult in multinational companies, so factors to consider are discussed in the following section.

5. CROSS-CULTURAL AND CROSS-BORDER COMPETITIVE INTELLIGENCE

A further aspect influencing the successful implementation of competitive intelligence is the multinational/global nature of companies. Many companies just entering the global market believe that all competitors have the same motivations and principles, while in reality globalisation really just brings together different cultures sharing a common language (Bonthous 1993, 12; Glitman 2013, 1).

Regional differences present unique challenges (Adidam, Gajre and Shubhra 2009, 678; Glitman 2013, 1–2) and companies must be in tune with those differences and dynamics to serve the global community effectively and position the company for growth (SCIP 2013). For competitive intelligence to go multinational and global, three aspects, namely, the legal environment, the cultural and ethical situations and the availability of information, are of great importance (Glitman 2013, 1). Companies doing international business must also have cross-cultural awareness engrained in their competitive intelligence efforts (Adidam, Gajre and Shubhra 2009, 678).

The challenges of cross-cultural implementation, namely, poor understanding of the cultural, social, legal and political environment, may actually diminish competitiveness,

instead of enhancing it, and companies must understand the cultural context of best practices, both in the originating and target countries, to overcome these challenges (Căpăţînă and Vanderlinden 2012, 369). Adidam, Gajre and Shubhra (2009, 677) developed a five-step process for developing a cross-cultural competitive intelligence programme, namely:

- defining requirements, that is, being aware of the cultural, social and economic differences;
- assigning a cultural leader, that is, someone who is knowledgeable about different cultures and is fluent in local language(s);
- organising cross-cultural competitive intelligence structures;
- keeping the cultural context in which the information was collected and analysed in mind;
- educating decision-makers on cultural challenges of converting information into intelligence in cross-cultural projects.

Failed cross-cultural competitive intelligence efforts stem from poor knowledge of local business culture; lack of thorough project assessment; cultural factors that may influence project delivery; poor ability to manage cultural diversity; and lack of patience and persistence (Adidam, Gajre and Shubhra 2009, 668).

6. COMPETITIVE INTELLIGENCE AND INNOVATION

The success of competitive intelligence in companies is closely related to an organisational culture where key decision-makers support and use the intelligence (Căpăţînă and Vanderlinden 2012, 368; Nasri 2012, 29; Viviers, Saayman and Muller 2005, 581). For such a culture to be established and cultivated, intelligence professionals should not simply gather data, but add context to the information gathered to ensure the intelligence is of value (Fahey 2007, 5). This intelligence, if seen in context and discussed continually in a knowledge sharing/collaborative environment, can have a significant impact on innovation and strategy formulation and implementation in a company.

Nonaka (1994, 14–15) describes innovation as a process through which a company creates and defines problems and then actively develops new knowledge to solve those problems. He argues that innovation is produced by one part of the company, which in turn creates a stream of related information and knowledge, triggering changes in the company's wider knowledge systems. This information and knowledge are diffused and converted into new or improved products, processes, techniques, services, devices or the company itself, thereby creating the ability to change or adapt (Andersen, Murphy and Börsch 2016, 72; Hussein, Farzaneh and Farham 2011, 940; Prior 2009, 22). Put differently, innovation is the creation and commercialisation of new knowledge and

the introduction of new ways of doing things through which companies start to change themselves and the environment (Allameh et al. 2014, 29).

Innovation is crucial to the success and survival of companies and they rely heavily on individuals to engage in innovative activities (Andersen, Murphy and Börsch 2016, 72). Cashman (cited in Forbes 2015), states that “the real value-creating sources of innovation are internalised in the networks of engaged, collaborative, diverse groups of people committed to a common purpose that serves and contributes continually in new ways”. The role of knowledge in these innovative activities and networks has increasingly been realised in recent years and a number of studies exist on the impact of innovation on organisational and regional competitiveness (Auernhammer, Neumann, Leslie and Lettice 2003, 53; Hussein, Farzaneh and Farham 2011, 940).

Innovation can be based on a technique, product, process, device, service offering or the company itself, with its scope ranging from radical/disruptive to incremental/evolutionary (Andersen, Murphy and Börsch 2016, 72; Hussein, Farzaneh and Farham 2011, 940; Prior 2009, 22). Depending on the type, complexity and scope, the role of knowledge and intelligence in the innovation process is crucial, as new knowledge needs to be created and intelligence applied from very different contexts. It is a common misconception that innovation is completely original. Innovation begins with creative ideas generated individually and in teams, and is necessary for competitive intelligence generation (Allameh et al. 2014, 30).

The importance and uptake of innovation furthermore differ between industries and markets (SCIP 2013). In fast-growing sectors, where there is a high speed of technological development, knowledge and the resulting intelligence and innovation (Allameh et al. 2014, 30) are key for being able to compete globally. It is furthermore the dominating resource for the production of added value (Auernhammer et al. 2003, 53), the single most important building block of competitive advantage and a key ingredient of growth (Auernhammer et al. 2003, 53; SCIP 2013).

7. COMPETITIVE INTELLIGENCE AND BUSINESS STRATEGY

“Companies that will prosper and outpace their competitors will be those that will be able to out-think their competitors strategically” (Snyman and Kruger 2004, 9). Strategists (key decision-makers and intelligence teams) should appreciate the major impact of knowledge on the formulation of corporate strategy and company success (Snyman and Kruger 2004, 5). Competitive intelligence adds value to a planning process and decision-making of a company and the linkage between competitive intelligence and strategic management is critical (Bulley, Baku and Allen 2014, 83).

There are a number of steps a company can take to develop a competitive intelligence function with a strategic focus. Firstly, the management of the company must understand the importance of competitive intelligence and allocate enough resources or budget

for the operation of such a function. Secondly, early warnings must be effectively communicated to key stakeholders, as poor management and usage of intelligence are major risks to successful implementation if this is not done effectively (Bulley, Baku and Allan 2014, 85). Key decision-makers must also know what information they need intelligence professionals/teams to provide (Fahey 2007, 4); be prepared to factor early warnings into their strategic planning; and be willing to respond to disruptive events (Fuld and Chodnowsky 2010, 3).

Gilad (2011, 10) is of the opinion that one way to build a competitive intelligence capability within a company is to ensure the person taking “on the role of voicing the strategic intelligence perspective [is] a rising star”. He further suggests that an alternative method to build intelligence capability may be to create “crack teams”, that is, teams of young stars who pick apart “strategic initiatives” using tools and techniques such as war gaming, as this ensures that future leaders are exposed to the wider industry and that current key decision-makers continually discuss strategic risks and opportunities.

Key decision-makers are ultimately interested in answering three questions with regard to strategy, namely: if (and how) current strategy should be changed; how the strategy can be better executed; and what the future strategy should be. To be able to add insight when answering these questions, intelligence professionals should know and understand the company’s current strategy; be familiar with possible future strategies; be comfortable in the language and conversations associated with strategy; and perform strategy analysis and intelligence work as if they were the same thing (Fahey 2007, 4–5).

When looking at what these intelligence inputs to strategy should address and how intelligence professionals can generate insights that will be relevant across different types of strategies or even different kinds of companies, Fahey (2007, 5) states that five strategy inputs, namely, marketplace opportunities; competitor threats; competitive risks; key vulnerabilities; and core assumptions, are needed. Each of these intelligence inputs requires considerable judgment and value-add by intelligence professionals. Furthermore, it enables all members of the management team to engage in more intelligence activities.

The background research as described above triggered the study into the implementation of competitive intelligence in a multinational consulting engineering firm (Prinsloo 2016) as described in the following section.

8. EMPIRICAL STUDY: A MULTINATIONAL CONSULTING ENGINEERING COMPANY AS A CASE STUDY

To answer the research question, a case study was conducted in 2016 within a multinational consulting engineering company with offices across Africa, Asia, Australia, the Middle East and New Zealand.

8.1. Limitations

The study had the following limitations:

- The study was restricted to a single multinational consulting engineering company.
- The study did not include other multinational companies in the same industry.
- The study did not include companies in other industries.
- The outcome of the study does not support recommendations for competitive intelligence implementation in multinational consulting engineering companies in general, but rather for the improvement of the competitive intelligence function and implementation within the company under study. (The study can, however, be used as an example for conducting similar studies in other contexts, and to show the value of findings for further planning.)

8.2. Research design

Empirical research is a way of gathering information either directly or indirectly. Analysis of the information can happen through either quantitative, qualitative or mixed methods research. Quantitative research generates statistics, while qualitative research explores attitudes, behaviour and experiences (Dawson 2002, 14–23) through case studies, observations and interviews (Guest, Namey and Mitchell 2013, 3). Both quantitative and qualitative methods have strengths and weaknesses and should be viewed as complementary, which is why mixed methods research is often used (Todd 1979, 602). To achieve the study objectives, a mixed methods approach was followed in the form of a case study combined with a survey.

In preparation for the study, the research objectives were clearly defined and background research by means of the literature analysis as set out in the preceding sections, was done to gain better understanding of corresponding research. The research design comprised three main phases as shown in Figure 2.

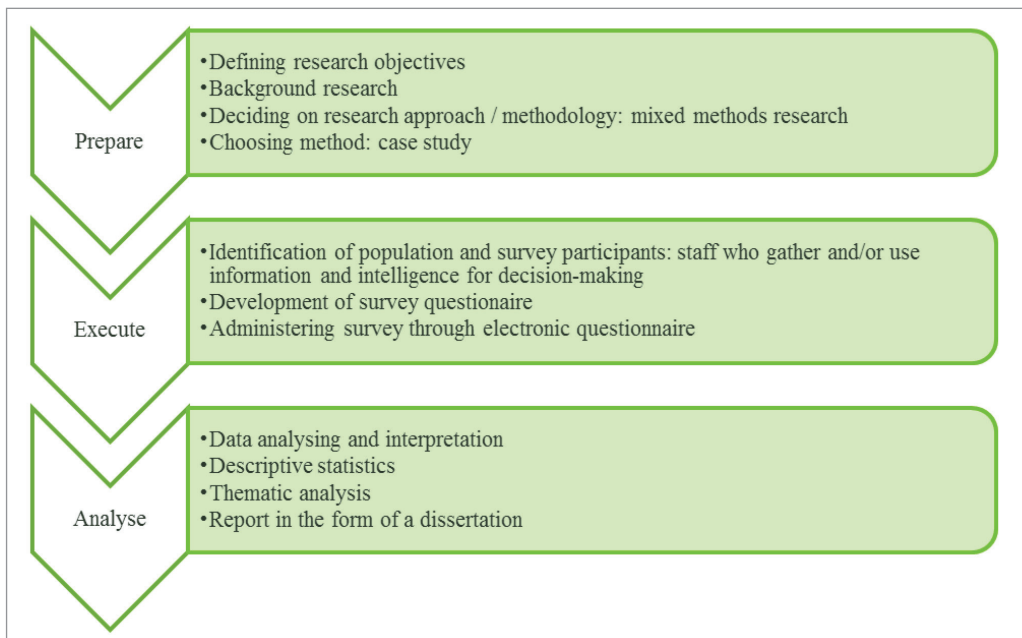


Figure 2: Phases of research design

8.2. Case study

Ghuri (2004, 109) states that a case study can be both quantitative and qualitative and that it is usually used in business studies to provide insight into a management situation, specific question or new model/framework. The management and engineering consulting company under study as part of the current study has offices in 24 countries across Africa, Asia, Australia and New Zealand. Since the anonymity of the company was guaranteed in the application for ethical clearance, more detail on the case study per se cannot be given.

8.3. Participants

As the focus of the study was the importance of competitive intelligence in a specific multinational engineering company, the sample of 122 participants consisted of staff who gather and/or use information and intelligence for decision-making. The participants were selected using convenience and purposive sampling which entailed using a standard company staff list to identify participants within the executive and senior management, marketing and communications and the existing information functions of the company as well as individuals not within these functions, but who

could make a positive contribution to the study. In the next phase of the research, a survey questionnaire was developed to collect information and research participants were identified.

8.4. Questionnaires for data collection

Surveys use questionnaires or structured interviews for data collection and are intended to generalise the results from a sample of research participants to a population (Babbie 2005, 112; Creswell 2003, 14). For the study, a semi-structured web-based questionnaire was used, consisting of 51 questions. Prinsloo (2016) discusses both the process and the questions in considerable detail.

A number of aspects had to be taken into account during the development of the questionnaire, including the language and terminology used, length and types of questions asked (Dawson 2002, 89). Care had to be taken with the wording of the questions to ensure that they were understandable to all participants as English was the second and even third language of a number of them and misunderstanding of the questions could impact the survey results. It was also important to keep the questionnaire as short as possible, as its length could have a direct impact on the completeness and rate of responses (Dawson 2002, 93). Lastly, the types of questions asked, that is, open-ended, closed-ended or a combination thereof, had to be established; based on the advantages and disadvantages as specified by Dawson (2002, 88) it was decided to use a combination thereof.

The questionnaire furthermore had to be piloted to test its validity and to see if it obtained the required results (Dawson 2002, 95) before it could be sent to participants in Australia, Hong Kong, Namibia, New Zealand, Nigeria, Philippines, Qatar, Singapore, South Africa, Tanzania, Thailand, United Arab Emirates and Vietnam. This entailed sending the questionnaire to various people not involved in its construction for input and comments on the relevance of the questions, possible ambiguities, structure and wording (thus piloting the questionnaire).

In administering the questionnaire, a covering e-mail was sent to all participants, explaining the goal and importance of the study. The e-mail emphasised the anonymity of responses and that of the company. The email furthermore contained a link to the web-based questionnaire. A period of three weeks was allowed for completion of the questionnaire.

Of the 122 participants, 76 responded to the survey, resulting in a 62 per cent response rate. The breakdown of responses is detailed in Table 1. The questionnaire included seven questions intended to gain insight into the biographical information of the respondents, as they had to provide a fair representation of the leadership of the company.

Table 1: Number of participants responding to questionnaire

Description	Number of participants	Percentage of participation
Responses received	76	62 %
Completed	54	71 %
Partial	22	29 %
Declined	1	1 %
No response	46	38 %
Total	122	100 %

One of the benefits of web-based surveys as noted by Phellas, Bloch and Seale (2011, 190), that is, a faster response time, was evident in the results. Similarly, the risk of incomplete data or no data at all was also evident in the responses (Phellas, Bloch and Seale 2011, 190) as 29 per cent of the participants submitted partially completed questionnaires (see Table 1). This might be due to the length of the questionnaire, as a number of participants commented that the questionnaire was too long and time-consuming.

Once the survey had closed and the completed questionnaires had been received, the data was combined within Survey Monkey, the web-based survey tool used, and extracted into Excel spreadsheets for further analysis.

Data collection addressed the sub-problems to the main research question of how competitive intelligence is implemented in the multinational consulting engineering company. Therefore, the survey was grouped into questions pertaining to information gathering; analysis and distribution; respondents' understanding of the benefits and challenges of knowledge sharing; the competitive intelligence culture; the importance of competitive intelligence for innovation; and strategy and challenges to successful cross-cultural implementation. The questions were deducted from the literature review (more details are available from Prinsloo 2016).

9. EMPIRICAL FINDINGS

After detailed analysis, the survey results were combined into 11 conclusive findings, which are listed and discussed below:

- Competitive intelligence activities are mostly informal and implemented with varying degrees of success in selected areas throughout the company. The existing information function of the company is not used as part of competitive intelligence activities. The disconnectedness of the information function highlights the need for a more streamlined approach to knowledge and information sharing within the company.

- Based on the results of a number of questions related to the importance and frequency of the monitoring, collection, distribution and analysis of client information, the company views this information as most important. The business strategy is a client-centric one, and the importance of client information confirms the link between competitive intelligence and business strategy. It should, however, be noted that competitive advantage is not only gained through in-depth knowledge of clients, but rather through a holistic understanding of clients, competitors, partners/companies in related industries and external market factors. To get this holistic understanding, more importance should be placed on intelligence about clients, competitors, partners/companies in related industries and external market factors.
- The company relies heavily on people, that is, employees and a network of peers as sources of information. This complicates knowledge and information sharing, as the multinational nature of the company does not always allow personal interaction and might be a contributing factor to the need for a more formalised process, centralised information repository/system and/or tools as presented later.
- War gaming, a process where individuals/teams representing the company and its competitors simulate a business situation by acting out the roles of decision-makers (Prior 2009, 47), is not seen as an important competitive intelligence tool, even though the industry is experiencing a number of disruptions. These disruptions include the rapid development of new technologies, a changing competitive landscape and the entry of new competitors. The resulting lack of forewarning might be a reason the company is perceived as average in terms of its ability to cope with change in the very competitive business environment.
- Comments and conclusions in response to a number of questions highlighted the weak knowledge-sharing culture. The outcome of this weak culture is the varying degrees of successful and unsuccessful information sharing implemented in selected areas of the company, that is, information on clients is shared widely in some areas, while in-depth information on the market factors and culture in countries in which the company operates is not shared. This silo effect is further complicated by the multinational nature of the company.
- There is a significant need for a more formalised process, centralised information repository/system and/or tools that will support information sharing in the company. It must be noted, however, that the benefit of any process, system or tool lies in its use, and a major challenge will be to improve the weak information-sharing culture before/in parallel with implementation of such a process/system or tool. As the company is already experiencing a number of disruptions such as the rapid development of new technologies, a changing competitive landscape and the entry of new competitors, the change needed to improve the weak information-sharing culture might not be seen as important enough to implement in the short to medium term.

- Just over half of the company feels that there is support from senior and top management for intelligence gathering and distribution and visible use of such information. This is however not on a sufficient level to drive an improved knowledge-sharing culture and support competitive intelligence efforts.
- The company views competitive intelligence as essential for gaining a competitive advantage, but even though competition in the market is very intense, 60 per cent of respondents perceived the company as average when it comes to responding to changes in the business environment. This is a further illustration of the lack of an information- and knowledge-sharing culture and is underpinned by the need for a more formalised process, centralised information system and/or tools.
- It is encouraging to note that the company believes competitive intelligence has a positive influence on decision-making and that most of the respondents (58.93%) reported that company, region, country, market and unit strategies are updated regularly, based on intelligence received.
- The company views innovation as essential to its survival and a number of initiatives, such as a renewed focus on a diverse workforce and training programmes in innovative design methods, have already been launched to cultivate and grow this strategy in the company. However, these current initiatives are not seen as the preferred ways to cultivate innovation as only 9 per cent of the respondents cited these initiatives as suggested ways to do so. The two ways suggested by the majority of the company to cultivate innovation are sharing success stories and encouragement, reward and/or recognition. Possible ways to implement these suggestions should be investigated by the company.
- The multinational nature of the company and regional differences in terms of culture, legislation, language, and so on, significantly increase the need for a more disciplined focus on competitive intelligence. Possible ways to implement such a focus should be investigated.

Based on the above, it was concluded that competitive intelligence is applied with relative success in some areas of the company, but that a more formalised approach will be beneficial. Prinsloo (2016) addresses the recommendations in detail in the context of the full report of the study; however, only the essence of the recommendations is captured here.

10.RECOMMENDATIONS

Five recommendations were identified as the most important for the company to consider. These recommendations are intended to improve the competitive intelligence function in the company and can be implemented in parallel, as they overlap in certain areas.

10.1. Expand the service offering of the existing information function

The study found that there is insufficient awareness of the existing information function in the company. Discussions with staff within this function further revealed that they are seldom requested to collect and/or distribute information on clients, competitors, partners/companies in related industries or external market factors.

As the staff within the information function are mostly trained and experienced knowledge workers, the company can, in a relatively short timeframe, benefit from expanding this service offering to include that of competitive information gathering and distribution. As the staff are only located in offices in South Africa and Australia, the staff can be supported by an informal network of knowledge workers in all other company locations across Africa, the Middle East, Asia and New Zealand. Such a network will improve the quality of intelligence, as these individuals will have knowledge of local business culture and practices (Jaworski, Macinnis and Kohli 2002:287), ensuring better quality intelligence.

10.2. Improve the competitive intelligence culture

Establishing a competitive intelligence culture in a company is key to the success of any competitive intelligence effort. To enhance the competitive intelligence culture, competitive intelligence should be integrated throughout the company, embedded in and aligned with the company's infrastructure; it should reflect trends in the industry and be adaptable to change (Viviers, Saayman and Muller 2005, 586).

The results of the study showed that the company's competitive intelligence culture is weak and that information and knowledge are shared with varying degrees of success in some areas of the company. There are many ways to foster a competitive intelligence culture and community (Viviers, Saayman and Muller 2005, 585–586), and based on the results of the study, the following steps are suggested:

- Ensuring visible awareness, support and use of intelligence by senior and top management. Over 60 per cent of the respondents cited this as an important motivator for sharing knowledge and competitive intelligence. Visible support and use of intelligence can be implemented easily, but will have to be done continually to embed the culture across the company.
- Encouraging and enabling regular discussions about competitive intelligence and the importance of a learning/knowledge-based culture at meetings.
- Changing the organisational structure to accommodate a central point of information. This central point of information can act as an integrator between the senior and executive management of the company and the staff of the existing information function collecting information.

- Creating an intelligence database.
- Rewarding the staff, the results showed that the majority of the participants see improved win rates as a key driver for improving financial results. Demonstrating how win rates (which result in improved financial performance) can be improved with competitive intelligence can increase the awareness and sharing of this intelligence. Following this, the actual reward, in terms of growth in profitability, could be shared with all staff (through bonuses, salary increases, share allocations), ensuring that the culture is embedded in the company.

As explained above, following the suggested steps above could foster a competitive intelligence culture and community, resulting in improved strategy and decision-making.

10.3. Implement a process, system and tools

Based on the results of a number of questions, the company needs a more formalised process, system and tools to support information and knowledge sharing within the company. The research furthermore showed that information on clients is seen as most important and is monitored, collected, stored, distributed and analysed most often. The company has a client centric strategy based on achieving market differentiation through a disciplined focus on client relationships and providing clients with extraordinary experiences. The successful implementation of this strategy means that competitors will not be the only aspect of importance but that market intelligence about things that affect clients will become more important. Competitive advantage will therefore not only be gained through in-depth knowledge of clients, but also through a complete understanding of other factors influencing the competitive arena, that is, external market factors and partners/companies in related industries.

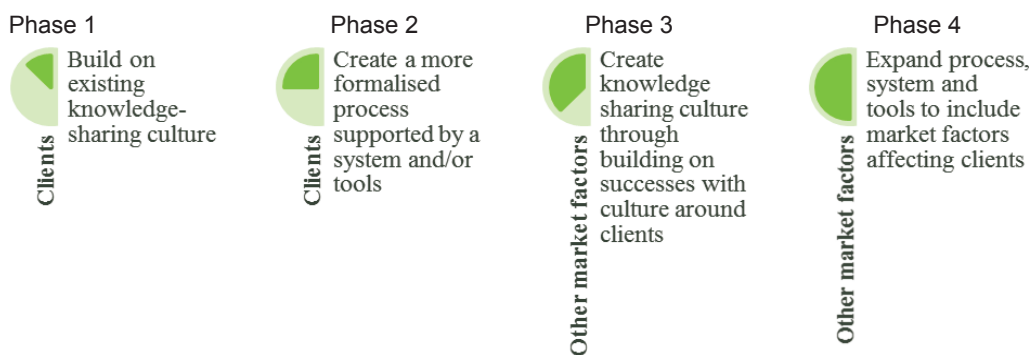


Figure 3: Suggested approach for implementation of a more formalised process, system and tools for a multinational company

A major challenge to the successful implementation of a more formalised process and system or tools is the cultural changes needed to improve knowledge and information sharing. It is therefore suggested that a phased approach be taken, as shown in Figure 3:

- **Phase 1:** Using strong leadership to continue and build on the existing knowledge-sharing culture around clients. This is a continuous process and additional time is not needed for this phase.
- **Phase 2:** Creating a more formalised process around sharing information on clients. This process should be supported by a system and/or tools that will enhance the ability of the company to share and search for current information across all its locations. The company is already in the process of investigating such a system and this phase can be implemented within a relatively short timeframe.
- **Phase 3:** Almost in parallel with the above phase, a knowledge and information-sharing culture with regard to market factors affecting clients, that is, external market factors and partners/related industries should be cultivated. This is a longer-term process and can be done by building and improving on the principles used to create the client culture.
- **Phase 4:** Once the culture with regard to market factors affecting clients has been embedded across the company, the process, system and tools created during an earlier phase can be expanded to include these other factors. This would be the last phase of the suggested implementation.

The assumption is that once the last phase has been implemented, the company will have an improved competitive intelligence culture. Further work/research can be conducted in line with the changes in the culture after implementation of the suggested changes.

10.4. Increase cultural awareness

The research shows that the multinational nature of the company increases the need for disciplined focus on competitive intelligence. In-depth information, on the countries and regions where the company operates, is also reportedly shared on an ad hoc basis and with differing levels of success.

However, it has been proved in previous studies that for cross-border competitive intelligence efforts to succeed, the company needs insight into the cultural dynamics affecting the countries and regions where it operates. This insight can be gained through implementation of a cross-cultural intelligence programme following the steps defined by Adidam, Gajre and Shubhra (2009, 677):

- Creating awareness of the cultural, social and economic differences between countries. Cultural awareness campaigns can be included in communication on diversity and awareness campaigns can be run on social media and other platforms.

- Assigning cultural leaders knowledgeable about different cultures and fluent in the local language(s). The country managers and in-country staff of the company can play a significant role in this regard and can be included as part of the informal competitive intelligence network in the company.
- Organising cross-cultural competitive intelligence structures.
- Learning as much as possible about the industry in the relevant country, keeping the cultural context in which the information was collected in mind. The regional management teams and country managers in the company can play a significant role in this regard and should aim to make in-depth information on the countries more widely accessible within the company.
- Sharing intelligence with decision-makers who are knowledgeable about the challenges of converting information into intelligence in cross-cultural projects. Cultural awareness should be entrenched in the senior and executive management function of the company to ensure that intelligence is interpreted in the cultural context in which it was collected.

10.5. Introduce scenario analysis/planning and war gaming

The research showed that the company views war gaming as the least important of the competitive intelligence tools/techniques studied while it views early warning of future opportunities, disruptions and competitive service offerings as essential for gaining a competitive advantage.

This early warning can be obtained through regular scenario analysis, where probable events that may affect the company or its operating environment are identified. Following this, the best response to these probable events – ranging from best case to worst-case probabilities – can be identified through scenario planning. War gaming can then be used in conjunction with this.

Companies use war gaming as a competitive intelligence tool/technique when faced with disruptions, such as new technologies in the market; new service offerings of technologies offered by competitors; the entry of new competitors into the market; a changing competitive landscape due to the consolidation of competitors and clients; and changes in the macro-environment (Prior 2009, 47). As the larger industry and the company in particular are experiencing a number of these disruptions, the management of the company should consider the implementation of scenario analysis/planning and war gaming to ensure early warning of these disruptions. As war gaming is not an ongoing activity in practice, the intelligence gained from its implementation can be used in conjunction with tools/techniques already used by the company.

11. AREAS OF FUTURE RESEARCH

Since the current study was restricted to a single multinational consulting engineering company, it would be enlightening to study other multinational companies in the same industry to identify differences and/or similarities in the implementation of competitive intelligence. Future research may also be expanded to study the consulting engineering industry, in a particular country or internationally, to find differences and/or similarities in the implementation of competitive intelligence.

It would furthermore be informative to study the differences in implementation of competitive intelligence across regions, specifically regions where there are substantial differences in culture and the availability of, and access to, information, that is, companies based in the West compared to those in the East.

As a follow-up to the study, it would be interesting to investigate the success of competitive intelligence in the company after implementation of the recommendations over a period.

Another topic that could be studied is the influence of competitive intelligence on business strategy in multinational consulting engineering companies in particular and the industry in general.

As competitive intelligence is used by many companies across the world to gain a competitive advantage and to play a future key developmental role, further research is needed into the:

- influence of corporate culture and globalisation on the successful implementation of competitive intelligence;
- extent to which innovation and business strategy are linked to competitive intelligence;
- types of information gathered, stored and distributed within a company as part of competitive intelligence activities and the importance of this information to employees.

12. CONCLUSION

The objective of the reported study was to determine how competitive intelligence is implemented in a multinational consulting engineering company. Based on the analysis of the results, it was concluded that competitive intelligence is applied with relative success in some areas of the company. However, even though there are successful activities pertaining to competitive intelligence in the company, it is emphasised that a more formalised approach should be implemented to achieve optimal competitive performance.

The study reiterated that competitive intelligence supports the needs of companies to stay ahead of the competition through the gathering, analysis/interpretation and

distribution of information on clients, competitors, partners/related industries and external market factors. It is an important part of the strategic management activities of companies and closely linked to innovation. The successful implementation of competitive intelligence activities is furthermore influenced by corporate culture and should be implemented taking cultural and regional differences into account.

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