COMPETITIVE INTELLIGENCE FAILURES FROM THE PERSPECTIVE OF INFORMATION BEHAVIOUR

By

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DECLARATION OF ORIGINALITY

I declare that the dissertation: **Competitive intelligence failures from the perspective of information behaviour**, which I hereby submit for the degree **Master of Information Science** at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. The author, whose name appears on the title page of this dissertation, obtained the applicable research ethics approval to conduct the research described in this work. The author declares that he has observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the policy guidelines for responsible research.

Signature:  **Date:** 26 August 2017

ABSTRACT

Failures in competitive intelligence are widely reported but are seldom studied through an information behaviour lens or specifically attributed to information activities and factors influencing information behaviour. This dissertation addresses this gap. The research question was: *How are competitive intelligence failures attributed to information behaviour*? Sub-questions included:

- How is lack of understanding of competitive intelligence contributing to competitive intelligence failure?
- How are the identification and expression of intelligence needs contributing to competitive intelligence failures?
- How are difficulties experienced in data collection contributing to competitive intelligence failures?
- How are information sharing and specifically feedback mechanisms contributing to competitive intelligence failures?
- How are other information activities (apart from the recognition and expression of information needs, data collection and information sharing)
    - contributing to competitive intelligence failures?
    - preventing competitive intelligence failures?

Eclectic versions of the competitive intelligence life cycle (mostly based on the Bose (2008) and Botha and Boon (2008) interpretations) and information-seeking/information behaviour model (mostly based on the Wilson (1981) and Leckie, Pettigrew and Sylvain (1996) models) served as conceptual frameworks for data collection and analysis. The study followed a survey method using semi-structured individual interviews with 15 competitive intelligence professionals, educators and trainers. They were recruited through purposive and snowball sampling. A profile questionnaire of limited scope collected descriptive quantitative data on educational level, professional position, formal training in competitive intelligence and description of job titles. Semi-structured individual interviews were conducted through face-to-face, SKYPE, telephonic call and face-time call interviews. Data was collected from 31/08/2016 to 30/01/2017. Thematic analysis was applied to the qualitative data, identifying core themes and sub-themes for each sub-problem.

Findings are used to populate the two frameworks: competitive intelligence cycle and information behaviour, before suggesting a framework with elements from both to guide future studies on competitive intelligence failures from an information behaviour perspective. Suggestions for theories to consider in future research, competitive intelligence practices, and further research are included.

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LIST OF ABBREVIATIONS

SCIP	Strategic and Competitive Intelligence Professionals
ICT	Information and Communications Technology
SWOT	Strength, Weakness, Opportunities and Threats

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CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Competitive intelligence is highly valued in today's marketplace. It involves gathering information about customers, products, competitors and any aspect of the environment needed to support managers' decision making for an organisation (Jaworski, Macinns & Kohli, 2002:299; Nikoloas & Evangelia, 2012:3; Pellissier & Nenzhelele, 2016:1[1]). According to Wright and Fleisher (2010), "it is anticipated that any competitive intelligence professional would want to create an intelligence product that will be successful over time and avoid failures". Despite all the efforts competitive intelligence professionals make to create successful intelligence products, failure is often reported (Erldelez & Ware, 2001; Frion & Yzquierdo-Hombrecher, 2009; Wright & Fleisher, 2009; Tsitoura & Stephens, 2012; Garcia-Alsina, Ortoll & Cobarsí-Morales, 2013; Du Toit, 2015). Competitive intelligence failures have been attributed to factors such as lack of understanding of the competitive intelligence process, lack of support from senior management and inadequate skills of people involved in the competitive intelligence process (Fleisher & Bensoussan, 2003; Odendaal, 2006; Strauss & Du Toit, 2010; Nasri 2011; Wright, 2014). Although some reports on competitive intelligence failures mention failures related to inaccurate data, information overload, irrelevant incoming data, information seeking and searching (Muller, 2002; Tsitoura & Stephens, 2012; Du Toit, 2015), few reports explicitly link competitive intelligence failure to information behaviour (Jin & Bouthiller, 2008; Frion & Yzquierdo-Hombrecher, 2009).

The purpose of this dissertation is therefore to create awareness of the causes of competitive intelligence failures as seen from an information behaviour perspective, using eclectic interpretation from several models of information behaviour and the competitive intelligence cycle as a guideline. Particular emphasis was placed on information needs identification, information seeking, information sharing and information use. This was an exploratory information behaviour study.

[1] References are presented according to date of publication – oldest first

1.2 BACKGROUND TO THE PROBLEM

The pace of competition throughout the marketplace is rapid (Shin, 2001:165; Rothaermel, 2008:203; Stefanikova, Rypakovaa & Moravcikov, 2015:210). Product cycles are measured in weeks or months and partners may become possible competitors (Tsitoura & Stephens, 2012; Jin & Ju, 2014; Du Toit, 2015). According to Kahaner (1997: 28), *"*Turning information into intelligence has become the most critical management tool of cutting-edge business leaders". Dutka (2004:19) further states that competitive intelligence *"*will ultimately separate successful companies from those that fail." Competitive intelligence as a concept is clarified in more detail in section 1.9.1.

The overriding purpose of competitive intelligence is to enhance the capacity and ability of managers to deal with threats from competitors, identify risks associated with the marketplace and gain competitive advantage (Fleisher & Blenkhorn, 2003; Bose, 2008; Strauss & Du Toit, 2010; Sewdass, 2012; Petrişor, 2013; Du Toit, 2015). Competitive intelligence is aimed at the satisfaction of organisational needs that are still to be met (Prescott & Miller, 2002; Bose, 2008; Ghanny & Zeineb, 2012; Du Plessis & Gulwa, 2016; Jeong & Yoon, 2017). Competitive intelligence consists of a number of processes and activities, which include planning and directing, collection of data, analysis, dissemination and feedback (Prescott & Miller, 2002; Odendaal, 2006; Bose, 2008; McGonagle & Misner-Elias, 2016). Although many of these qualify as information activities as defined by Wilson (2000), Choo (2001), Case (2007) and Fisher and Julien (2009), they are not explicitly associated with "information behaviour" in competitive intelligence literature.

Competitive intelligence is one of the fastest growing fields in the business marketplace and it is increasingly drawing attention world-wide (Vivers, Saayman, Calof & Muller, 2002; Du Toit, 2015). According to Du Toit and Sewdass (2014), the number of companies in South Africa with a functioning competitive intelligence unit has increased since 2004, since South African companies and government were faced with increasing pressure of globalisation. Competitive intelligence professionals refer to professionals that are responsible for developing a systematic programme that guides the collection, analysis and processing of both external and internal information in order to improve a company's decision making abilities (Bartes, 2012; Petrişor, 2013; Du Toit, 2015; Jeong & Yoon, 2017). Although the term is widely used in the international as well as South African literature, it is not well

established in the South African industry; although people often perform tasks related to competitive intelligence, they do not always claim the title “competitive intelligence professional” (Baars & Kemper, 2008).

There are often cases where the intelligence product does not meet the company’s needs and intelligence failure occurs (Dinkelacker & Hirsh, 2004; Jin & Bouthillier, 2008; Fleisher & Wright, 2009; Thatcher & Vasconcelos, 2015). According to Jensen (2012), competitive intelligence failures result when analytical judgments turn out to be wrong. According to Bose (2008), competitive intelligence failures are disaggregated into competitive intelligence activities, which are planning, collection, analysis and dissemination. Competitive intelligence failures can be caused by error from incoming data or mistakes made by senior management, competitive intelligence professionals and data analysts (Tsitoura & Stephens, 2012:9-19). Various authors have attributed competitive intelligence failures to information activities such as information needs identification, information seeking, information use, information sharing and information avoidance (Fleisher & Wright, 2009; Tsitoura & Wright, 2012; Garcia-Alsina, Ortoll & Cobarsí-Morales, 2013), but very few labelled these under the umbrella concept of information behaviour as defined by Wilson (1999) and Karunakaran, Reddy and Spence (2013).

Competitive intelligence is closely related to business intelligence. Some authors view competitive intelligence as a subset of business intelligence (Teo & Choo, 2001; Davenport & Harris, 2007; Olszak, 2014). According to some authors, the terms are being used interchangeably, which is incorrect since they refer to different concepts (Teo & Choo, 2001; Ranjan, 2009; Olszak, 2014). As with competitive intelligence, there are various reports that mention causes of business intelligence failures, but that do not explicitly link failure to information behaviour (Negash, 2004; Yeoh & Koronios, 2010; Olszak, 2014). A few authors note that information behaviour has an impact on and influences the design of a company’s business intelligence system (Negash, 2004; Ranjan, 2009). For the purposes of this study, reports on business analysis will only be noted when explicitly reporting on information behaviour and key information activities such as information needs identification, information seeking and information use.

Information behaviour, a sub-discipline of Information Science, reflects a growing body of literature addressing a wide spectrum of contexts and people (Fisher & Julien, 2009; Case & Given, 2016). Information behaviour is widely acknowledged to include information seeking, information needs, information sharing, information use, information searching and information avoidance (Faibisoff & Ely, 1976; Wilson, 2000; Kuhlthau, 2007; Case & Given, 2016), as well as other information activities. Information behaviour is considered an umbrella term (Wilson, 2000; Zins, 2007). A considerable body of this literature reports on the information behaviour of professionals in a spectrum of contexts (Ansari & Kumar, 2010; Case & Given, 2016). The need to understand the information behaviour of professionals is also evident from the earlier work of Leckie, Pettigrew and Sylvain (1996), who worked on the information behaviour of professionals. The focus is mostly on their information needs, preference for information sources and sometimes the impact of roles and tasks (Byström & Hansen, 2005; Bawden, 2006; Vakkari, 2006). There is, however, very little on competitive intelligence professionals and competitive intelligence failure, and limited literature on the South African context. Very little has also been published on information behaviour and failure, with some exceptions in the field of healthcare (Mackian, Sara, Bedri & Lovel, 2004; Raj, Singh & Goel, 2015).

1.3 PURPOSE AND OBJECTIVES OF THE STUDY

The available literature on competitive intelligence and information behaviour shows that various information behaviour components are displayed throughout the competitive intelligence cycle (Frion & Yzquierdo-Hombrecher, 2009:21) – even if not explicitly labelled as such. While information behaviour has been studied in various contexts, with a variety of people and for different goals and motives (Case, 2007:9; Case & Given, 2016:23), there are very few studies that identify the failures of competitive intelligence from an information behaviour perspective. The purpose of this study was therefore to examine the failures of competitive intelligence from an information behaviour perspective, including the understanding of competitive intelligence, expression of the information needs, data collection and other information activities that may contribute to competitive intelligence failures. Information behaviour served as a research lens.

The main objectives of this study were therefore:

- To provide a theoretical background from the subject literature on causes of competitive intelligence failures that relate to information behaviour.
- To explore key factors and information activities that contribute to competitive intelligence failures from an information behaviour perspective.
- To draw a conclusion and make recommendations, based on research findings, on the information behaviour related causes of competitive intelligence failures.

1.4 STATEMENT OF THE PROBLEM, RESEARCH QUESTION AND SUB-QUESTIONS

Studies by Vivers, Saayman, Calof and Muller (2002), Zangoueinezhad and Moshabaki (2009), Fleisher and Wright (2009), Iyamu and Nemutanzhela (2011), Jensen (2012) and Garcia-Alsina, Ortoll and Cobarsí-Morales (2013) have acknowledged the existence of competitive intelligence failures. Most but not all competitive intelligence failures originate from four factors mentioned in literature, namely lack of understanding of competitive intelligence, lack of support from the organisation and senior management, mistakes by competitive intelligence professionals and inadequate research and data analytical skills (Vivers et al, 2002; Garcia-Alsina, Ortoll & Cobarsí-Morales, 2013; Hughes, Le Bon & Rapp, 2013). Against the background sketched in the introduction, this study will address the following research question:

How are competitive intelligence failures attributed to information behaviour?

In order to answer the research question, the study focused on issues related to information activities falling under the umbrella terms of information behaviour, as well as overall awareness of the impact of information activities on competitive intelligence failures. The principal research question was divided into the following sub-questions:

1. How is lack of understanding of competitive intelligence contributing to competitive intelligence failure?
2. How are problems in the identification and expression of intelligence needs contributing to competitive intelligence failures?
3. How are difficulties experienced in data collection contributing to competitive intelligence failures?

4. How are information sharing and specifically feedback mechanisms contributing to competitive intelligence failures?
5. How are other information activities (apart from the recognition and expression of information needs, data collection and information sharing):
    - contributing to competitive intelligence failures?
    - preventing competitive intelligence failures?

In addition to the empirical component based on a study of the literature, the study also determined:

1. What has been published on competitive intelligence failures that can inform this study?
2. Which theoretical framework should guide the study? (These answers will be provided in Chapter two)

1.5 RESEARCH DESIGN

Research design concerns the general overall nature of the research activity. This section briefly discusses the research paradigm and approach, research methods, study population, data collection methods, data analysis, validity and reliability as applied to a qualitative study, and ethical implications and clearance of this study. The comprehensive explanation of the research design and methodology and all issues discussed here will be presented in Chapter Three. Chapter Two will present the literature analysis and suggestions for theoretical frameworks that will guide the empirical component.

1.5.1 Research methodology for empirical component

There are mainly three types of research methodologies, namely qualitative and quantitative research methodology (Leedy & Ormrod, 2005:94; Pickard, 2007:86), and mixed methods research in which the researcher combines qualitative and quantitative elements for data collection, analysis and inference techniques (Creswell, 2003). Competitive intelligence studies often depend on qualitative research approaches such as individual interviews, observations, focus groups and collection of narratives (Bose, 2008; Pellissier & Nenzhelele, 2013). This study will follow a qualitative approach guiding data collection and analysis, with a descriptive quantitative approach of limited scope. It will thus

be conducted from a post-positivism paradigm. Results will be presented as an exploratory study.

The research method chosen for this study was a survey. Scheuren (2004:9) defines a survey as a method of gathering information from a sample of individuals. For this study the target population comprised competitive intelligence professionals, educators and trainers. The competitive intelligence educators and trainers are included in this study because their perception of the causes of competitive intelligence failures might influence the training of future competitive intelligence professionals. The participants were recruited through a purposive sampling technique. According to Pickard (2007), the population of a purposive sampling technique is selected based on their particular characteristics. The study also used a snowballing sampling technique, which involved a participant (also referred to as research subject) giving the researcher the name of another potential participant, who in turn might provide a third name, and so on (Gile & Handcock, 2011).

1.5.2 Data collection methods

According to Case (2007) and Case and Given (2016), common data collection methods that are used in studies of information behaviour include focus groups, transaction logs, observation and experiments, questionnaires and interviews. This claim is supported by a number of information behaviour studies (Wilson, 1999; Dawes & Sampson, 2003; Foster & Ford, 2003; Basha, Rani, Kannan & Chinnasamy, 2013).

For the purposes of this study data was collected by means of electronic and face-to-face semi-structured interviews. This was supplemented with data collected by means of a semi-structured self-administered questionnaire, collecting only the demographic data of the participants: competitive intelligence professionals, educators and trainers. The data collection instruments are shown in Table 1.1.

According to Leung (2001), questionnaires are best used to obtain factual data from respondents and if well designed, ensure that valid answers to questions are obtained. Interviews are useful to supplement questionnaires, as there is room for discussion and interaction between the researchers and participants (Wang, 2001; Pickard, 2007; Singh, 2007). Interviews are appropriate for qualitative studies (Gorman & Clayton, 2005).

Questionnaire surveys as research method have been reported for competitive intelligence studies (Negash, 2004; Rouhani & Asgari, 2012; Fleisher & Wright, 2009). Problems with the recruitment of participants are however widely noted. Supplementary methods are thus often considered, such as content analysis and literature analysis (Odendaal, 2006; Strauss & Du Toit, 2010; Garcia-Alsina, Ortoll & Cobarsí-Morales, 2013). For this reason the study chose to supplement qualitative data from the interviews with a literature analysis, which is appropriate for an exploratory study. Other methods often used in qualitative research, such as observation, photovoice, group discussion or historic study (Gorman & Clayton, 2015), were not considered appropriate for the target group.

The researcher used a semi-structured questionnaire and semi-structured individual interviews with a strong narrative component. The literature analysis covered two core topics: (1) competitive intelligence failures reported in the literature on competitive intelligence, and (2) competitive intelligence reports from an information behaviour perspective.

Table 1.1: Research techniques used for the study

Research techniques	**Application of research technique for this study**
Literature review (non-empirical)	The literature review presents an analysis of literature on the competitive intelligence cycle and information behaviour models, the explicit connection between competitive intelligence and information behaviour. The literature review also presents findings of studies on organisational factors that have an impact on the efficiency of the competitive intelligence function and process, individual attributes contributing to competitive intelligence failures, and studies on information activities that have an impact on the efficiency of the competitive intelligence process and function.
Semi-structured questionnaire for competitive intelligence professionals, trainers and educators	A semi-structured self-administered questionnaire (Appendix A) for competitive intelligence professionals, trainers and educators yielded insight into their background, experience with competitive intelligence, etc. The questionnaire was distributed as an email attachment.
Semi-structured interviews	An interview schedule (Appendix B) was used for in-depth individual interviews aimed at investigating how competitive intelligence failures are attributed to information behaviour, with particular reference to information needs,

	information seeking, information sharing and information use, and other issues such as awareness of the impact of information behaviour. The interviews were conducted face-to-face or electronically, depending on participant preference.

1.5.3 Validity and reliability in a qualitative study

In assessing the appropriateness of any research study, two standard measurement criteria can be used, namely reliability and validity. According to Leedy and Ormrod (2005:98), validity is the extent to which a measurement instrument is a representative sample of the content area being measured. Reliability refers to the consistency with which a measuring instrument yields a certain result when the measured entity has not changed (Leedy & Omrod, 2005:31). Although the terms “validity” and “reliability” are widely used for all types of research, qualitative research is actually more concerned with credibility, transferability, dependability and comfortability of work (Gorman & Clayton, 2015:26). In the spirit of Gorman and Clayton (2015:27), saying “By now you will have noted that in this volume we have continued to refer to reliability and validity, generalizability and objectivity for these are still the terms most researchers use”, this study will also keep to the terms “validity” and “reliability”. Actually addressing the validity and reliability of the findings will be discussed in Chapters Three and Five.

1.5.4 Ethical implications and clearance

According to Pickard (2007:123), all research methods carry an obligation to follow ethical norms. A study that involves human subjects needs to take into account ethical implications (Brydon, 2006). According to Salant and Dillman (1994:9), when a researcher asks people to participate in a survey, it is his/her responsibility to respect their privacy and voluntary participation. For this study ethical clearance was obtained from the Engineering, Built Environment and Information Technology Faculty Committee for Research Ethics and Integrity of the University of Pretoria. Written consent was required from all the participants prior to taking part in the study (see Appendix C for the informed consent form). The employers (where applicable) also had to give consent for their participation (see Appendix D). Participants were assured that their responses would be treated with

confidentiality and would be kept anonymous. The ethical issues involved in the study will be discussed further in Chapter Three.

1.6 BRIEF LITERATURE REVIEW

There is limited literature that presents both competitive intelligence and information behaviour. Few researchers to date have conducted studies that explicitly connect competitive intelligence with human information behaviour. Such studies include those by Erdelez and Ware (2001) who conducted a study on competitive intelligence students and their use of primary and secondary sources of information to find information for their clients, Dinkelacker and Hirsh (2004) who studied the information sources, information use and information-seeking behaviour of information workers at Hewlett Packet Laboratory, Jin and Bouthillier (2008) who studied the information-seeking behaviour of competitive intelligence professionals and Garcia-Alsina, Ortoll and Cobars-Morales (2013) who explored the enablers and inhibitors of competitive intelligence practices, focusing on the low diversification of information sources, lack of information searching practices, irregular searching frequency and lack of information awareness.

A number of publications focus on competitive intelligence failures related to various factors, including lack of support from senior management, mistakes caused by competitive intelligence professionals, lack of understanding of the organisation and its business environment and low usage of organisational libraries. These include studies by Odendaal (2006) who identifies the problems of organising competitive intelligence activities in the organisation and ways in which lack of coordination can result in failure, Fleisher and Wright (2009) who identify the four levels of competitive intelligence analysis failure, Iyamu and Nemutanzhela (2011) who investigate the impact of information systems on competitive intelligence activities and Garcia-Alsina, Ortoll and Cobarsí-Morales (2013) who explore the inhibitors and enablers of competitive intelligence.

1.7 SIGNIFICANCE OF THE STUDY

This study is exploratory in nature. It examines competitive intelligence failures in the perspective of human information behaviour (referred to only as information behaviour in the dissertation), with particular reference to information needs identification, information seeking, information sharing and use as information activities, and awareness of causes of

competitive intelligence failures. Specifically, the study aims to create awareness among competitive intelligence professionals as to what causes competitive intelligence failure from a human information behaviour perspective. By means of the suggested theoretical framework, this exploratory study can guide further research as well as the training of competitive intelligence professionals on the value of an information behaviour lens in competitive intelligence work.

1.8 LIMITATIONS

- Very little literature has been published on addressing competitive intelligence and information behaviour together, but individually there is a good body of literature for each. The study thus drew on both.
- As foreseen, it was difficult to identify and recruit participants from industry for this study. Competitive intelligence trainers and educators were therefore considered as participants whose perceptions on the causes of competitive intelligence failure are important, since they train the next generation of competitive intelligence professionals. (Their input was supplemented with input from participants from industry where available.)
- Since it is not possible to generalise findings, the study is presented as an exploratory study. This is, however, acceptable for qualitative studies (Gorman & Clayton, 2005:55).

1.9 CONCEPT CLARIFICATION

This section outlines the working definitions of terms used in this dissertation. From the research question (section 1.4), it is evident that the terms competitive intelligence, human information behaviour, information seeking and information needs have to be clarified.

1.9.1. Competitive intelligence

Strauss and Du Toit (2010) view competitive intelligence as “an ongoing, systematic evaluation of the external environment for opportunities, threats and developments that could have an impact on the enterprise and influence reactive decision-making.” Competitive intelligence has often been described as a system, programme or process (Herring, 1999; Miller, 2000; Bose, 2008; Calof & Wright, 2008). Bergeron and Hiller

(2002:355), define competitive intelligence as "The collection, transmission, analysis and dissemination of publicly available, ethically and legally obtained relevant information as a means of producing actionable knowledge. Furthermore, competitive intelligence is the production of actionable knowledge for the improvement of corporate decision making and action". Kahaner (1997:16) states that "competitive intelligence is a total process, not just a function in the company and made up of four steps: planning and direction, collection of data, analysis and dissemination."

Based on the previously mentioned definitions, an operational definition of competitive intelligence is proposed. This study will define competitive intelligence as a system and total process that involves collection, transmission, analysis and dissemination of publicly available, ethically and legally obtained relevant information.

1.9.2 Competitive intelligence failure

According to Johnson (2004:6), "Intelligence failures are factual inaccuracies in analysis resulting from poor or missing data; intelligence failure is systemic organizational surprise resulting from incorrect, missing, discarded, or inadequate hypotheses." Jensen (2012:261) holds a similar view of intelligence failure, namely that "intelligence failure arises when analytical judgment turns out to be inaccurate."

From the definitions mentioned before and the discussion about intelligence failure, this study will accept a working definition for competitive intelligence failures as failures disaggregated into the traditional competitive intelligence cycle, resulting from incorrect, missing, discarded, or inadequate data and hypotheses. These failures may be due to failed analysis but they may also be caused by other factors that interact with the competitive intelligence cycle.

1.9.3 Information

Despite many efforts to define information, an overlap still exists in respect of the true meaning of the concept (Bawden, 2007:2). There are various authors who support the claim made by Bawden (2007), including Weller (2007:439) who states that a definition brings about ambiguity since information is intangible. Wilson (2006:659) further states that "information does not have a single definition, and there are difficulties in making distinction among information, facts and opinions". According to Zhang and Benjamin

(2007:1935) information refers to "knowledge, data, facts, news, communication, instructions, representation, mental experience or stimulus, among others."

Discussions on the meaning of information often note the ambiguity in its definition, instead of attempting to add a definition of information. This study will use the definition by Zhang and Benjamin (2007:1953).

1.9.4 Information behaviour

Ingwersen and Järvelin (2005:384) define information behaviour as "the human behaviour dealing with generation, communication, use and other activities concerned with information, such as, information-seeking behaviour and interactive IR (information retrieval)". Wilson (1999:249) further defines information behaviour as "the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use". Case (2007:5) argues that information behaviour includes the totality of other unintentional or passive behaviours (such as encountering information) as well as purposive behaviours that do not involve seeking, such as actively avoiding information. According to Case (2007), information behaviour focuses on people's information needs, particularly how they seek, use and manage information in their different roles in their everyday lives.

In this study information behaviour is considered as any information activity in which people engage, which includes awareness of their information needs, their information seeking, information sharing, information use and communication, preference for information sources, how they interact with information sources, and other related information activities.

1.9.5 Information seeking

Johnson (2003:737) defines information seeking as "the purposive acquisition of information from the selected information carriers: these include information sources and channels for communicating information". Ingwersen and Järvelin (2005:386) define information seeking as "a form of human behaviour that involves seeking for information by means of the active examination of information sources or information retrieval to satisfy the information need or to solve a problem". Wilson (1999) indicates that information

seeking can be passive or active. Passive information seeking happens when people do not want to seek information and active information seeking happens when people want to seek information and actively pursue various activities to find information.

From the before-mentioned definitions of information seeking this study, will accept information seeking as any one or a combination of processes in which competitive intelligence professionals engage (1) to find information with the purpose of fulfilling a specific information need or (2) passively receive information (i.e. passive information seeking), or (3) monitor information through various means such as alerting services, or (4) accidentally encounter information (Erdelez, 1999, 2005).

1.9.6 Information needs

An information need arises when an individual senses a problematic situation or information gap, in which his or her internal knowledge and beliefs and model of the environment fail to suggest a path towards the satisfaction of his or her goals (Case, 2007:333). This interpretation can be supplemented with the view of Wilson (1999:252), which states that "information need is not a primary need, but a secondary need that arises out of needs of a more basic kind; and second, that in an effort to discover information to satisfy a need, the enquirer is likely to meet barriers of different kinds."

Based on the preceding discussion, in this study information needs are regarded to arise when an individual senses an information gap, in which his or her internal knowledge and beliefs fail to solve a problem or find a solution or fill the gap. Such an information need may lead to information seeking and a request for information (Ingwersen & Järvelin, 2005:20).

1.9.7 Key intelligence needs

The competitive intelligence process and function should focus on the organisational issues that are of critical importance (Muller, 2004:2). According to Herring (1999:6) and Muller (2004:2) these issues are referred to as key intelligence needs. Nasri (2011) states that the start of the competitive intelligence process involves the identification of organisational issues in terms of key intelligence needs. Similarly Bose (2008) affirms that the first step in the competitive intelligence process involves identifying the key intelligence needs of the

decision makers. These all point to the stage when competitive intelligence needs are identified. Herring (1999:6) defines key intelligence needs as strategic and tactical requirements that are needed to achieve organisational objectives. According to Herring (1999) key intelligence needs generate specific key intelligence questions, on which the research will be conducted. For the purpose of this study, the key intelligence questions will not be discussed further.

Based on the preceding discussion, in this study key intelligence needs will be regarded as critical issues that are of importance to the organisation, which include both strategic and tactical requirements needed to achieve organisational objectives, and which are identified at the beginning of the competitive intelligence process.

1.10 CHAPTERS TO FOLLOW

The dissertation has been structured according to the following chapters:

Chapter One – Introduction and background

This chapter addresses the introduction and overview of the study. The chapter covers the background information, principal question and sub-questions, research design and methodology, a brief literature review, limitations, clarification of concepts and the dissertation structure.

Chapter Two – Literature analysis

Chapter Two presents the relevant literature based on the proposed research question. It also briefly covers literature on respectively information behaviour and competitive intelligence in general, since the aim of the study is to find the explicit connection between competitive intelligence information behaviour and intelligence failure and to explain competitive intelligence failure in the perspective of information behaviour. Issues covered include lack of conceptual understanding of the competitive intelligence process and its value, poor integration of competitive intelligence findings with decision making and lack of best practices for information seeking.

Chapter Three – Research design and method

The research design followed in this study is discussed in Chapter Three. It includes the research paradigm and research approach, research method, sampling techniques,

techniques of data collection and methods of analysis. This chapter also presents steps taken to ensure the validity and reliability of the study and ethical issues.

Chapter Four – Data findings and analysis

Chapter Four focuses on analysing the qualitative and limited descriptive quantitative data gathered. It shows the analytical presentation of the data gathered from the structured questionnaires and semi-structured interviews, as well as a discussion on the thematic analysis of the qualitative data. Member checking as a method to improve the credibility of the study is briefly explained.

Chapter Five – Triangulation and discussion of the findings

This chapter presents a discussion of the main findings in correlation with the literature. This is preceded by a brief explanation of the use of triangulation. The chapter is concluded with a brief review of the models serving as theoretical frameworks and the proposal of a combined model.

Chapter Six – Findings, recommendations, suggestions for further research and conclusion

This chapter presents the findings and recommendations based on the principal research question and sub-questions, how the study meets the study objectives, a summary of the research design, limitations of the study and recommendations on theory and practice, as well as providing suggestions for further research.

1.11 CONCLUSION

Chapter One addressed the introduction and background information on the study. It outlined the research problem and its sub-questions. The chapter also briefly discussed the research design and methodology, and outlined the study population and data collection methods. The study's significance, limitations and working definitions were presented. It ended by presenting the structure of the dissertation. Chapter Two presents the literature analysis, guided by the proposed research question of this study.

CHAPTER TWO: LITERATURE ANALYSIS

2.1 INTRODUCTION

The previous chapter provided an introduction to the study, sketched the background information, problem statement, research question and sub-questions, and presented a brief discussion on the research design and research methodology. This chapter will present the literature analysis that will contextualise this study and its contribution to the subject fields of Competitive Intelligence and Information Behaviour. The literature analysis will be used to identify the scope, research methods used and findings from earlier studies. Thus it will inform the research design and research methodology introduced in Chapter One (section 1.5) and discussed in more detail in Chapter Three. The literature analysis informs the choice of data to collect in the empirical component.

The literature analysis will address the research question: **What are the causes of competitive intelligence failures from an information behaviour perspective?** This research question and its sub-questions are outlined in Chapter One (section 1.4). The principal research question will also be used to establish the sub-topics for this chapter. The chapter's sub-topics are:

- Causes of competitive intelligence failures from the competitive intelligence literature (section 2.2)
    - Organisational factors that have an impact on the efficiency of the competitive intelligence process and function[2]
    - Individual attributes contributing to competitive intelligence failures
    - Factors and activities related to information behaviour as seen from a competitive intelligence perspective
- Competitive intelligence addressed in the information behaviour literature – placing the focus on information-related factors and information activities (section 2.3)
- Theoretical framework that can guide the study
    - Models for studying information behaviour

[2] Some authors refer to the competitive intelligence process and function as the competitive intelligence programme.

- Competitive intelligence cycles.

2.2 CAUSES OF COMPETITIVE INTELLIGENCE FAILURES

Literature presents a wide array of factors that cause competitive intelligence failures. Montserrat Garcia-Alsina, Eva Ortoll and Cobarsı´-Morales (2013:264) identified five factors that contribute to competitive intelligence failures: the organisational size, organisational sector features, individual factors, organisational factors and cultural factors in different countries. Odendaal (2006) also mentions factors that cause competitive intelligence failures, which include plausible denial, organisational decisive elements and the type of organisation. Some of these factors noted in the literature are shown in Table 2.1; these factors are also briefly noted in Section 1.6.

Table 2.1: Factors that have a negative impact on the competitive intelligence process and function

Factors	Author(s)
Lack of conceptual understanding of the competitive intelligence process	Wright, Pickton & Callow (2002); Priporas, Gatsoris & Zacharis (2005); Smith, Wright & Pickton (2009); Sewlal (2004)
Lack of acknowledgement of the competitive intelligence process	Nasri (2010)
Lack of competitive intelligence skills and abilities	Tej Adidam, Gajre & Kejriwal (2009); Strauss & Du Toit (2010); Tsitoura & Stephens (2012)
Inadequate positioning of the competitive intelligence function	Prescott & Smith (1989); Pirttilä (1998); Wright, Pickton & Callow (2002); De Pelsmacker, Muller, Saayman, Cuyvers & Jegers (2006); Sapuan (2011); Tsitoura & Stephens (2012)
Poor integration of competitive intelligence findings with decision-making	Finkelstein (2003); Heppes & Du Toit (2009); Tsitoura & Stephens (2012)
Inadequate use of available competitive intelligence information	Jaworski, Macinnis & Kohli (2002); Viviers et al (2002); Dishman & Calof (2008); Jin & Bouthiller (2008); Zangoueinexhad & Moshabaki (2008); Jin & Ju (2014)

Given the wide scope of factors causing competitive intelligence failures, the current study will only focus on the:

- **organisational factors** (which also offer the context for information behaviour) (Leckie, Pettigrew & Sylvain, 1996; Wilson, 2000; Ingwersen & Järvelin, 2005)
- **individual** (also a core component in information behaviour; Meyer (2016)) affecting the efficiency of the competitive intelligence process, and
- **information activities** (falling under the umbrella term of information behaviour) attributed to competitive intelligence failures. These are discussed in sections 2.2.1 to 2.2.3.

2.2.1 Organisational factors that have an impact on the efficiency of the competitive intelligence process and function

Competitive intelligence is important in shaping an organisation's decision making processes and marketing decisions and in building market-oriented organisations (Strauss & Du Toit, 2010:305; Du Plessis & Gulwa, 2016:2). Given the potential benefits of competitive intelligence, it is surprising that little research has focused on competitive intelligence failures and factors that make the process less effective (Jaworski, Macinnies & Kohli, 2002:279). This section reviews the literature on organisational factors that have an impact on the efficiency of the competitive intelligence process, and can possibly lead to competitive intelligence failures. These include lack of conceptual understanding of competitive intelligence and its value at organisational level, inadequate positioning of the competitive intelligence function in the organisation and poor integration of competitive intelligence findings with decision making.

2.2.1.1 Lack of conceptual understanding of the competitive intelligence process and its value

According to Smith, Wright and Pickton (2009:13), many potential factors may affect the competitive intelligence processes and practices. The most consistently important factor is the lack of understanding of competitive intelligence on organisational level, more especially by senior management. Perceptions at organisational level often also have an impact on individual level.

Nasri (2010) conducted a study that looked at competitive intelligence practices in Tunisian organisations. The purpose of the study was to explore the degree of knowledge and understanding of competitive intelligence in Tunisian organisations. The results of the study showed that competitive intelligence was not well recognised in Tunisian companies, and very few respondents knew that competitive intelligence is a process of needs identification, data gathering, analysis, dissemination and reporting. Furthermore, the majority of the respondents declared that they did not have a competitive intelligence unit in their organisation, since they did not see its value.

Priporas, Gatsoris and Zacharis (2005) conducted a similar study, but explored competitive intelligence activities in Greek organisations. Part of their study focused on understanding of competitive intelligence in Greek organisations. The results of the study revealed that competitive intelligence was not very well known in Greek organisations, and only twenty-four percent (24%) of all the respondents were familiar with the practices of competitive intelligence. Furthermore Wright, Pickton and Callow (2002) completed a study on the typology of competitive intelligence in United Kingdom organisations. Part of the study attempted to determine the understanding of competitive intelligence in United Kingdom organisations. The results of the study revealed that senior management viewed competitive intelligence activities as a “short-term fad”. Most of the respondents revealed a misunderstanding of the concept of competitive intelligence in several organisational departments. Similar results were found in a study conducted by Sewlal (2004), which reported that only fourteen percent (14%) of the South African organisations that participated in the study reported having knowledge about competitive intelligence and its value.

The above studies indicate lack of understanding of competitive intelligence in organisations in Tunisia, Greece and the United Kingdom, specifically on the organisational level. In summary, the literature indicates that there is often lack of understanding of competitive intelligence in organisations, which has been noted as a factor contributing to competitive intelligence failures.

For competitive intelligence to have an impact on the organisation, it should be correctly positioned in the organisation, therefore the following section discusses the positioning of the competitive intelligence function in the organisation.

2.2.1.2 Inadequate positioning of the competitive intelligence function in the organisation

The positioning of the competitive intelligence function in the organisation has a huge impact on its efficiency (Strauss & Du Toit, 2010:318; Nenzhelele, 2011:142; Chinyamurindi, 2016:6). For competitive intelligence to be successful, management should ensure that the function is not treated as an isolated and distinct function. It should rather be engaged in appropriate procedures, policies and infrastructure so that all employees can contribute as well as gain from the competitive intelligence practices (Nasri & Zarai, 2013:214).

Tsitoura and Stephens (2012) developed a framework for the failures of competitive intelligence. The results of the study showed that failure arose from the incorrect positioning of the competitive intelligence function in the organisation. Their study further revealed that competitive intelligence is not treated as a formal function in most organisations and lacks departmental status. This lack of departmental formalisation prevents competitive intelligence from being a vital element in the strategic and decision making process.

A study by Prescott and Smith (1989) examined how a leading organisation plans its competitive intelligence programmes. The results of the study showed that organisations tend to have a decentralised competitive intelligence programme that is located in the marketing department with a maximum of only three staff members. Similarly, a more recent study by Yap, Rashid and Sapuan (2013) revealed that seventy-nine percent (79%) of Malaysian organisations placed their competitive intelligence in the marketing department, seventeen percent (17%) placed their competitive intelligence in finance and other departments and only three percent (3%) had a standalone separate unit. In addition, the study by De Pelsmacker et al (2006) revealed that competitive intelligence in most South African organisations is located in the sales and marketing department and not given enough value to be considered a standalone department.

Pirttilä (1998) argues that competitive intelligence units are usually isolated from the focal organisation. According to Pirttilä (1998), the isolation results in competitive intelligence units producing irrelevant products. Wright, Pickton and Callow (2002) completed a study in which they looked at competitive intelligence in United Kingdom organisations. Part of the study focused on the location of competitive intelligence in the organisations. The results of the study showed that 46 percent (46%) of the organisations had a competitive intelligence unit with only one or two staff members. Most of the participants revealed that it was too difficult to relate competitive intelligence directly to organisational performance and decision making.

The above studies indicate that the competitive intelligence function is usually detached from other organisational functions and processes. The studies also reveal that competitive intelligence lacks departmental status and it is usually isolated from the focal organisation. Furthermore, competitive intelligence is not incorporated and aligned with all the organisational departments. The next section will discuss the integration of the competitive intelligence findings with strategic decision making.

2.2.1.3 Poor integration of competitive intelligence findings with decision making

Competitive intelligence serves as a business strategic tool and provides knowledge about potential competitors, their strengths, weaknesses, research activities and other information of importance (Calof, Richards & Smith, 2015; Du Toit, 2015; Du Plessis & Gulwa, 2016; Joeng & Yoon, 2017). However at times senior management do not use competitive intelligence as the basis for their decision making processes (Bose, 2008; Tsitoura & Stephens, 2012).

The study by Tsitoura and Stephens (2012) observed the causes of competitive intelligence failures. Part of their study entailed looking at mistakes made by senior management and decision makers throughout the competitive intelligence process. The results of the study showed that decision makers often apply intelligence findings too late, misunderstand the intelligence findings and do not believe in the intelligence findings enough to use them in the strategic and decision making process. Tsitoura and Stephens (2012) further report that senior management appear uncertain as to what to do with the intelligence products delivered to them. Finkelstein (2003) confirms that senior management seldom base their

decision making on competitive intelligence findings. Finkelstein (2003) further reveals that senior management use competitive intelligence to support decisions that have already been implemented instead of using competitive intelligence findings to drive the decision making process.

Heppes and Du Toit (2009) completed a study that focused on the level of maturity of the competitive intelligence function. Part of the study looked at the relationship between competitive intelligence functions and how competitive intelligence is used to support various levels of decision making. The results of the study showed that competitive intelligence products are used often and occasionally, but not always, they are used in both tactical and strategic decision making. Furthermore, the study by Odendaal (2006) revealed that only thirty percent (30%) of all the participants indicated that the organisation regularly used competitive intelligence findings. Begg and Du Toit (2007) assert that senior management should recognise the value of competitive intelligence before implementing major programmes of change, which are market- and strategy-driven.

The above studies indicate that senior management do not always use competitive intelligence findings in the strategic and decision-making process. The studies also reveal that competitive intelligence findings seldom form the basis for strategic decision-making, but are rather used to support decisions that have already been implemented.

2.2.1.4 Inadequate use of available competitive intelligence information infrastructure

Viviers et al (2002) explored the status of competitive intelligence in South African organisations. Part of the study entailed exploring the competitive intelligence information infrastructure in South African organisations. The results of the study showed that only thirty-five percent (35%) of South African organisations had a central coordinating point for competitive intelligence. The study further showed that thirty-eight percent (38%) of the organisations reported that they did not have convenient ways to report intelligence and findings.

Jin and Ju (2014) explored how competitive intelligence professionals utilise the corporate information agency in order to improve the efficiency of the competitive intelligence process. The results of the study identify several reasons competitive intelligence

professionals find it difficult to use the corporate information agency: being dissatisfied with the information agency service, finding that asking the information agency for help is bothersome, being unaware of the information that exists in the organisation, and lacking competitive intelligence related information. Furthermore, Jin and Bouthillier (2008) and Tsitoura and Stephens (2012) identified the problems that competitive intelligence professionals experience with the organisational information infrastructure, including inaccurate data, information overload, incomplete data, biased information and outdated information. In the same vein, Zangoueinexhad and Moshabaki (2008) completed a study on the influence and role of structural capital on competitive intelligence. The results of the study revealed certain information qualities that organisational information infrastructure should possess: accuracy, completeness, currency, importance, reliability, content, timeliness, understandability and usefulness.

Dishman and Calof (2008) investigated the effectiveness of organisations investing in internal information infrastructure for the efficiency of competitive intelligence. Only twenty-six percent (26%) of the respondents claimed knowledge of the available information sources and only eight percent (8%) of the respondents claimed to have used the internal information sources.

The results of the questions on the structure of an internal infrastructure indicate that organisations may not yet be investing appropriately in building the internal infrastructure required for fully effective intelligence efficacy. Similarly, the study by Jaworski, Macinnis and Kohli (2002) revealed that there is inadequate awareness of the available internal information infrastructure.

The studies mentioned point out that there is low use of organisational information infrastructure by competitive intelligence professionals. Part of the reason for the low use includes lack of awareness and lack of information relevancy and reliability. Effective competitive intelligence practices require organisations to be well equipped with a good information infrastructure and central coordinating points to receive competitive intelligence information. Organisations should raise awareness of such structures if they already exist.

2.2.2 Individual attributes contributing to competitive intelligence failures

Many individual attributes are associated with competitive intelligence failure (see section 1.6 in Chapter 1). For the purposes of this study, only insufficient skills and capabilities of the personnel involved in the competitive intelligence process will be highlighted. This decision is supported by information behaviour studies portraying the individual in context and those focusing on individuals responsible for specific roles and tasks (e.g. an organisation involved with competitive intelligence) (Pettigrew & Sylvain, 1996; Byström & Hansen, 2005; Wilson, 2010).

Strauss and Du Toit (2010) explored the competitive intelligence skills needed to enhance South Africa's competitiveness. The study by Strauss and Du Toit (2010) revealed that competitive intelligence professionals should possess certain skills, which include networking, analytical and research skills. The study further identified being hardworking, as well as strategic orientation and an open and organised mind-set, as skills required by competitive intelligence professionals.

Tsitoura and Stephens (2012) evaluated the causes of competitive intelligence failures. Their study revealed that lack of skills and poor capabilities of competitive intelligence professionals are some of the causes of competitive intelligence failures. Furthermore, Tsitoura and Stephens (2012) identified five problems associated with the lack of skills of competitive intelligence professionals: competitive intelligence professionals lack the ability to produce intelligence, communicate the findings too late, fail to use all the appropriate methodologies and facts to produce intelligence, alter and fabricate information to avoid being the bearer of bad news and create competitive intelligence products that are too lengthy and complicated.

Tej Adidam, Gajre and Kejriwal (2009) completed a study on cross-cultural competitive intelligence. Part of their study was undertaken to determine challenges that competitive intelligence professionals face when conducting competitive intelligence in other countries. The results of the study identified common deficiencies in competitive intelligence professionals, which include poor knowledge of the organisation and business practices and failure to assess the elements of the project, which include access to people with the necessary skills and information, poor ability to manage cultural diversity, and lack of

patience, persistence and the ability to be sensitive towards cultural practices, infrastructure, people and business ethics.

The studies cited above indicate that competitive intelligence professionals require a certain set of skills, including training and education, research skills, analytical skills and the ability to manage cultural diversity.

Information activities do feature in reports, however they are not explicitly discussed as problems affecting the efficiency of the competitive intelligence process. Information activities are at the core of information behaviour, and for the purposes of this study should be considered from an information behaviour perspective. Therefore the following sections will explore information activities that are related to competitive intelligence failures.

2.2.3 Factors and activities related to information behaviour as seen from a competitive intelligence perspective

Literature on competitive intelligence touches on information activities and information-related factors that have an impact on the efficiency of the competitive intelligence process and function. These are not always labelled as causes of competitive intelligence failures, but certain findings hint at this. For the purposes of this study such information activities and factors can be explored in further depth through an information behaviour lens. Findings from selected studies are reflected in Table 2.2. They are grouped according to three key issues that will be used for further discussion in sections 2.2.3.1 – 2.2.3.2.

Table 2.2: Information activities and information-related factors reported in the literature on competitive intelligence

Findings	Author(s)
Habitual and limited use of information sources – not exploring all possibilities	
Poor information collection	Garcia-Alsina, Ortoll & Cobars-Morales (2013)
Habitual use of information sources – not exploring all possibilities	Viviers et al (2002); Pirttilä (1998); Nasri (2010); Garcia-Alsina, Ortoll & Cobars-Morales (2013)

Absence of good information-seeking behaviour and best practices for information seeking	
Infrequent information searches	Garcia-Alsina, Ortoll & Cobars-Morales (2013)
Lack of best practices for information seeking	Sewlal (2004)
Negligence to validate data	Sewlal (2004)
Inability to deal with information richness and lack of balance between information activities[3]	
Inability to deal with information richness	Westney & Ghoshal (1994); Jaworski, Macinnis & Kohli (2002); De Pelsmacker et al (2006); Dishman & Calof (2008); Garcia-Alsina, Ortoll & Cobars-Morales (2013)
Insufficient time for analysis	Westney & Ghoshal (1994); Dishman, Viviers, Saayman, Muller & Calof (2002); Jaworski, Macinnis & Kohli (2002); De Pelsmacker et al (2006); Calof (2007)

From Table 2.2, three core issues are discussed in more detail: habitual and limited use of information sources, lack of best practices for information seeking and information use, inability to deal with information richness and lack of balance between information activities.

2.2.3.1 Habitual and limited use of information sources – not exploring all possibilities

Many studies noted limited use of resources and often there are signs of maintaining habits in seeking information, as well as using information. The study conducted by Nasri (2010) on the practices of competitive intelligence in Tunisian organisations revealed that information is collected from a variety of sources using various techniques. The predominant *use of information sources*, however, entailed internal rather than external sources of information. The study further revealed the reasons for the preference for internal sources being ease of access, low cost of using internal sources, and the ability to produce further raw material

[3] A deliberate decision was made to combine these two issues

through processing of internal sources. These findings are similar to those of a study by Viviers et al (2002) on the practices of competitive intelligence in South Africa, which reported that the major source of competitive intelligence information was the employees and that there was very limited use of external sources of information. Similarly Pirttilä (1998) explored the establishment of competitive intelligence activities in organisations. They found that the most valuable information sources proved to be collegial relationships, newspapers and magazines, and customers. In addition the study by Sewlal (2004) revealed that sixty-nine percent (69%) of South African organisations conducting competitive intelligence practices rely on information they obtain from people within the organisation.

In summary, the literature indicates that competitive intelligence professionals do not explore all possible avenues to obtain information; they rather rely on internal information, making limited use of external information sources. A key reason for competitive intelligence professionals preferring internal information sources is ease of access. The following section will explore the information-seeking and usage practices of competitive intelligence professionals, pointing to the absence of best practices for information seeking.

2.2.3.2 Absence of good information-seeking behaviour and best practices for information seeking

Many examples of poor information-seeking and information validation practices have been noted. Garcia-Alsina, Ortoll and Cobars-Morales (2013) explored the enablers and inhibiting factors that influence competitive intelligence practices. They identified common competitive intelligence inhibitors, which include low analysis practices, low diversification of information sources, lack of good searching practices, low use of information collections, irregular frequency of information searching, and lack of information awareness. Garcia-Alsina, Ortoll and Cobars-Morales (2013) also identified three information activities that inhibit competitive intelligence practices:

- *Consciousness of information.* Competitive intelligence practitioners' unequal weighting of information activities has an impact on the efficiency of competitive intelligence practices. Lower weighting is given to information analysis as opposed to information collection.

- *Exposure to information.* The low diversification of information sources leads to less information-rich contexts.
- *The climate of information.* Increased use is made of information products and information gathering.

Odendaal (2006) looked at competitive intelligence data that is gathered and collected by third parties. The results of the study showed that seventy percent (70%) of the respondents indicated that information is usually gathered by a third party, and since there is no control over third parties, this could hinder methods and the reliability and accuracy of the collected information. Similarly, Tsitoura and Stephens (2012) completed a study that looked at the causes of competitive intelligence failures; part of their study focused on the problems associated with incoming data. The results of the study showed that the organisations perceived problems with incoming data, among others incomplete information, lack of information, inaccurate information, biased information, information overload and outdated information.

Tao and Prescott (2000) surveyed competitive intelligence in China. The results of their study revealed that competitive intelligence in China is well developed, but the competitive intelligence professionals had little experience of using a wide array of information sources. The study further showed that competitive intelligence professionals in China do not have access to sufficient information in terms of public information.

In summary, there seems to be a lack of best practices for information seeking and use, such as for recognising the importance of information awareness, exploring a variety of information sources, ensuring the validity of information, ensuring the quality of intelligence when using third party resources and exploring access to information in the public domain.

2.2.3.3 Inability to deal with information richness and lack of balance between information activities

De Pelsmacker et al (2006) completed a study that explored competitive intelligence professionals in both South Africa and Belgium. Part of the study involved determining the information collection practices of South African and Belgian competitive intelligence professionals. The results of the study showed that South African practitioners devoted

more time to collecting information but less time to analysing and evaluating the information compared to Belgian practitioners, who usually obtained readily available information from contractors and spent more time interpreting the information. This confirms the finding of studies by Viviers et al (2002) and Calof and Dishaman (2008), which showed that competitive intelligence professionals spend most of their time collecting data and less effort on analysing the information. Furthermore, Garcia-Alsina, Ortoll and Cobars-Morales (2013) and Jaworski, Macinnis and Kohli (2002) revealed that information richness, which refers to the volume of available data in the competitive environment, reduces the speed of searching for information and is likely to create information overload, which forces the analyst to focus only on a subset instead of all the collected information. Westney and Ghoshal (1994) examined competitor information analysis in three large organisations. One of the most important findings was that data management activities such as retrieval, storage, classification and acquisition take up too much time of competitive intelligence professionals and very little time is given to analysis.

The above studies revealed that because of inability to deal with the vast amounts of available information and information richness, competitive intelligence professionals devote more time to collecting information, and less time is allocated to information analysis. Furthermore, the literature indicates that activities such as storing, classifying and acquiring information takes too much time, and therefore limited time is given to analysis.

2.3 REPORTS ON COMPETITIVE INTELLIGENCE FROM AN INFORMATION BEHAVIOUR PERSPECTIVE

Very few studies have been reported that focus on both information behaviour and competitive intelligence. Reports related to the current study include those of Erdelez and Ware (2001), Jin and Bouthillier (2008) and Qiu (2008). More recent studies such as those of Almeida, Lesca and Canton (2016), Keiser (2016), Kirkwood (2016), Muñoz-Cañavate and Hipola, (2017) and Sandal and Gupta (2017) cover related issues such as intrinsic motivation to share knowledge among employees and the information literacy of competitive intelligence students.

Erdelez and Ware (2001) conducted a study on how competitive intelligence professionals use various information sources to find information for their clients. The results of the study

show that competitive intelligence professionals rely on print resources, commercial information resources and web-based information resources. In addition, the study revealed three information-seeking strategies used by competitive intelligence professionals: exploration, verification and haphazard search approaches. Competitive intelligence professionals' daily tasks and activities are affected by several information-related factors.

Jin and Bouthillier (2008) conducted a study on the information behaviour of competitive intelligence professionals. The purpose of the study was to investigate the daily work, tasks and activities of competitive intelligence professionals. Part of the study focused on (1) the information needs of competitive intelligence professionals; (2) the type of data needed for competitive intelligence; (3) information sources/channels used to obtain information; and (4) the tools used to analyse and manipulate information. The results of the study showed that the information needs of the competitive intelligence professionals originated not from their personal level, but from the needs of the organisation and senior management. The type of information used by competitive intelligence professionals included awards information, business opportunities, industry and funding information. The study further revealed that competitive intelligence professionals relied on both internal and external sources of information, and databases, websites and consultancies were the main information channels. Environmental factors influenced managers' efforts to scan for competitive intelligence information.

Qiu (2008) conducted a study on environmental scanning for competitive intelligence. Part of the study entailed investigating why managers differ in their efforts to scan for competitive intelligence information. The results of the study showed that managers that have a high level of entrepreneurial attitude, rather than those with a low level of entrepreneurial attitude, are more engaged in proactive environmental scanning.

The above studies give an overview of the relationship between competitive intelligence and information behaviour, and how competitive intelligence professional tasks, work roles and activities are affected by information needs, the type of information sought and channels to acquire information. The studies, however, do not explicitly address competitive intelligence failure, or how information activities contribute to competitive intelligence failure.

2.4 THEORETICAL FRAMEWORKS THAT CAN GUIDE THE STUDY

According to Sinclair (2007:39), a theoretical framework can be thought of as a map that guides a study. Sometimes a theoretical framework is chosen before the literature analysis; often, however, the choice of a theoretical framework(s) is influenced by the literature analysis. For this study, two theoretical frameworks presenting the competitive intelligence and information behaviour perspectives, respectively, will guide the empirical component of the study. They are presented in Figures 2.1 and 2.2, each followed by a brief discussion to explain the models and choices made. The following sub-section presents the models on information behaviour considered for the choice of a research framework for this study.

2.4.1 Models for studying information behaviour

In order to develop a theoretical framework for this study, several information behaviour models were reviewed, including their key underlying components (information needs, information seeking, information searching, information use, etc.), as outlined by Wilson (2000:49-56), Bawden (2006:656) and Meyer (2016). As noted earlier, these components are implied in studies related to competitive intelligence failures (Jin & Bouthiller, 2008; Du Toit & Strauss, 2010; Fleisher & Wright, 2010; Jenson, 2012). Considering potential relevancy to the research question, the different information behaviour models that seemed most relevant to this study are summarised in Table 2.3[4]. (Stretching over pages 33 to 35.)

[4] The models are not presented in any particular order

Table 2.3: Review of information behaviour models relevant to the study (the models are shown in Appendix E)

AUTHOR/MODE	COMPONENTS	INFORMATION BEHAVIOUR ACTIVITIES	OUTCOMES
Wilson (1981)[5], (1999)	▪ Information user ▪ Need ▪ Other people *Implied*: • Information systems • Information sources	▪ Information seeking ▪ Information exchange ▪ Demands on information-systems ▪ Demands on other information sources ▪ Information use ▪ Information transfer	▪ Success ▪ Failure ▪ Satisfaction or non-satisfaction
Discussion of the model as related to the study: Wilson developed various models over time, e.g. in 1981, 1991, 1996.The models offer a three-fold view of information seeking, i.e. the context of the seeker, the system and information resource. Although the models differ, there are overlaps. For the purposes of this study, the Wilson's 1981 as adapted in Wilson (1999) model was most valuable. The model suggests that information-seeking behaviour arises as a consequence of a need for information by the user. The model presents the outcomes of success, failure, satisfaction or non-satisfaction of the information-seeking process, which can relate to studies of competitive intelligence failures. The component ***information need*** can relate to the articulation of intelligence needs/key intelligence questions/key intelligence topics (see sections 1.9.6 and 1.9.7), *the* ***information activities*** of the Wilson model can be used to study the information activities noted in the literature as causes of competitive intelligence failures, e.g. lack of information awareness. In the 1981 model Wilson explicitly acknowledged outcomes as a result of the information activities (encapsulated by information behaviour) and the components.			

AUTHOR/MODE	STAGES IN INFORMATION SEEKING	INFORMATION ACTIVITIES
Ellis's (1989) behavioural model of information seeking	▪ Starting ▪ Ending (although the others can also be considered as stages); for the purposes of this study they will be treated as activities	▪ Browsing ▪ Chaining ▪ Monitoring ▪ Differentiating ▪ Extracting ▪ Verifying
Discussion of the model as related to the study: Ellis elaborates on the different behaviours of information seeking, which he portrays as stages in information seeking. Some of these also specifically point to information activities and are therefore distinguished for the purposes of the current study. From the literature analysis (section 2.2.3.3) it seems as if some failures in competitive intelligence might occur in response to problems towards the end (i.e. analysis). Problems with regard to verification of information and limited scope of sources consulted have also been reported.		

AUTHOR/MODE	STAGES	ACTIONS	AFFECTIVE DIMENSIONS
Kuhlthau's (1991) information search process (ISP) model	• Initiation • Selection • (Pre-focus) exploration • (Focus) formulation • Collection • Presentation • Assessment	▪ Seeking relevant information (exploration) ▪ Seeking pertinent information (documentation)	▪ Uncertainty ▪ Optimism ▪ Confusion/frustration/ doubt ▪ Clarity ▪ Sense of direction/ confidence

[5] Wilson's 1981 as adapted in Wilson (1999)

	• Search closure *These can also all be interpreted as information activities*		▪ Satisfaction or disappointment ▪ Sense of accomplishment **COGNITIVE DIMENSIONS** ▪ Vague ▪ Focused ▪ Increased interest ▪ Increased self-awareness

Discussion of the model as related to the study: Kuhlthau (1991) associates information tasks such as identification and formulation with the associated *affective dimension* (feelings, thoughts and actions). The affective dimension can be used to study the information activities (information usage, information awareness, information seeking) causing competitive intelligence failures (see section 1.6, 2.2.3). Although it was not the purpose of the current study, failures in competitive intelligence might in practice also be studied by applying the information-seeking process model. Such a study might be especially useful to gain deeper understanding of all issues noted as problematic in sections 2.2.3.1 – 2.2.3.3.

AUTHOR/MODE	INFLUENTIAL FACTORS	ACTIONS	EVALUATION
Byström and Järvelin (1995) Task complexity and information-seeking and use model	▪ Situational factors ▪ Personal factors ▪ Organisational factors ▪ Personal style of seeking ▪ Subjective tasks	▪ Information need analysis ▪ Implementation ▪ Choice of action, e.g. identification of alternatives	▪ Needs satisfied, task can be completed ▪ Needs cannot be satisfied ▪ Need for further information

Discussion of the model as related to the study: According to Byström and Järvelin, the interpretation of information needs is affected by various *influential factors*. For the current study, influential factors may relate to the articulation of information needs/intelligence needs/key intelligence questions and key intelligence topics as a factor contributing to competitive intelligence failures (see sections 1.6, 2.2.3). Byström and Järvelin also present *evaluation,* which represents the outcome of the information need analysis. In the current study *evaluation* can be applied to both the articulation of information needs/ intelligence needs/key intelligence topics and the key intelligence question, and the information activities causing competitive intelligence failures (see sections 1.6, 2.2.3). Evaluation might also be a phase in the competitive intelligence cycle; this possibility will be explored after analysis and discussion of the findings.

AUTHOR/MODE	INFLUENTIAL FACTORS	INFORMATION ACTIVITIES
Choo (2001) Framework for environmental scanning	▪ Situational dimension (e.g. environmental uncertainty) ▪ Organisational strategies (e.g. scope of organisational scanning) ▪ Managerial traits (e.g. scanning habits	▪ (Determination of) Information needs ▪ Information seeking ▪ Information use

Discussion of the model as related to the study: Choo presents *influential factors* (situational, organisational, managerial traits) that have an impact on information activities and environmental scanning efforts, although environmental scanning is different from competitive intelligence. However, environmental scanning complements competitive intelligence. The *information activities* correlate with activities reported for competitive intelligence and where problems may occur (see sections 2.2.3.1 –

2.2.3.3). Consideration of the *influential factors* might also shed light on the causes of competitive intelligence failures as seen from an information behaviour perspective.

AUTHOR/MODE	NODES[6]	COGNITIVE ACTORS
Ingwersen and Järvelin's (2004) model of information seeking and retrieval	▪ Social ▪ Organisational ▪ Cultural affiliations ▪ Information objects ▪ Information systems ▪ Interface	▪ Information seekers ▪ Other actors e.g. authors, creators of the information system
Discussion of the model as related to the study: Ingwersen and Järvelin present ***nodes*** that affect the cognitive actors (information seekers). There is no explicit connection between the model and competitive intelligence failures.		

AUTHOR/MODE	COMPONENTS	INFORMATION ACTIVITIES
Leckie, Pettigrew and Sylvain's (1996) model of the information-seeking professional	▪ Work roles ▪ Associated task(s) ▪ Sources of information ▪ Information needs (with characteristics) ▪ Outcomes *Some of these can also be interpreted as influencing factors*: ▪ Work roles ▪ Associated task(s) ▪ Characteristics of information needs	Seeking information Feedback: ▪ applied to sources of information ▪ applied to information needs relevant to information seeking
Discussion of the model as related to the study: The Leckie, Pettigrew and Sylvain professional information-seeking model is focused on professionals and how professionals' work roles and tasks influence their information-seeking behaviour. It was therefore deemed relevant to study the causes of competitive intelligence failures. The model presents *components* that can relate to the cognitive factors attributed to competitive intelligence failures (see sections 1.6, 2.2.3). The **features** presented in the model can be used to study the information activities that are attributed to competitive intelligence failures (see section 1.6, 2.2.3).		

Although the models all hold potential and can contribute to a study of competitive intelligence failure, they will not all be used as a framework to guide data collection and analysis for the current study. The Wilson 1981, model as adapted in Wilson (1999) and the Leckie, Pettigrew and Sylvain (1996) model were selected as primary models to develop an adapted eclectic model to guide data collection and analysis. The adapted model is presented in Figure 2.1. After data collection and analysis of the findings, the adapted model will be populated and revisited to see how the other

[6] Nodes represents all interaction in the model

models can further be used to study competitive intelligence from an information behaviour perspective (Section 5.3)

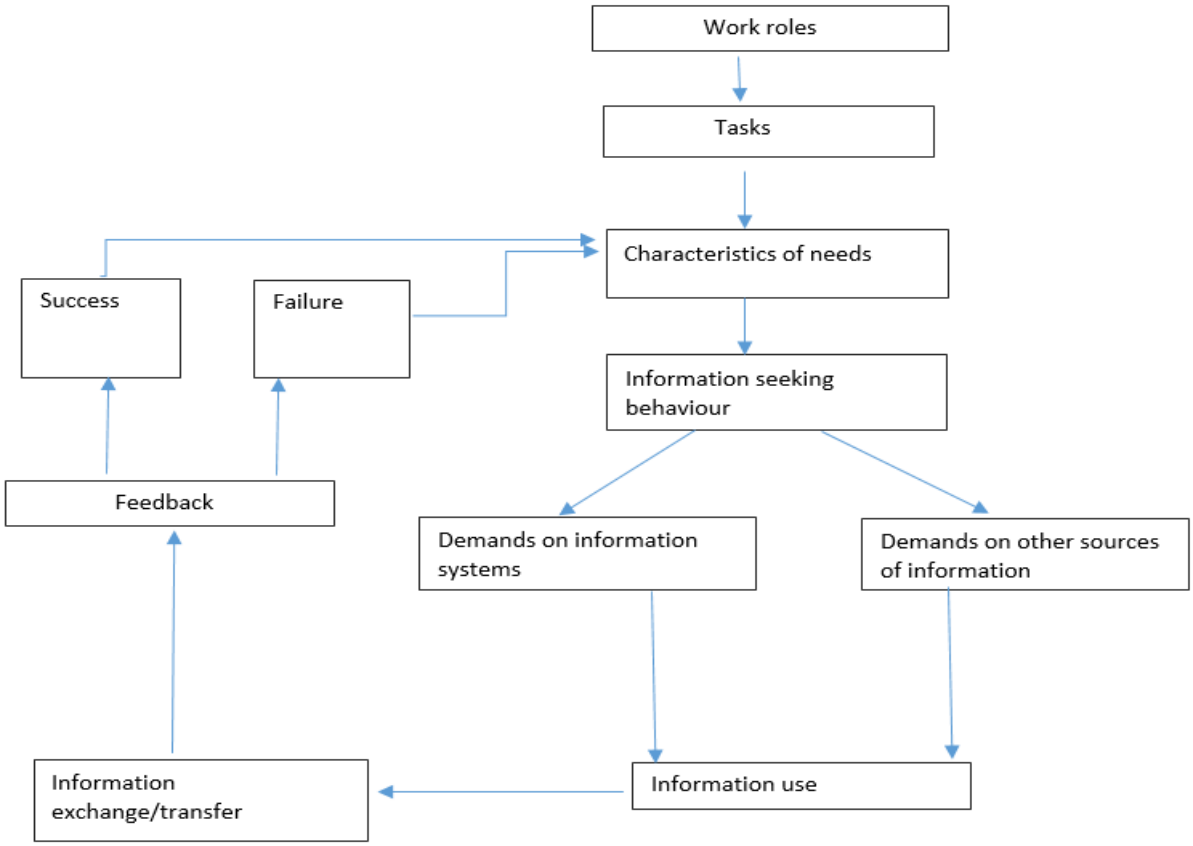

Figure 2.1: The adapted Wilson 1981 and Leckie, Pettigrew and Sylvain 1996 information behaviour model

The above model presents the adapted Leckie, Pettigrew and Sylvain 1996 and Wilson 1999 models of information behaviour. The Leckie, Pettigrew and Sylvain 1996 information seeking of professionals model is focused on the professional and how the professional's work roles and tasks influence their information seeking behaviour. The Wilson 1981 model of information behaviour suggests that information seeking behaviour arises as a result of a need perceived by the user, who then makes a demand on information systems and other information sources which results in the failure or success to find relevant information. Both these information behaviour models were deemed relevant to investigate the causes of competitive intelligence from an information behaviour perspective.

It is evident from the model that the components as identified by both Leckie, Pettigrew and Sylvain (1996) and Wilson (1981, 1999) are linked to one another and the success of each component is dependent on the previous component. From the model one can see

that work roles lead to tasks that trigger the need for information behaviour (Leckie, Pettigrew & Sylvain, 1996:150). According to Leckie, Pettigrew and Sylvain (1996:150) professionals may have work roles which includes student, manager, provider and researcher. Embedded in different work roles are various tasks such as reporting, writing, supervising and assessment (Leckie, Pettigrew & Sylvain, 1996:150).

Various tasks gives rise to information needs, Vakkari (1999:824-825) is of the same view who states "the complexity of the tasks determines information needs". Wilson (1999:251) states that information seeking behaviour arises due to a need perceived by the user. There are several factors that may influence a professional's information needs which include the individual's attributes and circumstances such as geographic location, age profession and career stage (Leckie, Pettigrew & Sylvain, 1996:183). Following the information need, the individual can make demands upon formal and informal information systems or services (Wilson, 1999:251).

According to Wilson (1999:251) and Byström and Hansen (2005:1055) as a result of information seeking, certain information is collected and retrieved and may be used in numerous ways. Information may be used to address the information needs. Once information has been used it can be exchanged or communicated, which means that information is moved from one point to another. In the Leckie, Pettigrew and Sylvain (1996) model, the outcome is when the information need is satisfied, however there is a possibility that the outcomes does not meet the information need and further information seeking has to be perused. Similarly to the Wilson 1981 model, the information seeking efforts may either fail or be successful. Although not stated in both the Wilson 1981 and Leckie, Pettigrew and Sylvain 1996 model, the adapted model guiding this study (Refer to figure 2.1) is a continuous process following the competitive intelligence cycle (Kahanner, 1998, Bose, 2008; Botha & Boon, 2008). Therefore success or failure of the information seeking efforts gives rise to other information needs. The following section presents the competitive intelligence cycle.

2.4.2 Competitive intelligence cycles

The competitive intelligence cycle consists of phases that are linked and related (Calof, 1998; Calof & Skineer, 1998; Kahaner, 1998; Botha & Boon, 2008; Dishman & Calof, 2008).

The output of one phase serves as the input of the next phase (Calof, 2001:13), and the overall output of the competitive intelligence cycle serves as the input for decision-making (Kahaner, 1998; Botha & Boon, 2008; Du Plessis & Gulwa, 2016). A number of competitive intelligence cycles are found in the literature (Calof, 1998; Kahaner, 1998; Muller, 2002; Calof & Dishman, 2008; Bose, 2008; Botha & Boon, 2008). According to Pellissier and Nenzhelele (2013:3), some scholars name only a few phases of the competitive intelligence cycle, while others identify many phases of the competitive intelligence cycle with various naming conventions. Some also incorporate influencing factors and other components. Table 2.4 provides a summary of the competitive intelligence cycles that were reviewed and considered to form a theoretical framework that can guide this study. For each phase and process the various labels used by authors are noted, e.g. some refer to “data and information collection” while others refer only to “collection”.

Table 2.4: Summary of competitive intelligence cycles relevant to this study

Competitive intelligence phases presented by different authors[7]						
	Kahaner (1998)	**Calof (1998)**	**Muller (2002)**	**Bose (2008)**	**Botha & Boon (2008)**	**Calof & Dishman (2008)**
Planning and direction Planning and focus	**X**		**X**	**X**	**X**	**X**
Intelligence needs and determining key intelligence topics Obtaining the CI request		**X**	**X**		**X**	
Data and information collection Collection	**X**	**X**	**X**	**X**	**X**	**X**
Dissemination of intelligence Communicating intelligence	**X**	**X**	**X**	**X**	**X**	**X**
Information storage and processing					**X**	
Information analysis	**X**	**X**	**X**	**X**	**X**	**X**
Feedback				**X**		
Competitive intelligence cycle components presented by difference authors						
Organisational culture and awareness			**X**			**X**
Process and structure			**X**			**X**
Intelligence users and decision-makers					**X**	
Managing the process		**X**				

[7] Authors are arranged according to date of publication, with the oldest first

The phases and components of the before-mentioned competitive intelligence cycles are noted to show variation in how scholars name and describe the competitive intelligence cycle. Furthermore, the phases and components of each competitive intelligence cycle were considered for potential relevancy to form a framework to guide the current study. After careful consideration, bearing in mind relevancy to the study, the research question and its sub-questions that are outlined in Chapter One (section 1.4), the competitive intelligence cycles proposed by Bose (2008:513) and Botha and Boon (2008:4) were deemed most relevant to develop a framework to investigate the failures of competitive intelligence from an information behaviour perspective. The adapted competitive intelligence cycle recommended as a framework for this study – Figure 2.2 – will therefore be discussed below. It is based on a combination of the Bose (2008:513) and Botha and Boon (2008:4) cycles with recognition of relevant phases and components from the other models in Table 2.4.

Three phases and three components in Table 2.4 do not specifically relate to the research question and sub-questions (section 1.4). The phases are: planning and focus, obtaining the competitive intelligence request, and communicating the intelligence. The components are: organisational structure and awareness, process and structure and managing the process. Although they can lead to competitive intelligence failure, the focus of this study was directed at core information activities such as information needs identification, information seeking, information sharing and information use, noted in the literature analysis reported in sections 2.2 and 2.3. Since they featured in the literature review of competitive intelligence cycles (see table 2.4), and specifically in the work of Calof (1998), Heppes (2006) and Calof and Dishman (2008), the three phases and components are reflected in Table 2.4. They are included in Figure 2.2 to give a more holistic view of how the competitive intelligence cycle is portrayed when combining different views.

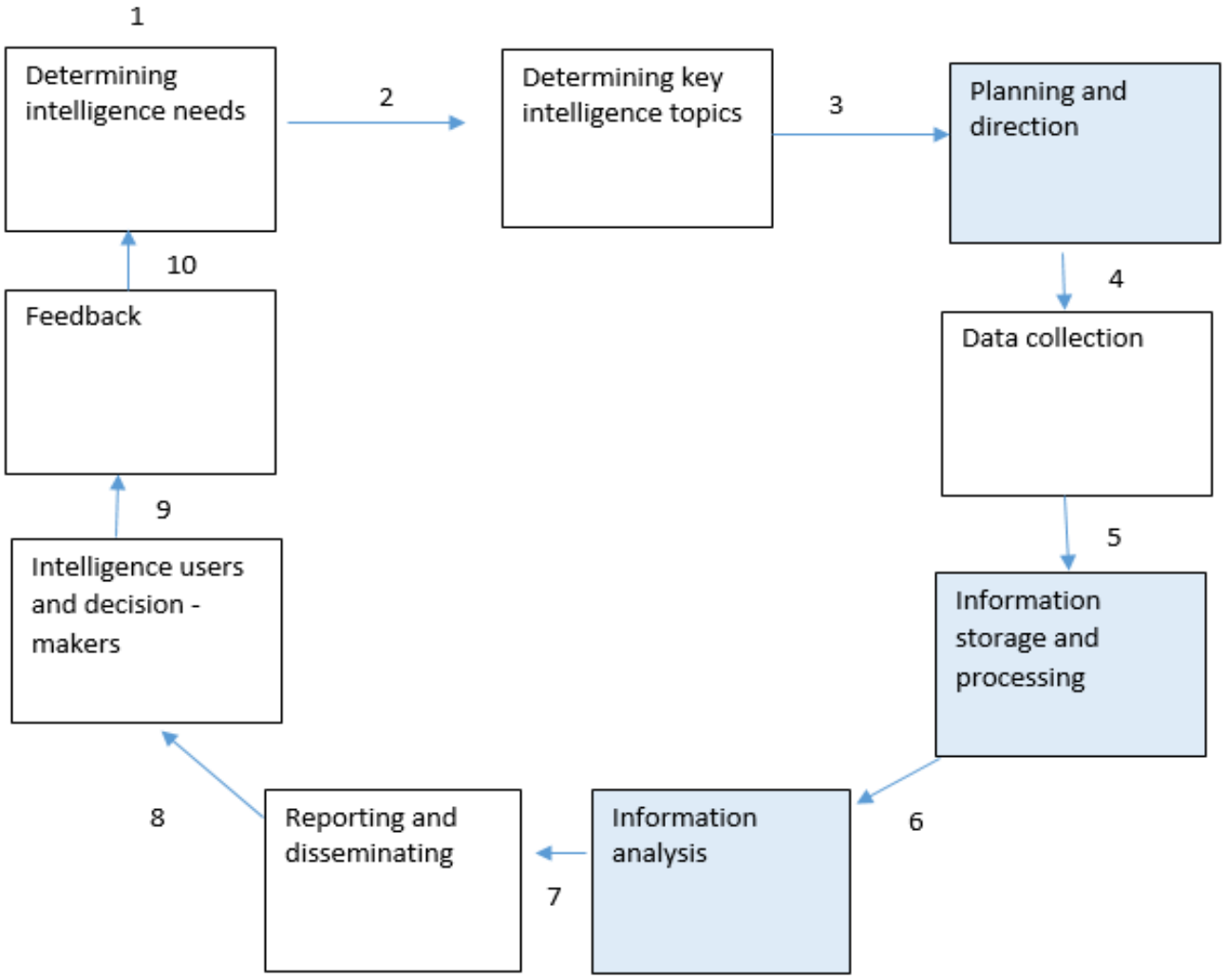

Figure 2.2[8]: Adapted competitive intelligence cycle guiding the empirical study (based on the phases noted by Botha and Boon (2008) and Bose (2008))

The first two phases of the competitive intelligence cycle presents the intelligence needs and articulation of intelligence topics, which involves narrowing down the intelligence needs of decision-makers into key intelligence topics (Botha & Boon, 2008:3). The determination of the key intelligence topics causes the competitive intelligence unit or people fulfilling a similar function to operate in a proactive manner, helping senior management to identify and define intelligence requirements correctly (Herring, 1999; Muller, 2002; Du Toit, 2010; Bose, 2008; Pellissier & Nenzhelele, 2013).

[8] The phases highlighted in blue were not included in the empirical component, however added value to the theoretical framework

The planning and direction phase of the competitive intelligence cycle focuses on planning of the entire competitive intelligence process (Herring, 1999:4; Bose, 2008:513). According to Presott and Miller (2002:155), planning and directing are not about collecting all possible information available, but rather focus on what is relevant to senior management. This phase is set out to define the decision-makers' requirements (Pellissier & Nenzhelele, 2013:5) and to identify the resources in order to accumulate the relevant information to meet the decision-makers' requirements (De Pelsmacker et al, 2006:606-607). This phase helps the competitive intelligence function to be more proactive in identifying the resources that can be used to address the intelligence needs of senior management (Herring, 1999:4). Once the planning and direction phase has been completed, the collection phase begins.

In the collection phase, the intelligence needs should be translated into elements of information that will be required (Miller, 2000:3; Bose, 2008:514). Data is gathered and collected from various sources, among others primary and secondary sources of information (Prescott & Miller, 2002:98). According to Shaker and Gembicki (1999: 45), primary sources of information include information that is gathered first-hand through interaction with the target information source. These include speeches, company web site content, surveys and interviews (Fleisher & Blenkhorn, 2003:15; Sandman, 2000; 12). Secondary information is gathered second-hand through the transfer of a mediator to the source and includes information sources such as analyst reports, financial reports about the company and electronic sources (Miller, 2000:15; Du Toit, 2014:4). Once all the appropriate information has been identified, gathered and collected, it has to be captured and stored. According to Botha and Boon (2008:3), the information-processing phase involves the organisation, implementation and methods of capturing and storing the collected information. The thorough structuring and processing of raw data allow for the input of data analysis to be of better quality (Bartes, 2013:286).

The success of the analysis phase is greatly dependent on the quality of information gathered (Fleisher & Bensoussan, 2003; Jeong & Yoon, 2017). The analysis phase is the core of the competitive intelligence cycle (Muller, 2002:4). This statement is supported by Nasri and Zarai (2013:241) who believe that the analysis phase is where true intelligence is created, which involves converting information and data into usable intelligence. Muller (2002:2) further states that "analysis is the central nervous system of competitive

intelligence". According to Heppes (2006:36), analysis involves a combination of both scientific and non-scientific processes by which an individual interprets data to produce meaningful insight. According to Shacker and Gembicki (1999:44-45), during the analysis phase and before conclusions are reached, the collected information is checked for both reliability and accuracy. The analysis phase provides answers to the intelligence needs of the decision-makers, by providing insight into and interpretation of the gathered information. These findings have to be communicated to the decision-makers, therefore the reporting and dissemination phase will be explored next.

After the gathered information has been interpreted and analysed, competitive intelligence professionals have to evaluate their findings against the intelligence needs initially outlined in the first two phases (Muller, 2002:39-40; Bose, 2008:515). It is important to determine the format in which the decision-makers prefer the intelligence to be delivered (Heppes, 2006:40). Therefore results of the intelligence analysis should be reported to the decision-makers in a manner that is easily understood, readable and useful (Muller, 2000:7; Heppes, 2006:40). According to Muller (2002:39) intelligence findings can be reported in various ways, among others alerts, newsletters and intelligence reports. Once the decision-makers review the intelligence reports, they provide feedback and offer opportunities for evaluation and revision of the original intelligence requested, therefore the last phase of the competitive intelligence cycle is feedback from decision-makers. The last phase of the competitive intelligence cycle outlines the intelligence users and decision-makers. According to Bartes (2013:286), the decision-makers will either request more information on the report or will submit a new task to the competitive intelligence unit. Furthermore, Botha and Boon (2008:3) state that dissemination to the intelligence users and decision-makers will lead to the identification of new intelligence needs, which will activate the competitive intelligence process again. The current study was guided by the theoretical frameworks shown in Figures 2.1 and 2.2.

2.5 CONCLUSION

This chapter presented the literature analysis for the current study. From the literature, three main issues emerged as the causes of competitive intelligence failures: organisational factors that have an impact on the efficiency of the competitive intelligence process and

function, individual attributes contributing to competitive intelligence failures and a variety of information activities that affect the efficiency of the competitive intelligence process and function. Findings from the literature review shaped the review of potential theoretical frameworks from the perspectives of both information behaviour (the lens adopted for this study) and the competitive intelligence cycle (the application field for this study). Two theoretical frameworks were accepted to guide data collection and analysis. An eclectic information behaviour model mostly based on the (Leckie, Pettigrew & Sylvain, 1996; Wilson 1981, 1999) information behaviour model and the adapted Botha and Boon (2008) and Bose (2008) competitive intelligence cycle. In Chapter five (section 5.3) the value and appropriateness of the theoretical frameworks will be reconsidered.

The next chapter will address the research design and methods used to carry out the investigation of the failures of competitive intelligence from an information behaviour perspective.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The previous chapter discussed literature on the causes of competitive intelligence failures from an information behaviour perspective, as well as competitive intelligence and information behaviour in general. The literature shaped the framework chosen to guide this study. The aim of this study was to answer the research question: **How are competitive intelligence failures attributed to information behaviour?** This research question led to sub-questions that are outlined in Chapter One (section 1.4). In order to answer the research question, data relevant to the sub-questions had to be collected. This chapter will address the research methodology and design that was used to investigate the causes of competitive intelligence failures from an information behaviour perspective. This chapter will include the research paradigm and approach, research method, population and sampling procedures. The data collection techniques, data analysis, triangulation, reliability and validity, and ethical considerations for this study are also discussed.

3.2 RESEARCH DESIGN

Research design refers to the way in which a research idea is transformed into a research project or plan that can be carried out in practice by a researcher or research team (Given, 2016:761). However research design does not only encompass the selection of methods used to collect data but also includes decisions about how the research itself is conceptualized, the subsequent conduct of a specific research project, and ultimately the type of contribution the research is intended to make to the development of knowledge in a particular area (Given, 2016:761). The process of developing a research design combines three broadly connected and interdependent components: the theoretical, methodological, and ethical considerations relevant to the specific project (Cheek, 2008:761-763).

According to Creswell (2013) research design directs the researcher in implementing the study in the most efficient way. Research needs a plan and structure to guide data collection and data analysis (Turner & Cardinal, 2017:255). Polit, Beck and Hungler (1999:155) describe the research design as a plan for obtaining answers to the research questions guiding the study. Pickard (2013:14) similarly defines a research design as a plan that provides a logical structure that guides the researcher to address the research problem and answer the

research question. According to Creswell (2013:12), the research design serves as blueprint for conducting the study.

The purpose of the research design is to acquire greater understanding and control of the study, and to improve on the validity of the study (Polit, Beck & Hungler, 1999; Kumar, 2011; Creswell, 2013). Kumar (2011:94) further states that the research design aids in understanding what needs to be done and why it is being done.

3.2.1 Research paradigm and approach

In deciding which research design to use, some of the key factors the researcher needs to consider are the focus of the research, unit of analysis and the time-frame (Maree, 2008:3). According to Neuman (2006:94), the research paradigm refers to the whole system of thinking. Furthermore, a research paradigm is described as a way of obtaining, organising and analysing data. According to Creswell (2009:9) and Babbie (2011:32), a research paradigm includes models, a frame of reference, accepted theories and a body of research and methodology. The roots of both qualitative and quantitative approaches extend into two different paradigms, namely positivism and post-positivism (Denzin & Lincoln, 2000; Neuman, 2006; Babbie, 2013).

There are three fundamental approaches, namely a qualitative, quantitative and mixed methods research approach (Pickard, 2007:16; Maree, 2008:257; Creswell, 2013:4). Furthermore, the researcher needs to consider the research paradigm for the study (Creswell, 2007:19; Neuman, 2006:94). This will be stated at the end of section 3.2.1.3.

3.2.1.1 Qualitative research

The qualitative research approach is used to provide insight into the complex nature of phenomena (Pickard, 2007:86; Leedy & Ormrod, 2005:94). According to Denzin and Lincoln (2000:3) qualitative research methodology “locates the observer in the real world and consists of a set of interpretive, material practices that makes the world visible”. Gorman and Clayton (2005:3) further state that “The key assumption made by qualitative researchers is that the meaning of events, occurrences and interactions can be understood only through the eyes of the actual participants in specific situations and lies within the

interpretivist paradigm". Qualitative research methodology focuses on events that occur in the natural setting (Ormrod & Leedy, 2005:133).

According to Fidel (1999:222), qualitative research offers an effective way to study human behaviour. Most human information behaviour studies that used a qualitative approach focused on users and investigated human information behaviour in relation to information needs, information-seeking and information retrieval (Bawden, 2006:673).

Fidel (1993:222) and Wang (2001:58) describe the qualitative research approach as having particular characteristics, which are discussed below:

- It is non-manipulative and non-controlling, since it aims at understanding people from their own point of view (Patton, 1990:39). Its purpose is to describe how people behave and to understand why they behave the way they do.
- Qualitative research is holistic and case-oriented, since it provides for a broad understanding of a particular phenomenon by focusing on unique cases, but at the same time taking into account all the themes that are involved (Patton, 1990:40).
- Qualitative research is focused on processes, since it examines the dynamics of a process (e.g. interaction during a search), rather than the static attributes of a process (e.g. users' level of education, cognitive styles, or system capabilities).
- Although often questioned (Gray, 2013; Babbie, 2011:35), qualitative research can be scientific and valid. It cannot be replicated because it examines a phenomenon at a certain point in time (Fidel, 1993:231). Triangulation and peer examination are common methods of ensuring validity (Fidel, 1993:232).

From the discussions by Fidel (1993:222) and Wang (2000:58) about the characteristics of the qualitative research approach, it can be deduced that a qualitative study would be useful in gaining insight into the causes of competitive intelligence failures, specifically focusing on the perspectives and viewpoints of competitive intelligence professionals, educators and trainers. To put the choice of research method in perspective, the two other approaches are also briefly discussed.

3.2.1.2 Quantitative research

According to Richard (2005:37), quantitative research is regarded as a more scientific approach to study social sciences. In the same vein Leedy and Ormrod (2005:179) describe quantitative research as the approach that yields quantitative information that can be summarised through statistical analysis. Quantitative research involves counting, measuring of events and performing the statistical analysis of a body of numerical data (Matveev, 2002:59). Creswell (2003:18) further states that "a quantitative approach is one in which the investigator primarily uses post-positivist claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories)."

According to Pickard (2007:18), quantitative research begins with a theoretical framework developed from the literature review; from this theoretical framework a hypothesis can emerge and variables within the hypothesis can be identified.

There are various values to using quantitative research, as mentioned by Sukamolson (2007:13). These can be outlined as follows:

- Provides estimates of populations at large;
- Indicates the extensiveness of attitudes held by people;
- Provides results, which can be condensed to statistics;
- Allows for statistical comparison between various groups;
- Has precision, is definitive and standardised; and
- Measures level of occurrence, actions, trends, etc.

The current study only collected quantitative data for descriptive purposes of the participants' profiles.

3.2.1.3 Mixed methods research

According to Johnson, Onwuegbuzie and Tuner (2007:123), mixed methods research refers to "the type of research in which a researcher or a team of researchers combine elements of qualitative and quantitative (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purpose of breadth and depth of understanding and corroboration." According to Creswell (2008:119), mixed methods

research is defined as a "method and methodology for conducting research that involves collecting, analysing and integrating quantitative and qualitative research in a single study or longitudinal program of inquiry." Fidel (1993:269) has a similar definition of mixed methods research, and defines it as "research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry." Mixed methods research is widespread across disciplines such as library and information science (Gorman & Clayton, 2005), health sciences (Plano Clark, Anderson, Wertz, Zhou, Schumacher & Miaskowski, 2015) and education (Johnson & Onwuegbuizie, 2004), to mention a few. Mixed methods research allows the researcher to conduct in-depth research (Gorman & Clayton, 2005; Fidel, 2008; Wilson, 2013).

After careful consideration based on the available literature, a decision was made on the research approach that would be most effective and appropriate for this study, bearing in mind the principal research question and the resources available for this study, as well as the need to collect both qualitative and quantitative data. For the purpose of this study, a qualitative research approach guiding exploratory data collection and analysis, combined with a descriptive quantitative approach of limited scope, was adopted. Therefore this study will follow a qualitative approach with a very limited descriptive quantitative approach to put the scope of the study in context (Creswell, 2009:6). Furthermore, the study was placed in a post-positivism research paradigm (Neuman, 2006:81; Creswell, 2009:6). According to Gratton and Jones (2004:27), a post-positivism research paradigm makes use of different methodological approaches, including qualitative as well as quantitative ones. Furthermore, researchers in this paradigm believe in multiple viewpoints from participants (Creswell, 2009:7), which is the intention of the study.

3.2.2 Survey research

Common research methods include survey, case study, content analysis, archival research, modelling and experimental research (Salant & Dillman, 1994; Creswell, 2003; Leedy & Ormrod, 2005; Pickard, 2007).The research method chosen for the current study was a survey. According to Creswell (2003:153), survey research is a set of orderly procedures that illustrates what information is to be obtained, for whom, from whom and how. Survey

research involves obtaining information about a group of people concerning their opinions, characteristics, attitudes and previous experiences, by asking questions and tabulating their responses (Leedy & Ormrod, 2005:183). According to Leuw, Hox and Dillman (2008), a survey involves identifying a sample population from which information is collected in order to gain insight and understanding on a particular point of research. A number of authors in the field of information behaviour research have used surveys as a research method, among others Weiler (2005) and Khan and Shafique (2011). Scheuren (2004:9) defines a survey as "a method of gathering information from a sample of individuals". Data is collected from a sampled population to obtain insight, experiences and opinions. According to Severin and Tankard (2001:35), if surveys are conducted with careful consideration, generalisations can be made from the sample to the population with assurance.

Backstrom and Hursh-Cesar (1981:10) identify the characteristics of survey research as follows:

- Quantitative – numerical values are assigned to human behaviour in order to interpret characteristics;
- Qualitative − the range of certain behaviours in a population is described by looking at variables in the natural setting in which they are found, as well as the interactions between them;
- Representative – units that represent the problem of the study are grouped together;
- Theory-based – surveys are guided by mathematical and probability laws; and
- Systematic – the research follows a logical flow.

According to Leedy and Ormrod (2005:183-184), surveys involve a series of questions being posed to participants. Their responses are summarised through percentages and frequency counts and inferences are drawn (Creswell, 2003:153). In this study, a set of questions were posed to participants using different methods to yield both quantitative and qualitative data. Like most other research methods, survey research has its benefits and limitations, which are discussed in the next subsections.

3.2.2.1 Benefits of survey research

It is important to have a clear understanding of the benefits of survey research as the chosen method and what it entails, as opposed to other methods. Various scholars have identified the main benefits of survey research (Salant & Dillman, 1994; Aldridge & Levine, 2001; Kelley, Clark, Brown & Sitzia, 2003; Leedy & Ormrod, 2005; Pickard, 2007). The benefits of survey research are presented below:

- Surveys allow data to be collected through observation of large or small groups of people.
- Surveys can produce large amounts of information at a relatively low cost.
- Surveys allow data to be collected from small samples, to study the entire population in a generalised manner.
- Surveys can be used to investigate almost any problem.

For the research question addressed in this study, surveys are an appropriate research method, since they allow data to be collected from competitive intelligence professionals, educators and trainers of any population size (small or large group) through structured interviews and questionnaires.

3.2.2.2 Limitations of survey research

According to Babbie (2004), the main weakness of survey research is that it is very difficult to investigate the insights relating to the cause of a phenomenon being studied, as pre-defined questions are often used, which might be superficial in covering complex topics. The response to the survey can be a limitation, as the research participants may not be honest in their response, which may lead to inaccurate information (Kelly et al, 2003; Bryman, 2008). This might, however, also be the case with other research methods. Kelly et al (2003:262) identify the limitations of survey research as follows:

- Surveys are dependent upon the chosen sampling frame – The representativeness of a survey is entirely dependent upon the accuracy of the sampling frame used;
- Surveys are not particularly good at explaining why people think or act as they do – Surveys can tell one how many people behave in a certain way, but they may be limited in the information they can provide, except if they specifically also collect qualitative data; and

- The outcome of a survey may be influenced by interviewer error and bias (which might also be the case with other research methods).

Once the research method was chosen, it was subservient to establishing the research population that would be used and also the sampling strategies. Therefore, the next two sections discuss the research population and the sampling procedures used in this study.

3.3. RESEARCH POPULATION

This section will discuss the population that participated in this study. According to Polit, Beck and Hungler (1999:232), population refers to "the totality of all subjects that conform to a set of specifications, comprising the entire group of persons that is of interest to the researcher and to whom the research results can be generalised". Jackson (2008:97) further states that the population is the subject that the study is meant to specify.

According to Babbie (2004), it is always resource-efficient to obtain the desired information for only some of the population instead of studying the entire population. The group that is used for the study is referred to as the sample. LoBiondo-Wood and Haber (1998:250) describe a sample as "a portion or a subset of the research population selected to participate in a study, representing the research population". The success of the study depends on how the sample is selected.

Identifying a suitable study population and recruiting research participants are often problematic in competitive intelligence studies (Odendaal, 2006; Thatcher, Vasconcelos & Ellis, 2015). Many studies on competitive intelligence benefited from association with professional organisations such as the SCIP South African chapter, which is the local representative body for competitive intelligence professionals (Treviño & Weaver, 1997; Strauss & Du Toit, 2010; Sewdass & Du Toit, 2012; Nenzhelele & Pellissier, 2013). Some studies on competitive intelligence use very few participants, such as the studies by Jaworski, Macinnis and Kohli (2002), Odendaal (2006) and Jin and Bouthillier (2008). Their number of participants ranged between 38 and 50. Challenges that are typically experienced in finding participants who are willing to participate in a study of this nature had an impact on the choice of research methods and data collection instruments. The following people were invited to participate in the study:

- Competitive intelligence professionals.
- Competitive intelligence educators and trainers.

These included people from South Africa, Senegal and the United States of America. In addition, participants were asked to recommend more participants (i.e. using snowball sampling). The criteria that specify population characteristics are referred to as eligibility (Polit, Beck & Hungler, 1999:278). In this study, the participants had to possess a knowledgeable background in competitive intelligence, and had to be classified as either or both a competitive intelligence professional or a competitive intelligence educator or trainer. The next section will discuss the sampling procedures used in the study.

3.4 SAMPLING PROCEDURES

Pickard (2013:60) defines sampling as a method or technique that involves the selection of participants for a study or research being conducted. According to Teddlie and Yu (2007:78) sampling is very important, since the researcher may not have time and resources to study the entire population. This is supported by Jackson (2008:97), who argues that it is not feasible to use the entire population for a study, but rather to draw a sample from the population for data collection. Latham (2007) claims that all disciplines use sampling when conducting research. This is evident when looking at the work of Mahajan (2009), Rafiq (2009) and Yusuf (2012), who used sampling to conduct research on the information-seeking behaviour of various groups. Different techniques that can be used for sampling include random, probability, cluster, systematic, purposive, and convenience sampling techniques, as identified by Marshall (1996) and Creswell (2007). For the purpose of this report purposive sampling and snowballing techniques were chosen.

Purposive sampling is also known as judgement sampling (Babbie, 1990:97). According to Frey, Botan and Kreps (2000:132) the population is selected based on participants' particular characteristics. Purposive sampling is useful if a researcher wants to study a subset of a larger population (Babbie, 1990:97). For this study purposive sampling was useful in order to gain rich qualitative data from the prospective participants, and in order to make recommendations on the failures of competitive intelligence from an information behaviour perspective. A list of 56 possible participants was compiled by Prof. Adeline du

Toit (the co-supervisor at the start of this study) from her personal contacts in the field of competitive intelligence; the list contained the contact details of the participants.

Purposive sampling was supplemented by the use of convenience sampling. According to Teddlie and Yu (2007:78), convenience sampling involves drawing samples from members of the population who are conveniently available to participate in the study. Maree (2008:117) further states that convenience sampling is defined by how readily available the participants are. For this study, three participants were recruited at the SCIP conference through convenience sampling – i.e. the researcher attended the conference with the purpose to recruit participants.

The study also used snowballing sampling. According to Handcock and Gile (2011:2) the snowballing technique, also referred to as the chain referral technique, consists of selecting a sample of "seed" individuals to start the survey, and asking these "seeds" for additional contacts to reach other individuals within the population of interest. Thompson (2002) is of the opinion that the snowballing technique involves one subject giving the researcher the name of another subject, who in turn provides the third name, and so on. For this study, four participants were referrals by other participants. The next section discusses the data collection procedure for the current study. Sampling was discussed first since it influenced the decision on data collection.

3.5 DATA COLLECTION

Data on the information behaviour of various people can be collected using a variety of methods (Patton, 1990; Sandelowski, 2000; Gill, Stewart, Treasure & Chadwick, 2008). According to Case (2007), common data collection methods that are used in information behaviour studies include questionnaires, interviews, focus groups, transaction logs and observation, which is confirmed by looking at a number of information-seeking behaviour studies (Mavodza, 2011; Kumar & Tholkappian, 2013; Moodley, 2013; Nel, 2015). For the purpose of this study a questionnaire and semi-structured interview were chosen for data collection. The questionnaire and interview responses had to be matched to the proposed model of information behaviour and competitive intelligence cycle (figures 2.1 and 2.2) as a conceptual guide in understanding the causes of competitive intelligence failures from an

information behaviour perspective. These methods are discussed in more detail in the next subsections.

3.5.1 Questionnaires

According to Lee (2006:760), questionnaires are "instruments that present information to a respondent in writing or through the use of pictures, then require a written response such as a check, a circle, a word, a sentence, or several sentences". According to Pickard (2007:64), questionnaires are instruments completed by the respondents. Pickard (2007) further states that questionnaires are relatively easy to use, inexpensive and best used for measuring unobservable constructs such as values, preferences, attitudes and personalities. Questionnaires are structured and often used where the aim is to generate quantitative data from a large sample to test research questions (Burton, 2000; Pickard, 2007; Singh, 2007).

Questionnaires can collect data by asking people questions or asking them to agree or disagree with a statement representing different viewpoints (Babbie, 2004). According to Burgees (2001), questionnaires are widely used in social science, with the aim of understanding views, opinions and attitudes. This is reflected in several studies (Mostert & Ocholla, 2005; Lwoga, Ngulube & Stilwell, 2010; Khan & Shafique, 2011) that conducted research using a quantitative survey in the form of a questionnaire. They followed up on this by conducting multiple qualitative interviews.

According to Krosnick and Presser (2010:266), a questionnaire is characterised by open questions (permitting the respondents to answer in their own words) and closed questions (requiring respondents to select an answer from a set of choices). Open-ended questions require more insight and usually require a short motivation for the answer, while close-ended questions present fixed alternatives, from which the respondent can choose (Taylor-Powell, 1998:5; Krosnick & Presser, 2010:267). For the research question addressed in this dissertation, both open- and closed-ended questions were recommended. The questionnaire was used as a profile questionnaire for the prospective participants (the questionnaire is attached as Appendix A). The questionnaire consisted of two sections, A and B, with a total of seven questions. The aim of section A was to collect the demographic data of competitive intelligence trainers and educators, such as their highest educational

qualification. Section B collected data on the organisational background, which included the type of organisation for which the participants worked. The questionnaire was administered to the participants through email.

3.5.2 Individual interviews

A semi-structured individual interview was selected to obtain qualitative data and insight on factors that contribute to competitive intelligence failures (the interview schedule is attached as Appendix B). According to Valenzula and Shrivastava (2002:4), interviews are particularly useful for getting the story behind a participant's experiences. Interviews were found to be appropriate in this case, because they could assist in prompting more qualitative information compared to questionnaires, as there was room for discussion and interaction between the participants and the researcher (Mills, 2006).

According to Valenzula and Shrivastava (2002:4) and Turner (2010:756), there are two types of interviews, namely structured and unstructured interviews, and between these types are semi-structured interviews (Miller, Dasher, Collins, Griffiths & Brown, 2001; Kajornboon, 2005). Structured interviews comprise pre-set standardised questions, which are usually close-ended questions following each other in sequential order. Unstructured interviews are open-ended questions and are usually conducted in an informal manner, with no pre-determined order of questions or specified wording (Kajornboon, 2005; Alshenqeeti, 2014). Semi-structured interviews consist of a series of open-ended questions based on the topic areas the researcher wants to cover (Barriball & White, 1994:328).

Semi-structured interviews were selected for this study as they follow a predetermined set of questions, asked in the same systematic order from all the respondents (Phellas, Bloch & Seale, 2011:182). In semi-structured interviews, interviewees are allowed to discuss other factors that are relevant to the questions, keeping in mind that the purpose of the interview is to ascertain qualitative data, as interviews allow the researcher to follow up on ideas, probe responses and investigate motives and feelings (Turner, 2010:174). This cannot be achieved through structured questionnaires (Bell, 2010).

For this study, qualitative data was generated through interviews. The interviews were conducted through SKYPE, face-to-face meetings, telephone call interviews and face-time calls. The interviews were conducted between 31 August 2016 and 30 January 2017, and on

average each interview took 30 minutes. The interviews were audio-recorded, with signed permission from the participants (see Appendix C).

3.6 DATA ANALYSIS

Data analysis involves ordering, manipulating, summarising and bringing meaning to the mass of collected data (Lacey & Luff, 2001:20). Through analysis and data interpretation one can deduce meaningful insight and gain better understanding from the data collected.

3.6.1 Analysis of quantitative data

According to Taylor-Powell (2003:1), analysis of quantitative data involves the use of common mathematical techniques that can measure variability. For this study, the quantitative data was only predominantly sourced from the profile questionnaire that was administered to the participants. Each questionnaire completed was thoroughly studied by checking all the questions as well as responses for errors. All the questions were further assigned with numerical codes; this made it easier to work on the closed questions (Burnard et al, 2008:429; Guest, MacQueen & Namey, 2012:53-55). There were two open-ended questions, which were analysed using content analysis.

3.6.2 Analysis of qualitative data

Qualitative data consists of words and observations, not numbers, and as with numerical data, analysis and interpretation are required to bring about order and understanding (Taylor-Powell & Renner, 2003:1; Guest, MacQueen & Namey, 2012:9). De Vos (2002:339) is of the same view and defines qualitative data analysis as “the process of bringing order, meaning and structure to the mass of collected data”. According to Guest, MacQueen and Namey (2012:50-51), data obtained from interviews should be re-worked to represent major themes that describe the phenomenon being studied. Therefore the interview recordings had to be transcribed before data could be analysed.

According to MacQueen and Namey (2012), data analysis in qualitative research is classified under content and themes. Content and thematic analysis are categorised under the qualitative descriptive design (Vaismoradi, Jones, Turunen & Snelgrove, 2016:101). According to Prasad (2008:1), content analysis refers to the study of content with reference to context and meaning contained in the messages. Krippendorf (2009) maintains that

content analysis is a research technique for making interpretations from data in its context. Furthermore, Kumar (2011:279) defines content analysis as an analysis of the contents of observations or interviews, in order to identify main themes from responses obtained from participants. According to Clark and Braun (2006:6) thematic analysis is a method of analysing, reporting and identifying patterns. Similarly Alhojafilan (2012:40) define thematic analysis as the type of qualitative analysis used to classify and present themes that relate to data. The study used thematic analysis to analyse the responses from the qualitative data obtained from individual interviews. A detailed discussion on thematic analysis will provided in Chapter 4 (section 4.4)

3.7 TRIANGULATION

According to Davies (2007:35) and Olsen (2004:101), triangulation is based on the idea of using two or three different methods to explore the same object. According to Fox and Bayat (2007:107), triangulation involves finding a junction among sources of information, different investigators or different methods of data collection. Olsen (2004:112) defines triangulation as "mixing data or methods so that diverse viewpoints or standpoints cast light upon a topic." Willis, Jost and Nikalanta (2007:219) discuss triangulation in the social sciences as a technique that involves confirmation across different collection methods, the benefit being that the flaws of one method are often the strength of another. According to Denzin (1978:297), there are four different forms of triangulation, namely:

- Data triangulation;
- Investigator triangulation;
- Theory triangulation; and
- Methodological triangulation.

This study applied triangulation in various forms, namely:

- Comparing results from both qualitative data and subject literature (thus data triangulation);
- Using competitive intelligence professionals as well as educators and trainers to constitute the study population allowed for a broader spectrum of perceptions and experience (thus investigator triangulation); and

- Collecting data using different kinds of techniques: questionnaires and interviews (thus methodological triangulation).

The following section will discuss the reliability and validity in research.

3.8 RELIABILITY AND VALIDITY IN RESEARCH

Creswell (2009) mentions that reliability and validity are used to measure the quality of data. In assessing the appropriateness of any research result and data collection instruments, two measurement criteria can be used, namely reliability and validity (Drost, 2011:106). According to Creswell (2009:148), if the researcher's interpretation of the collected data is to be valuable, then the measuring instrument should prove to be both reliable and valid. Powell and Connaway (2004:43) further state that any researcher conducting a study should always be concerned with the reliability and validity of the measuring instrument. Steps taken to ensure the reliability and validity of the survey research are discussed below. As explained in Chapter one (section 1.5.4), the terms "validity" and "reliability" will be used for this study although it is admitted that qualitative research is often associated with credibility, transferability, dependability and comfortability of work (Gorman & Clayton, 2005:26).

3.8.1 Reliability

Reliability refers to the consistency of measurement and the extent to which results are similar over different forms of the same instruments (Creswell, 2009:149; Kumar, 2011:181). This means that a test will always produce the same result over a certain period of time if the instrument is reliable. McMillan and Schumacher (2001:245) identify four ways of ensuring that the reliability of an instrument is increased:

- Agreement – this involves the observations of two or more people and the extent to which they agree on what they have heard or seen.
- Stability – this refers to the consistency of measuring instruments and the extent to which they produce the same result over a period of time.
- Equivalence – this involves the comparison of two measures of the same characteristics at the same time period.

- Equivalence and stability – this involves administering different forms of questions to the same group of people over a certain period of time.

Golafshani (2003:598) and Bell (2009:119) identify three types of reliability referred to in survey research, namely (1) the degree to which a measurement, given repeatedly, produces the same results, (2) the stability of measurement over a certain period of time, and (3) the similarity of measurement over a period of time.

3.8.2 Validity

According to Golafshani (2003:599), validity "determines whether the research truly measures that which it was intended to measure or how truthful the research results are." Nardi (2006:58) is of the same view and indicates that validity is about the accuracy and whether data indicates what it is supposed to indicate. Creswell (2011:149) discusses four ways of determining validity, namely:

- Face validity – the degree to which a test appears to measure the variable it is supposed to measure;
- Construct validity – the degree to which a construct contributes to the total variance within the system;
- Criterion validity – the degree to which a measure relates to some external criteria that have been established; and
- Predictive validity – the degree to which an instrument can forecast an outcome.

The reliability and validity of the current study were ensured through the use of triangulation by using different sources of data and employing both qualitative and limited quantitative techniques in collecting data. The questions and concepts used in the data collection instruments were drawn from the literature. Once the data had been collected, it had to be analysed in order to understand the causes of competitive intelligence failure from an information behaviour perspective.

Member checking can also be used to confirm the validity of qualitative research findings. According to Creswell (2003), member checking is a form of triangulation and reduces researchers' bias. In addition, member checking adds to the validity of the interpreted qualitative data (Creswell & Miller, 2000:124). However member checking also raises certain

ethical issues, which includes the protection of participant's confidentiality during the process (Birt, Scott, Cavers, Campbell & Walter, 2016). For the purpose of this study, member checking was not used. The next section presents ethical issues considered in survey research.

3.9 ETHICS IN SURVEY RESEARCH

Like any other research method, survey research carries with it an obligation to follow certain ethical norms. In this report people are involved as respondents and according to (Pickard, 2007:86), "a study that involves human and animal subjects needs to take into account ethical implications. It is essential that the research is not carried out at the sacrifice of the subject in terms of exploitation. One has to remember that the subjects are real people and by agreeing to take part in the study they are doing one a huge favour. It is vital to respect people, in particular their rights, as well as details of their lives."

Any time a researcher asks people to participate in a survey, it is the responsibility of the researcher to protect the privacy of the participants (De Leeuw, Hox & Dillman, 1994:83). Glasow (2005) is of the opinion that questions proposed in a survey should be civil and ethical.

Leeuw, Hox and Dillman (1994:99) mention the following ethical issues in survey research:

- Researchers need to encourage participants politely to respond, but should not put pressure on them in an offensive manner.
- Researchers have to do their best to safeguard confidentiality, therefore evaluating the results of the survey in such a way that an individual's responses may be anonymous.
- Researchers are required to obtain permission to enter sites where research will be conducted.

For this study ethical clearance was obtained from the Engineering, Built Environment and Information Technology Faculty Committee for Research Ethics and Integrity of the University of Pretoria. Written informed consent was required from all the participants prior to taking part in the research; this included consent to tape record interviews. The employers (where applicable) also had to give consent for their participation (see Appendix

D). Participants were assured that their responses would be treated with confidentiality and would be made anonymously (see Appendix C for the form of informed consent).

3.10 CONCLUSION

This chapter discussed the research design and methodology used to conduct this study. The study followed a descriptive qualitative approach combined with a quantitative approach of limited scope; this was explained in the chapter. The chapter discussed survey research as the recommended research method, addressed its advantages and disadvantages and explained how research surveys had been used in studies on information behaviour of various social groups.

The recommended population of the study was discussed, including the sampling procedures. The population included competitive intelligence professionals, educators and trainers. The study used convenience and purposive sampling to choose the participants. The chapter also discussed the data collection methods selected to conduct the study. It was decided that both interviews and semi-structured questionnaires would be efficient to collect data. The following chapter presents findings, the data analysis and specifically thematic analysis.

CHAPTER FOUR: FINDINGS AND ANALYSIS

4.1 INTRODUCTION

The previous chapter presented the research methodology used to conduct the current study. This chapter presents the data that was collected to investigate the failures of competitive intelligence from an information behaviour perspective. This chapter will present a summary of the empirical research, followed by findings from the questionnaire participant profile and lastly data from the interview schedules. The data presented in this chapter will be interpreted and triangulated in chapter five. The participant profile questionnaire and the interview schedules are attached as Appendixes A and B respectively at the end of the dissertation.

4.2 SUMMARY OF THE EMPIRICAL RESEARCH

The discussion on what informed the choice of the research approach and data collection instruments was provided in Chapter 3. Table 4.1 provides a summary of the empirical research and provides more specific detail on how the study was actually conducted.

Table 4.1: Summary of the empirical research

SUMMARY OF THE EMPERICAL RESEARCH	
Research topic	The study focused on the failures of competitive intelligence from an information behaviour perspective.
Research question	How are competitive intelligence failures attributed to information behaviour?
Sample group and participants	Purposive and snowball sampling were used for this study. The sample included two groups, namely (1) competitive intelligence professionals, and (2) competitive intelligence educators or trainers. The participants were invited from three countries, namely South Africa, Senegal and the United States of America. However the participants invited from Senegal did not take part in the study. Some of the participants were recruited at the SCIP conference that was held on 17-19 October 2016 at the University of South Africa (UNISA). It was difficult to recruit participants.
Methods of data collection	A self-administered semi-structured profile questionnaire and an interview schedule were used to collect data from the participants. The profile questionnaire is attached as Appendix A and the interview schedule is attached as Appendix B.

Method of invitation	A list of 56 possible participants was compiled by Prof Adeline du Toit (she was the co-supervisor at the start of the study); the list contained the contact details of the participants.
Follow-up and response rate	Because of the low response rate, the invitation email was sent to the same participants four times and the following response rate was achieved: 1st email invitation: 5 responded 2nd email invitation: 4 responded 3rd email invitation: 2 responded 4th email invitation: 1 responded Twelve participants responded to the invitation sent via an email, and three participants were recruited at the SCIP conference.
Means of data collection	Bearing in mind convenience for participants, and to account for geographic dispersion, participants were asked to choose from four methods of communication, namely (1) SKYPE, (2) a face-to-face meeting, (3) a telephone call interview, and (4) a face-time call. Two participants requested to communicate through email, one because of personal preference, and the other to accommodate hearing ability.
Data collection limitations	Four participants agreed to take part in the study, but never responded when follow-up communication was attempted. It was also impossible to get hold of the names and contact details of SCIP SA members, as the information is confidential and the committee is bound by the SCIP code of ethics and The Protection of Personal Information Act (POPI).
Approximate time taken to answer	Questionnaire - 7 minutes Individual interviews - 11 to 45 minutes
Time frame for data collection	Data was collected from 31/08/2016 to 30/01/2017.
Ethical clearance	Permission to conduct the study was received from the University of Pretoria Faculty of Engineering, Built Environment and IT Faculty Committee for Research Ethics and Integrity.
Consent	All the participants were asked to complete an informed consent form, which stated that they voluntarily agreed to participate in the study and that they granted permission for the interview to be recorded.
Confidentiality	All the participants who participated in the study were assured of confidentiality. Each participant was assigned a pseudonym to ensure that anonymity was maintained when reporting findings.

4.3 DESCRIPTIVE QUANTITATIVE FINDINGS FROM PROFILE QUESTIONAIRE

The data collected from the questionnaire (attached as Appendix A) is presented and analysed in the sub-sections below. The questionnaire was used only to profile the participants and presents limited descriptive data. Information was collected on the participants' educational qualifications, description of professional position, formal training in competitive intelligence, years of experience in competitive intelligence and the type of company they work for. The data is presented in the order used in the questionnaire. At the end of this section, it will be explained what the implications of the findings are for this study.

4.3.1 Highest education qualifications

Question 1 asked the participants to indicate their highest educational qualifications. From Chart 4.1 it is evident that 13.3% (2 out of 15) had an honours degree, 60% (9 out of 15) had a master's degree, 20% (3 out of 15) had a doctoral degree and 6.7% (1 out of 15) came from a military background which, was marked as Other on the questionnaire. Most (80%) participants were highly qualified, having either a master's or doctoral degree.

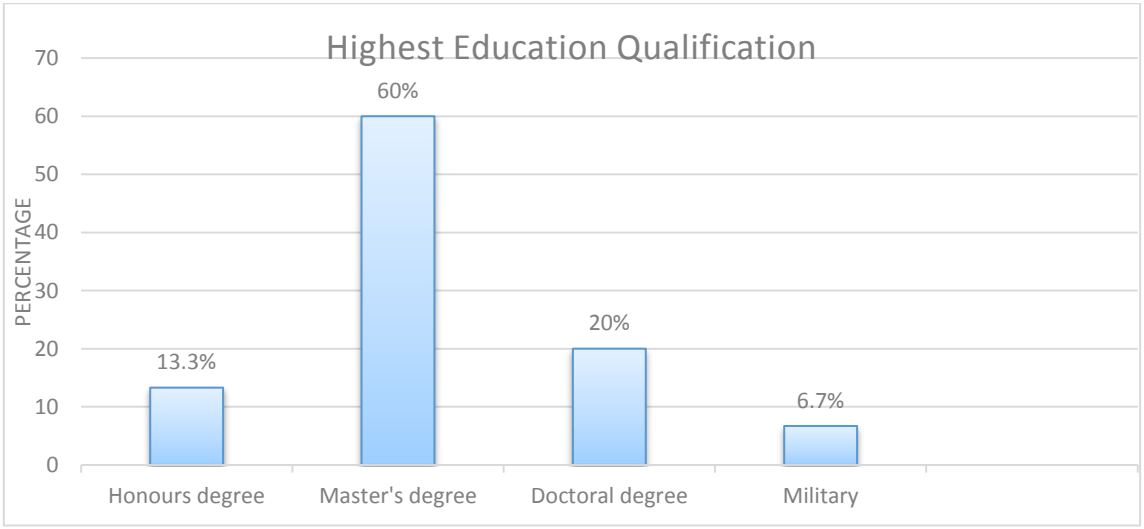

Chart 4.1: Highest educational qualifications of competitive intelligence participants

4.3.2 Third and fourth year major disciplines

Question 2 required the participants to answer an open-ended question, which required them to state three of their major third and fourth year modules[9]. The modules were then grouped together and categorised into main disciplines as follows: 33.3% (5 out 15) Library and Information Science, 6.7% (1 out 15) Law, 6.7% (1 out of 15) Natural and Agricultural Sciences, 46.7% (7 out of 15) Economic and Management Sciences and 6.7% (1 out 15) Military, as indicated in Table 4.2.

Table 4.2: Third and fourth year major discipline

Disciplines	3rd and 4th year modules	Frequency	Percentage
Library and Information Science	Competitive Intelligence, Institutional Repository, Information Science, Knowledge Management, Publishing Studies	5	33.3%
Law	Political Science, Public Law	1	6.7%
Natural and Agricultural Sciences	Geology, Physics	1	6.7%
Economic and Management Sciences	Accounting, Business Intelligence, Finance, Financial Accounting, Marketing, Tax	7	46.7%
Military	Military	1	6.7%

4.3.3 Best description of professional position

Question 3 required the participants to indicate their professional position as either competitive intelligence professional, competitive intelligence educator or trainer, or both. If none of the given options was sufficiently descriptive, they could select Other. From Chart 4.2 it is evident that 20% (3 out of 15) described themselves as competitive intelligence professionals, 13.3% (2 out of 15) described themselves as competitive intelligence educators and trainers, 53.3 % (8 out of 15) were both competitive intelligence

[9] In South Africa modules are also called subjects

professionals and educators/trainers, and 13.3% (2 out of 15) were involved in other professions, namely Senior specialist in corporate security and proposal manager.

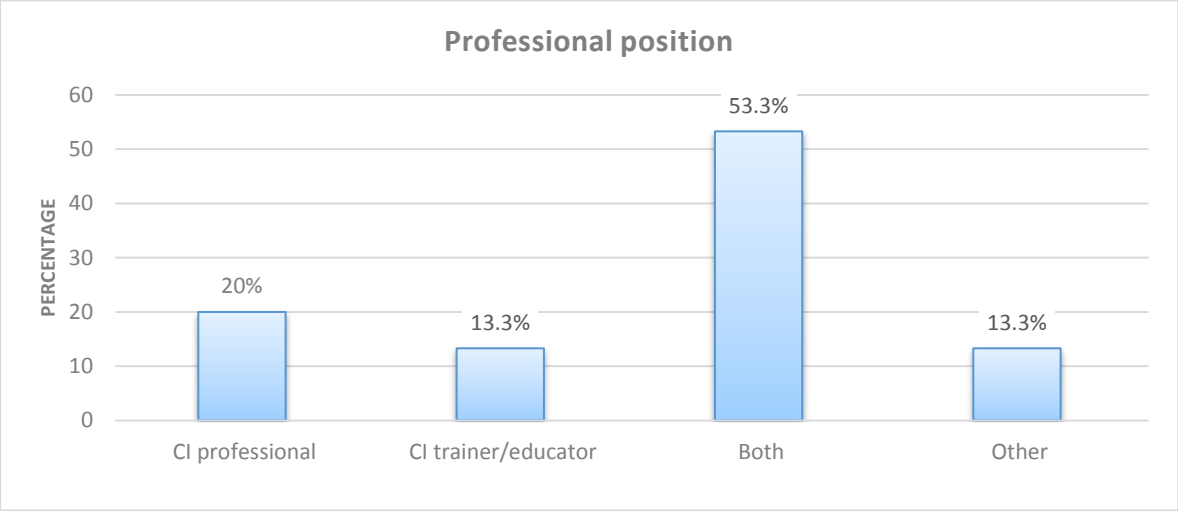

Chart 4.2: Best description of professional position

4.3.4 Formal training in competitive intelligence

Question 4 asked the participants whether they had any formal training in competitive intelligence. Chart 4.3 depicts that 60% (9 out of 15) received formal competitive intelligence training on post-graduate level, 13.3% (2 out of 15) received training on both under-graduate and post-graduate level, 26.7% (4 out of 15) completed competitive intelligence certificate courses.

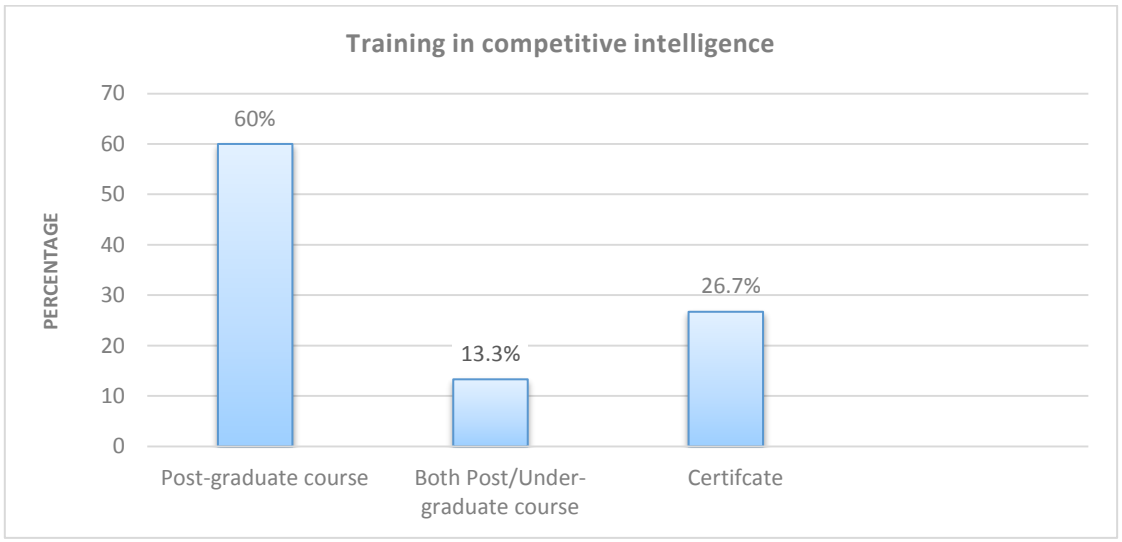

Chart 4.3: Formal training/education in competitive intelligence

4.3.5 Formal information training

Question 5 asked whether any formal training/education had been undertaken in competitive intelligence. As shown in Chart 4.4, 20% (3 out of 15) received formal training in information retrieval, 13.3% (2 out of 15) received training in information seeking, 53.3% (8 out of 15) received training in both information seeking and information retrieval, 6.7% (1 out of 15) received training in user studies and 6.7% (1 out of 15) received training in collection security, which was selected as Other in the questionnaire.

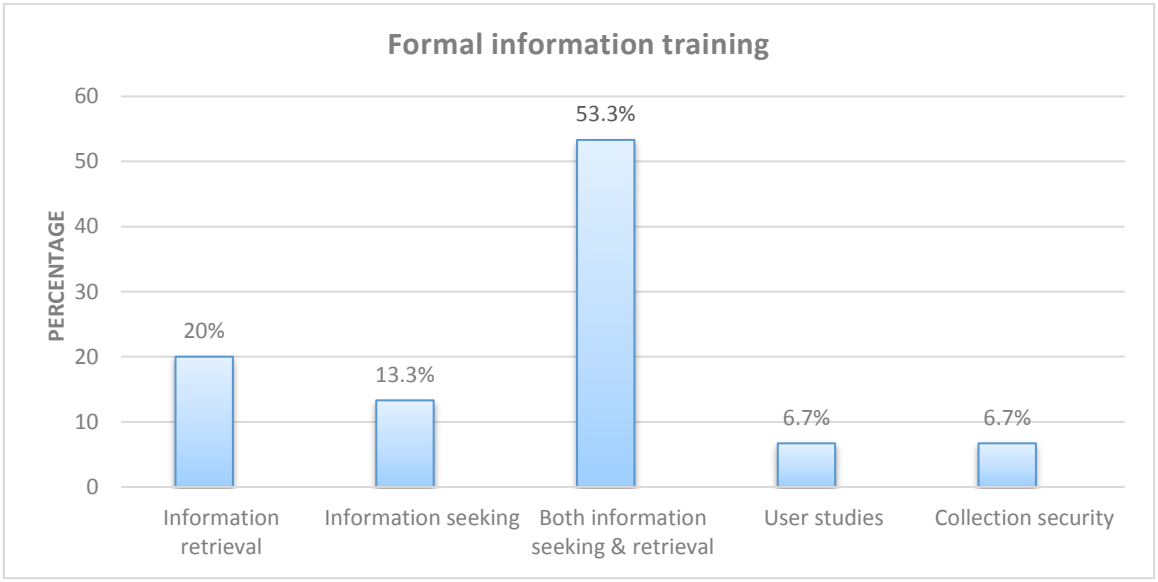

Chart 4.4: Formal information training

4.3.6 Years of experience in competitive intelligence

Question 6 asked the participants to indicate the number of years they had been involved in competitive intelligence as either competitive intelligence professionals or competitive intelligence educators or trainers. Eight participants (who identified themselves as both competitive intelligence professionals and competitive intelligence trainers) gave the years for ***both*** *experience as competitive intelligence professionals and competitive intelligence trainers* (i.e. two responses) and therefore the total number of responses was 16. For the remaining 7 participants who had to indicate the response in years of *experience as* ***either*** *competitive intelligence professionals or competitive intelligence trainer*, gave one response. Therefore the total number of responses is 23 as shown in Chart 4.5. The proceeding discussion explains the findings presented in Chart 4.5.

(a) The first group of findings concerns experience as *competitive intelligence professional **or** educator*.

- Experience only as a competitive intelligence *educator/trainer*: 8.7% (2 out of 23) of responses showed more than 15 years' experience as a competitive intelligence educator/trainer.
- Experience only as a competitive intelligence *professional*: 4.34% (1 response out of 23) showed 2-5 years' experience as a competitive intelligence professional, 8.7% (2 out of 23) of responses showed 6-10 years' experience as competitive intelligence professionals, 4.34% (1 response out of 23) showed 11-15 years' experience as competitive intelligence professionals and, 4.34% (1 response out of 23) showed more than 15 years' of experience as a competitive intelligence professional.

(b) The second group of findings concerns experiences from participants indicating the years of experience as ***both** competitive intelligence professional and educator/trainer*.

- Experience as a competitive intelligence *professional*: 13.05% (3 out of 23) of responses showed 6-10 years' experience as competitive intelligence professionals, 14.4% (4 out of 23) of responses showed 11-15 years' experience as competitive intelligence professionals, 4.34% (1 response out of 23) showed more than 15 years' of experience as a competitive intelligence professional.
- Experience as a competitive intelligence *trainer*[10]: 17.4% (4 out of 23) of responses showed 6-10 years' experience as competitive intelligence trainers, 4.34% (1 response out of 23) showed 11-15 years' experience as competitive intelligence trainers, and 13.05% (3 out of 23) of responses showed more than 15 years of experience as competitive intelligence trainers.

[10] For those participants in industry trainer was more appropriate than educator

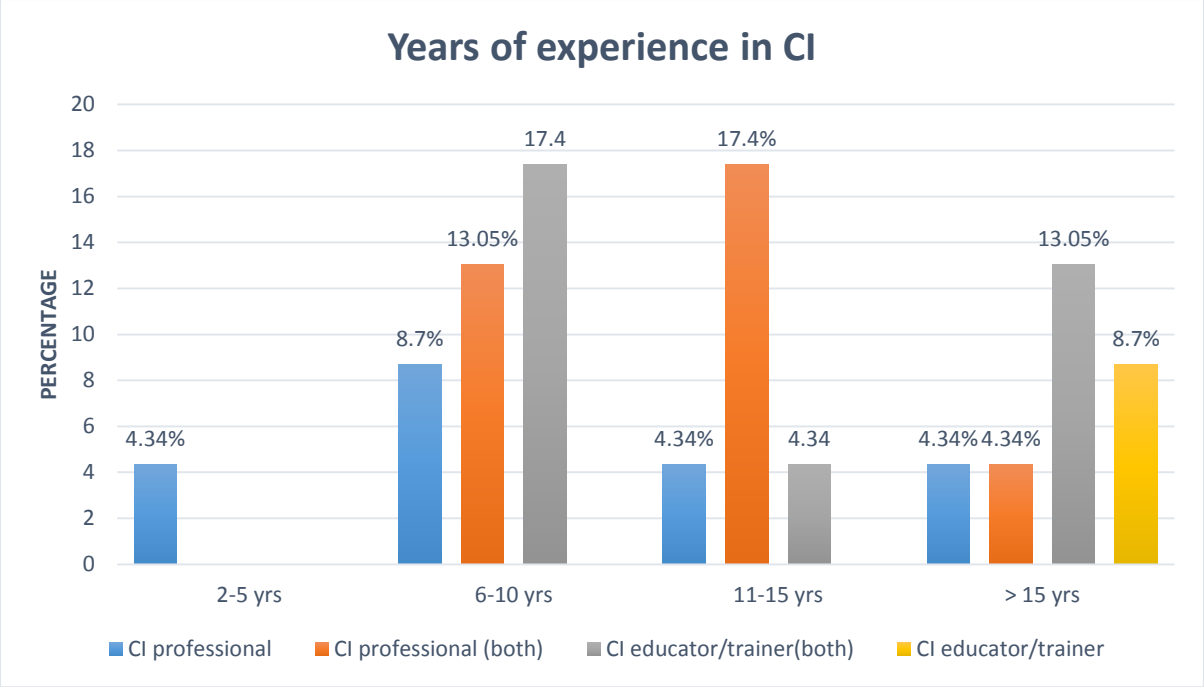

Chart 4.5: Years of experience in competitive intelligence

4.3.7 General description of job tittle

Question 7 asked the participants to give a general description of their job titles. The given job titles were then matched with the professional position each participant selected in answer to Question 2 (Chart 4.2) to give an overview of the job function of participants. Table 4.3 provides an illustration of the participant's job titles and professional positions.

Table 4.3: General description of job title[11]

Description of job title	Professional position
Managing director	Competitive intelligence professional
Consumer and market intelligence manager	Competitive intelligence professional
Technology intelligence analyst	Competitive intelligence professional and trainer
Chief financial advisor	Competitive intelligence professional and trainer
Competitive intelligence functionary	Competitive intelligence professional and trainer
Proposal manager	Other
Physiological intelligence	Competitive intelligence professional and trainer
Financial advisor	Competitive intelligence professional and trainer
Senior knowledge management executive	Competitive intelligence professional and trainer

[11] Competitive intelligence trainer, instead of competitive intelligence educator was used for those participants who were based in the industry

Consultant	Competitive intelligence professional
Professor and researcher	Competitive intelligence educator
Junior Microsoft AX consultant	Competitive intelligence professional and trainer
Engagement director	Competitive intelligence professional and trainer
Professor and researcher	Competitive intelligence educator
Senior specialist in corporate security	Other

4.3.8 Type of organisation

Question 8 asked the participants to indicate the type of company for which they work. Chart 4.6 depicts that 13.3% (2 out of 15) work at an educational institute, 6.7% (1 out of 15) work at a national organisation, 53.3% (8 out of 15) work at a multinational organisation, 6.7 % (1 out of 15) work at a parastatal organisation, 13.3% (2 out of 15) work at a private organisation and 6.7% (1 out of 15) are independent.

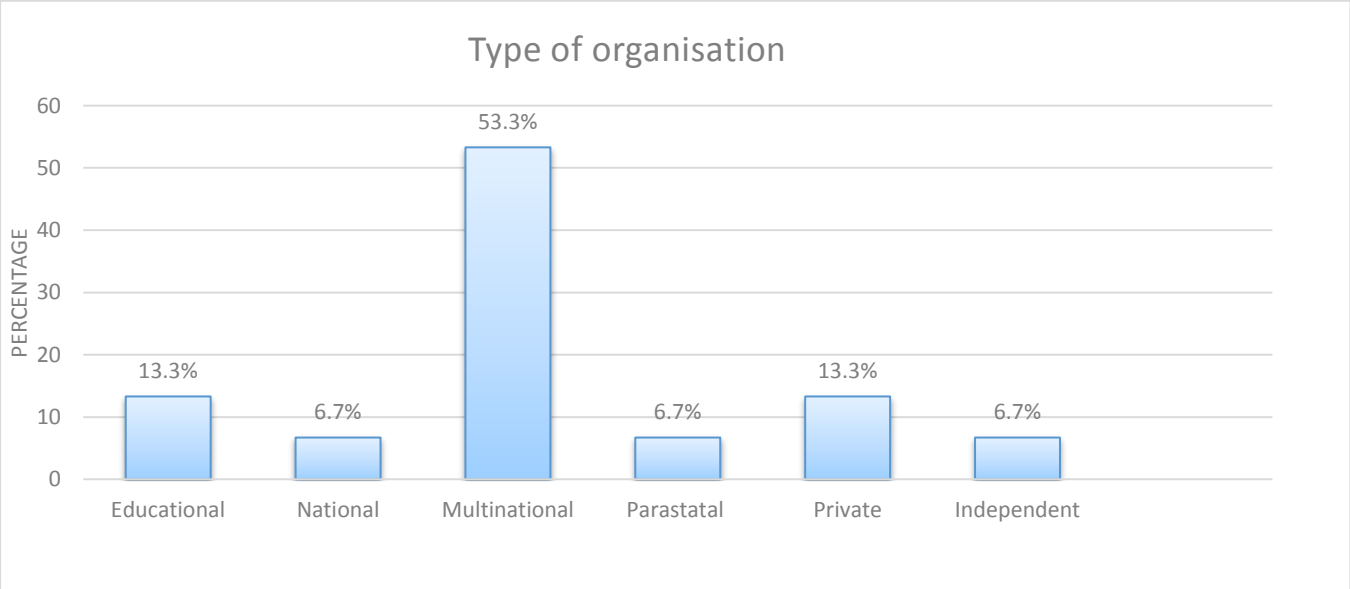

Chart 4.6: Type of organisation

From the responses given in the questionnaire, it was evident that participants in this study varied in their profile and demographic details in terms of highest education qualifications, job descriptions and professional position. According to Bose (2008), competitive intelligence is often included in the job title, particularly when the responsibilities lie in the arena of competitive intelligence analyst, market intelligence or market research, research associate, product researcher and subject matter experts. Wright, Pickton and Callow (2002), Odendaal (2006), Strauss and Du Toit (2010) and Tsitoura and Stephens (2012) are

some of the authors who have conducted studies that sampled a population of competitive intelligence participants who varied in their profile and demographic details such as job titles, highest education level, type of organisation and position in the organisation.

4.4 QUALITATIVE FINDINGS FROM THE INDIVIDUAL INTERVIEWS

This section will present the qualitative findings from the individual interviews. The interview questions that were put to the participants can be seen as Appendix B. To put the qualitative findings in perspective, the number of people raising an issue (i.e. a theme or sub-theme) for each question is also given; a very limited quantitative perspective is thus added to the qualitative report.

Apart from agreeing to participate, all the participants granted permission for the interview to be recorded (see Appendix C for the informed consent form). The form made it clear that their participation in the study was completely voluntary and all the information they provided would be treated with the utmost confidentiality.

The interviews were recorded using Audacity cross-platform sound editor recording software. All the recordings had to be transcribed before they could be analysed. The response to each question in the interview was recorded, then hand-written in a notepad, and later transcribed into a Word document. Each interview was transcribed immediately after the interview ended, and while everything was still fresh in the researcher's mind and remembered accurately. This is in line with recommendations from Creswell (2008) and Davidson (2009).

The transcribed data was read several times, and in addition the recordings were listened to repeatedly in order to ensure accuracy of the transcription. In qualitative research greater accuracy is achieved by re-evaluating the collected and captured data through repeated careful listening or watching (Bailey, 2008:128; Stuckey, 2013:58). When transcribing the recordings, slight corrections were made: most participants used abbreviations such as "CI", "BI", "KITS" and "KINS", which were written in full when transcribing the recordings. All the interferences in the recordings were removed during data transcription. According to Skinner, Von Essen, Mersham and Motau (2007:76), interference in communication refers to anything that distorts the message transmitted to the receiver. According to Leunberg

(2010:5) any distractions or noise interfere with the encoding or decoding process, and limits the clarity of the message from sender to receiver. During data transcription all paralanguage interferences were omitted, such as “eh”, ”well”, “um”; these also included conversation interferences such as grunts, coughs and sighs. Sandelowski (2000) pointed out that an analytic qualitative research approach does not benefit from transcription of these fillers.

To gain coherent understanding of the responses from the individual interviews, data analysis was mainly conducted through thematic analysis. Thematic analysis is a method of analysing, reporting and identifying patterns (Clark & Braun, 2006:6), which was briefly discussed in Chapter 3 (section 3.6.2). According to Phelps, Fisher and Ellis (2007:208-209), if a researcher carries out a study that is aimed at seeking understanding, insight and experience into the human phenomenon or situation under study, it is essential to analyse the data by identifying themes and patterns. Therefore, the data collected from the individual interviews were analysed by examining and identifying themes and patterns. The themes were guided by the research question and sub-questions as outlined in Chapter One (section 1.4). In social science research, various authors have employed the use of thematic analysis. Carrim (2007) analysed their findings by identifying themes and patterns from data they collected through their field observation. Fielden, Sillence and Little (2011) analysed their findings by identifying issues, themes and patterns in their data.

The responses to each question were analysed in terms of issues or factors mentioned by participants, frequent and re-occurring factors and comments that provided reasons for competitive intelligence failures. In response to the interview questions, there was some overlap when answers to a question were actually relevant to another question. Answers were then reported with responses to the relevant question. Not all participants were able to provide an in-depth response to questions 4.4.8 – 4.4.9, since these questions were related to information activities and behaviour, and some participants were not quite familiar with the concepts. The researcher did explain to them what information behaviour entails and described the typical information activities associated with information behaviour.

According to Given (2008:85), coding refers to the identification of concepts through categorical criteria. Coding generates new ideas from raw data such as archival material, field notes and interview transcripts (Given, 2008:85; Richards, 2005:8). In addition Saldaña (2013:22) suggests that during coding, the researcher should always keep the research question in mind. A coding sheet (extract from the coding) is provided in Appendix in Appendix F.

In social research, ensuring the anonymity and confidentiality of participants is considered ethical practice (Elger & Caplan, 2006; Kaiser, 2009). The researcher should reassure participants that data they provide will not be traced back to them in presentations, reports or other forms of dissemination (Crow, 2008). Research participants' anonymisation can be achieved through the use of pseudonyms (Elger & Caplan, 2006, Heath & Charles, 2006:9). Therefore, this study achieved anonymity by assigning a pseudonym to each participant. The pseudonyms were chosen by selecting the first alphabet letter of the interviewees' name and assigning a common Western name irrespective of the participant's gender. All the respondents who participated in the study were assured of confidentiality.

Participants who reported to be both competitive intelligence professionals and trainers overall provided more detailed responses.

The following sections will present the findings and responses from the individual interviews. The findings are presented in the order of questions used in the interview schedule (Appendix B). The question scope included (sometimes slightly reformulated from the interview schedule, to support the reporting of findings):

- Q1: Poor understanding of competitive intelligence by role players (by the organisation, management, individuals involved in the competitive intelligence cycle);
- Q2: Problems experienced during the identification and expression of competitive intelligence needs, including competitive intelligence questions and competitive intelligence topics (also referred to as key intelligence needs);
- Q3: Data collection from both the internal and external environment;
- Q4: Reporting and dissemination of intelligence;

- Q5: Keeping the intelligence user (e.g. management) informed throughout the competitive intelligence process;
- Q6: Obtaining feedback from the intelligence user and revision of intelligence findings when senior management is not satisfied;
- Q7: Other steps/processes that need to be considered when studying competitive intelligence failures;
- Q8: Opinion on the information activities and information-related factors mostly causing competitive intelligence failures; and
- Q9: Opinion on information activities and information-related factors that may prevent competitive intelligence failures.

For each of the questions, responses from the individual interviews will be presented. The purpose of the qualitative findings is to acquire deeper understanding of the factors that contribute to competitive intelligence failures when considered through an information behaviour lens; in combination with the literature analysis, the researcher will be able to make recommendations based on this exploratory study. Table 4.4 gives an overview of the themes and sub-themes identified for each question.

Table 4.4: Overview of themes and sub-themes

	Question scope	**Themes**	**Sub-themes**
1	**Poor understanding of competitive intelligence by specific role players**	Poor understanding at decision and policy level – *senior management* and *overall organisation level*	Confirmation of conceptual confusion Under-estimation of benefit and value of competitive intelligence Ad hoc performance of competitive intelligence
		Poor understanding at individual operational level – *competitive intelligence professionals*	Reliance on junior members Poor analytical and research skills

2	**Problems experienced during the identification and expression of competitive intelligence needs, and competitive intelligence topics (also referred to as key intelligence needs)**	Factors causing problems[12]	Poor understanding of organisational strategy causing incorrect articulation of intelligence needs Forming own notion of needs during intelligence interviews with senior management Human error when articulating the intelligence needs
		Practices preventing problems	Regular communication and project clarification with senior management Conducting rigorous intelligence interviews and needs analysis Unpacking of intelligence needs
3	**Data collection from the internal and external environment**	Practices that prevent failures during data collection	Explicit alignment of data collection with all facets of the intelligence need Training in information seeking, retrieval and data collection Use of multiple sources for data collection Information source evaluation – specifically triangulation of data Collaboration between key organisational stakeholders (e.g. senior managers and data analysts) in defining the data to collect Ethical data collection guidelines Fragmentations of intelligence needs
4	**Reporting and disseminating of intelligence**	Techniques and practices that enhance intelligence reporting and dissemination	Reporting according to senior management preferences Alignment of competitive intelligence findings with the organisations strategy and intelligence needs Dissemination of intelligence in the most effective manner

[12] Instead of problems participants' responses dealt more with factors causing problems

5	**Evaluation and revision of intelligence findings when senior management is not satisfied**	Improved communication and dissemination practices	Practices for regular collaboration and communication with senior management Formal agreement between competitive intelligence professional and senior management on the expectations of intelligence findings Development of a *report dialogue* between competitive intelligence professionals and senior management
6	**Keeping the intelligence user informed**	Methods of keeping senior management informed	Briefing sessions with senior management Scheduled intervals of communication with senior management
7	**Other processes that contribute to competitive intelligence failures**	Processes related to Organisational factors causing competitive intelligence failures	Inadequate positioning of the competitive intelligence process and function in the organisation
		Processes related to individual competencies causing competitive intelligence failures	Inability to handle information richness Inadequate articulation of intelligence needs
8	**Information related factors responsible for competitive intelligence failure**		Lack of access to information Inadequate articulation of senior management's intelligence needs
9	**Information activities that reduce competitive intelligence failures**	Activities that help reduce the risk of competitive intelligence failures	Identification and articulation of intelligence needs - developing supportive protocols and tools Contextualising the collection of competitive intelligence data and information within the organisational goals and mission Embedding competitive intelligence in information use -specifically senior management decision-making Information sharing across the organisation Development and use of best practices for data analysis

4.4.1 Poor understanding of competitive intelligence by specific role players

Question 1 (Appendix B) asked the participants to provide insight on how the lack of understanding of competitive intelligence by various role players, which included senior management, competitive intelligence professional(s) and the organisation, can affect the competitive intelligence process. Responses confirmed lack of understanding of competitive intelligence by various role players, including competitive intelligence professionals and more specifically senior managers. Two themes were identified from responses:

- Poor understanding at decision and policy level − senior management and overall organisational level
- Poor understanding at individual operational level – competitive intelligence professionals.

Each of these themes with their sub-themes are discussed below. A quantitative perspective on responses to question 1 is, however, briefly given first, before going into detail about the qualitative responses. Six of 15 participants mentioned that both senior staff and the organisation as a whole lacked understanding of the concept of competitive intelligence. Most respondents explained that in organisations competitive intelligence is often confused with other concepts and practices, which include business intelligence and information and communication technology (ICT). Four of 15 respondents mentioned that at the *overall organisational level* there is often ignorance about the fact that competitive intelligence and business intelligence are two separate processes and that they should both have their separate place in the organisation's success, as well as being acknowledged for their importance to success. Three participants elaborated on how *senior management* do not see the value and benefits of competitive intelligence. Most respondents argued that senior managers mostly comprise individuals whose thinking is financial in nature rather than technical; therefore they often do not see how competitive intelligence will benefit their organisations. Two participants specifically stressed that senior management tended to view competitive intelligence from of a cost-centre approach.

Competitive intelligence professionals seem to lack research and analytical skills. Often people involved with competitive intelligence have the capacity of collecting data, but lack

the skills to analyse the data. The participants mentioned factors arising from some competitive intelligence professionals' lack of understanding, although they noted that this problem was limited to a minority. Six of 15 participants highlighted the lack of skills and training of individuals involved in the competitive intelligence process as one of the leading causes of competitive intelligence failures. The skills mentioned most often were research and analysis skills. Four participants argued that most individuals have the ability to identify and collect data, but they do not have the necessary skills to analyse the data. Three of 15 participants mentioned that good data analysis skills are crucial for competitive intelligence, and without the necessary data analysis skills, the process is likely to fail. Furthermore, it was stressed that most junior members lack the capacity to conduct competitive intelligence processes. Four participants mentioned that the competitive intelligence process and function are not given departmental status and do not operate as a profit venture, hence competitive intelligence is unlikely ever to achieve this status. It is mostly performed on an ad hoc basis, usually by an individual who has other responsibilities in the organisation and not by designated competitive intelligence professionals.

Sections 4.4.1.1 and 4.4.1.2 report on the voices of participants and how their views shaped sub-themes and the identification of issues for each sub-theme.

4.4.1.1 Poor understanding at decision and policy level – senior management and overall organisation level

Three issues stood out in this sub-theme; (a) – (c) share general implications of participant input and extracts from the voices of participants that is discussed in more detail. Lack of future vision, limited resources to employ the right people and the fact that the competitive intelligence presented does not always meet with expectations were also briefly noted:

- Confirmation of conceptual confusion
- Under-estimation of benefit and value of competitive intelligence
- Ad hoc performance of competitive intelligence.

a) Confirmation of conceptual confusion

Because of lack of training, senior managers and decision makers often do not grasp the meaning and potential of competitive intelligence. Competitive intelligence is

often confused with business intelligence and ICT. Even when the meaning is well understood, other factors may lead to failure.

- "Most senior managers and most decision makers are people with no competitive intelligence training, and they do not have an understanding of the concept competitive intelligence." **(*Billy*)**
- "In most organisations there is a huge understanding of business intelligence but very little understanding of competitive intelligence. Unfortunately, in my current work environment little is actually done with competitive intelligence. There is an understanding of business intelligence, were many of the conversations revolve around. If I do bring up competitive intelligence, it is confused with business intelligence." ***(Stephen)***
- "The lack of understanding of competitive intelligence by either the senior manager, the professional or the organisation as a whole is one of the contributing factors to failures, I think in general, well in my company, there is a clear understanding of what competitive intelligence is but all the competitive intelligence activities are performed on an ad hoc basis." ***(Jane)***
- "When it comes to the organisation as a whole, because of the lack of understanding of competitive intelligence, a lot of people think that competitive intelligence simply refers to information communication technology (ICT). They always compare competitive intelligence to computer systems, and say words like *'well I have a computer, if I want information, I can simply just go pull it out of the computer*'. But what they do not realise is that you cannot make decisions only on data, you make decisions on information and intelligence. They do not have what I always call foresight. Most competitive intelligence professionals only focus on the present and past, they never think about the future, and competitive intelligence is about looking at the past, present and forecasting the future trends. Another factor contributing to competitive intelligence failure, is that organisations have limited resources, and perceive hiring a competitive intelligence professional being costly, so senior managers always say '*why should I pay so much to get information from a competitive intelligence professional, I can just get it from the information from the IT staff.'*" **(*Steven*)**

b) Under-estimation of benefit and value of competitive intelligence

The fact that senior management do not always see the value and benefit of competitive intelligence influences their decision-making processes. It also influences how they approach a request for competitive intelligence, and how they use competitive intelligence that has been collected.

- "When it comes to senior management it is always the case that they do not understand the concept of competitive intelligence and do not see its value**.** Senior managers always use monthly and annual reports to make decisions and never incorporates intelligence in the decision making process, so senior management will never buy into the whole competitive intelligence process, they will only see it as a cost centre and nothing to benefit from. Senior management always say '*we did our SWOT analysis and we received our analysis, so why are you telling us that we need to do something else.'*" ***(Steven)***
- "Competitive intelligence is a huge part of strategy in the organisation, but in order to be taken serious, it must be incorporated into the entire organisation. Most senior managers understand what competitive intelligence is and what it should bring to the party, the only problem is that, at times, competitive intelligence does not meet with expectations. One other problem is that most internal competitive intelligence teams bring all these reports but fail to incorporate it in the organisation's decision-making process." ***(Joseph)***

c) Ad hoc performance of competitive intelligence

Competitive intelligence is often not given any value and standing on departmental level. The process is also often conducted on an ad hoc basis. This holds implications for gaining expertise in the competitive intelligence process (i.e. cycle) as well as the use of competitive intelligence, and most importantly, on the value it can hold for an organisation. Implicitly it can thus have an impact on the expression of information needs.

- "In most organisations competitive intelligence is not given the value it deserves. You find that people who are responsible to conduct the process also have other functions and responsibilities in the organisation and therefore competitive

intelligence is done on an ad hoc basis. At times those people do not even know that what they are doing is considered as competitive intelligence, they will call it whatever they want to call it without knowing that what they are doing is something that is recognised as a separate field. There were a few independent organisations that used to offer competitive intelligence training but they have closed down since they were not making any profit, so I am very worried about the way forward." ***(Aaron)***

- "The lack of understanding of competitive intelligence by either the senior manager, the professional or the organisation as a whole is one of the contributing factors to failures, I think in general; well in my company there is a clear understanding of what competitive intelligence is but all the competitive intelligence activities are performed on an ad hoc basis." ***(Jane)***

4.4.1.2 Poor understanding at individual operational level – competitive intelligence professionals

For successful competitive intelligence processes, it is essential that the people responsible for the process have a solid understanding of the process and function of competitive intelligence. Three issues stood out with regard to poor understanding of the process and the function of competitive intelligence on individual level. The issue of theoretical versus practical skills was also briefly noted.

- Reliance on junior members
- Poor analytical and research skills
- Inadequate understanding of the scope and function of competitive intelligence.

a) Reliance on junior members

Junior staff members are sometimes responsible for the process of competitive intelligence. Because of lack of experience and sometimes training, younger (i.e. junior) competitive intelligence professionals do not always have the ability to conduct the process and functions effectively. Promotional opportunities to other roles also often prevent them from mastering the necessary skills.

- "The poor understanding of competitive intelligence is the leading cause of most failures. This does not only apply to South Africa, we can go as far as saying that it is

a global phenomenon. Competitive intelligence practices in South Africa are no less advanced as compared to anywhere in the world. Most competitive intelligence staff is relatively junior in their experience, and there is also the issue of promotions where good analysts and managers tend to get promoted out of the competitive intelligence role. There is a low level of understanding of primary and secondary research, as well as the analysis that goes into it. Let's just say there is a lot of improvement that is needed." ***(John)***

b) Poor analytical and research skills

Competitive intelligence professionals should possess a certain set of skills which includes analytical and research skills.

- "When it comes to the individuals who are involved in competitive intelligence, basically what makes competitive intelligence fail from the individual's perspective, is the lack of skills and competence, people know how to use certain tools, but only to a certain extent. The second biggest problem with individuals is that they do not have the analysis ability, the fact that you can find and collect data, it does not mean that you will be able to analyse it, and with competitive intelligence, the most important aspect is data analysis." ***(Steven)***
- "It is without any doubt that some competitive intelligence professionals have a strong theoretical background, but they lack the practical skills to undertake competitive intelligence projects. The failures and success of any competitive intelligence project is dependent on the skills of the competitive intelligence professionals." ***(Cynthia)***
- "The competitive intelligence analyst hardly takes the next further step to explain to senior management what exactly this intelligence represent. The other factor that causes failures is the lack of skills by competitive intelligence professionals. Most competitive intelligence professionals are good researchers but they lack data analysis skills." ***(Michael)***
- "The lack of understanding of competitive intelligence by anyone involved in the process is sufficient enough to cause failures. If you look at the literature, the saying '*if people do not know what information they need, they do not know what data they need to collect, they do not know how to analyse and sometimes if they succeed in*

analysis they have no clue what the implications of the analysis or intelligence'. So I think skills shortage is a major problem and not only in South Africa; this is a problem that we recognise globally and can lead to failure. '*If you look at the economic meltdown of 2008',* one economist said*, 'be careful we are headed for a meltdown and all the economists said, you must be out of your mind and before everyone knew there was indeed a meltdown and everybody asked how he knew that and how did we miss it'."* ***(Abel)***

- "From a competitive intelligence perspective, despite all the intelligence, operations and the whole part of data gathering, the first step is the skills. If the skills are not in place, the project will fail. It all boils down to one fact: *the competitive intelligence staff must be skilled in whatever that they do."* ***(Clint)***
- "People make the mistake especially in a technical environment and think that if they can collect the data from the environment, then they can automatically analyse it. I have seen that people are more skilled with data collection as opposed to data analyses. So I would say that the skills are available but the wrong people are appointed for competitive intelligence." ***(Anna)***
- "Most competitive intelligence professionals still have no idea how to conduct a good competitive intelligence process. Competitive intelligence cannot be really described as a discipline that can be studied and conducted with ease, it more of an art, and depends on the individual's cognitive, and not really on the academic background." ***(Kate)***
- "The problem with individuals, is the lack of training and poor analysis skills, most individuals make the mistake of thinking that if they can identify and collect data, then they have the ability to take this process until the end. I see very frequently that people are good at data collection but not in analysis." ***(Devina)***
- "The problem with competitive intelligence especially within the South African context is that some competitive intelligence professionals have difficulty understanding what competitive intelligence is and what competitive intelligence is not; some competitive intelligence professionals still think that competitive intelligence has to do with cooperate espionage. Most competitive intelligence professionals have no solid ground rules and no clear distinction as to what can be

done and what cannot be done with due respect to business reason, policy reasons and legal reasons." ***(Brandon)***

4.4.2 Problems experienced during the identification and expression of competitive intelligence needs and competitive intelligence topics

Question 2 (Appendix B) asked the participants to identify the problems that are experienced when identifying, expressing and articulating senior managers' intelligence needs. In addition, the participants were asked to identify measures to consider in order to ensure the correct articulation of intelligence needs. The participants indicated a number of issues, which can be divided into factors that cause competitive intelligence failures and practices that prevent competitive intelligence failures.

It seems as if lack of understanding of competitive intelligence at the organisational level also contributes to poor articulation of intelligence needs. Four participants mentioned that it is important for the competitive intelligence professional to have a deep understanding of the organisation, its objectives and strategies. Lack of understanding of the organisation causes poor expression of intelligence needs, since the individual does not know exactly what to ask senior management. Three participants mentioned that most competitive intelligence professionals form their own notion when articulating senior managers' intelligence needs and only listen to information that confirms their knowledge base and understanding. Four participants argued that the process that involves identification and expression of the intelligence needs of senior management is subject to error, because it is all human effort and humans make mistakes. One of the participants mentioned that the possibility of errors during articulation arises because humans receive and process information differently, and mostly absorb information that agrees with their knowledge base or information that only supports their own point of view. Furthermore, the participants mentioned practices that can help prevent competitive intelligence failures.

Four participants mentioned the importance of establishing a good relationship with senior management before any competitive intelligence project can be undertaken. Most participants pointed out that the main problem with intelligence needs articulation by competitive intelligence professionals is the lack of both communication and project

clarification with senior management. The participants further mentioned that regular communication or regular feedback sessions with senior management ensure that the project is still on track and the initial question is still answered. One of the participants mentioned that organisations operate in an unstable environment, so it is critical to communicate regularly with senior management to seek clarity on the project.

Four participants highlighted the importance of conducting detailed intelligence analysis and asking senior management the correct questions concerning their intelligence needs. The participants mentioned that the questions that are asked should cover issues such as the type of information required, the purpose of the information, the deadline for the intelligence deliverables and the packaging of the deliverables. Three participants mentioned that questions that are asked should aim to gain understanding of the problem or threat that the organisation is facing and of the competitors to consider. Two participants mentioned that they used stringent techniques to identify the intelligence needs of management. One of the techniques involved the use of a template containing questions that management should answer, and the other technique involved the use of a process that specified detailed steps on how to articulate the intelligence needs of management. Two key issues related to competitive intelligence failures during the recognition and articulation of intelligence needs were raised:

- Factors causing problems
- Practices preventing problems.

4.4.2.1 Factors causing problems

Three issues featured strongly in responses:

- Poor understanding of organisational strategy, causing incorrect articulation of intelligence needs
- Forming own notion of needs during intelligence interviews with senior management
- Human error when articulating the intelligence needs.

a) Poor understanding of organisational strategy causing incorrect articulation of intelligence needs

Because of lack of understanding and limited knowledge about the organisations' strategy and its environment, the competitive intelligence professional fails to determine the true needs of the organisation and senior management.

- "The competitive intelligence professional must have a very good understanding of the organisation, be well informed about the strategy of the business and have good relations with the senior management who can then be able to translate the intelligence needs to the competitive intelligence professional. I think at first lies the understanding or the organisation followed by the needs of the organisation and that to me all comes down to communication." ***(Jane)***
- "A lack of information and knowledge about the organisation causes a poor expression of information needs, since the competitive intelligence professional does not know exactly what to ask senior management. It is important when identifying the competitive intelligence needs of the senior management to clarify and be explicit."***(Cynthia)***
- "Basically if the competitive intelligence professional has a good understanding of the business, and if their measurements and matrix are correctly specified, the competitive intelligence professional can always go back and clarify if they suspect that something is not correct."***(Abel)***

b) Forming own notion of needs during intelligence interviews with senior management

During intelligence interviews with senior management, competitive intelligence professionals only take in information that confirms their own beliefs and supports their knowledge, which leads to the omission of important information.

- *"*What happens a lot in our organisation is that people ask senior management intelligence questions in effort to understand what management needs. When they receive the answers, they form their own notion or take the information that supports their own view. They actually do not take the entire picture. Most individuals just want to conform to their own understanding. Sometimes they miss out because senior management gives them more than their understanding." **(*Elena)***

- "Sometimes people ask intelligence question, and then from what they are told they only select what they already know, they do not consider the whole picture, they just want to confirm with their own knowledge base and understanding and sometimes they miss out because you give them more than what they know but they ignore it because they only want to support their views." ***(Anna)***

c) Human error when articulating intelligence needs

Humans perceive and process information differently; if the senior management intelligence needs are stated ambiguously or vaguely, the competitive intelligence professional might interpret or perceive it in a different manner.

- "The problem with the identification and expression of information needs stems from the 'human problem' and not precisely the competitive intelligence process and efforts." ***(Cynthia)***
- "I can relate very much to this question from a broad perspective, I was once told by my senior manager that I need certain information to be gathered for me, but it was a very ambiguous request and I collected information based on what I was told or rather what I thought I heard. So basically what I want to say is that usually we gather information or information needs from human beings and built into that are a lot of errors or there is bound to be errors. What you will find is that, well this might be industry-specific, well me coming from a financial industry, you get that people cannot come up forward and say they made a mistake. To gather intelligence from senior management is not a straight forward task such as your 'binary code system'". ***(Tyrone)***
- "Most competitive intelligence failures occur at this phase. There is no definite way of correctly identifying the intelligence needs. Since this is all human effort, it's mostly subject to error, since humans receive and process information based on their knowledge base." ***(Kate)***

4.4.2.2 Practices preventing problems

The following issues stood out:

- Regular communication and project clarification with senior management
- Conducting rigorous intelligence interviews and needs analysis

- Unpacking of intelligence needs

a) Regular communication and project clarification with senior management

Since organisations exist in unstable environments, it is important that competitive intelligence professionals continuously communicate with senior management, and seek clarity on all issues related to the competitive intelligence process to ensure that the competitive intelligence process is still in line with the initial intelligence needs.

- "A lot of individuals collect data without clarifying with management if the data they are collecting is actually what is required, and if they are still on track with the current project. To avoid failures you need to schedule regular feedback sessions with senior management, and ask if what has been done so far in the project still answers the initial question. The purpose of regular feedback sessions is to check if the initial need is still the same, because organisations operate in an environment that is forever changing, so the needs of senior management or the organisation changes with change in the environment."***(Steven)***
- "We use mission clarity, which simply elaborates on what the competitive intelligence project will be about, the project focus, and the expected outcomes. Any competitive intelligence project should always aim for clarity before any actual work is done. It is very resource-exhausting to conduct any research without clarifying the scope of the project." ***(John)***
- "The problem with humans is that we never go back and clarify what we initially heard and sometimes when the sender checks with the receiver and how they interpreted the message, they get angry and they say *'how you dare check on me, I am not a baby."****(Abel)***

(b) Conducting rigorous intelligence interviews and needs analysis

The most critical activity within the competitive intelligence process is the logical and correct identification of the management intelligence needs. During intelligence

interviews, the competitive intelligence professional should conduct thorough intelligence needs analysis and try to find out exactly what the organisation needs.

- "I for one do not agree with the claim that there is no proper standard way of articulating the intelligence needs of senior management. For the key intelligence topics you can actually develop your own cycle as to how to determine the intelligence needs, to determine where you start, what to do in between and where do you end. The cycle for determining the key intelligence topics is not a standard cycle, and it's not anything that has been published, after all a cycle is just a process. It all starts with the competitive intelligence professional being able to ask the right questions because senior management do not always know what they want so it takes a skilled competitive intelligence professional to properly articulate the correct intelligence needs. It is very important for the competitive intelligence professional to know the organization before conducting any competitive intelligence activity." ***(Michael)***
- "There are basically two ways of collecting the intelligence needs, as you already know to be the intelligence interview; where you have to sit down with either the senior management, the intelligence user or the stakeholder and ask them what information they need and what they are going to use it for. The second method that I actually prefer, is to use a very specific template, which I call a briefing template. The purpose of a briefing template is to ask questions such as 'Why do you need this intelligence? ', 'Which countries should we cover?' 'Which competitors should we look at', 'Which format do you want the intelligence product to be delivered in'? 'What is the deadline'? and so on." ***(Steven).***
- "I usually plan meetings with senior management and ask questions such as: '*What is your biggest problem at the moment?' 'What is your biggest threat?' 'Why do you consider that a problem or a threat?'*. This usually helps from a planning perspective; I usually prompt several questions to senior management in order to understand their true need, e.g. *'You want to enter the China market?', 'What does this mean for the organisation?' What can the competitive intelligence professional do that will give insight into this market?*. Identification of key intelligence questions is a critical

factor in the competitive intelligence effort but it is not sufficient to cause competitive intelligence failures." ***(Brandon)***

- "You must have a very detailed needs analysis with senior management and try to find out what the organisation needs. I think if you do that in a more stringent process, then you are more likely not to fail. But it all comes down to understanding what the true needs of the senior manager are and delivering the intelligence product around those needs. You cannot go there and say, '*Oh well this is what we can offer'.* You have to go there and ask very specific questions such 'W*hat is it that you need?', 'What do you need this information for'? 'How do you want the deliverables to be packaged'?' 'Who in the organisation will be using this intelligence, and what will they be using it for?'* It is very important to keep going back to the senior manager to ask them if what you have done so far is what they are looking for, therefore clarity is very important." (***Bob)***

(c) Unpacking of intelligence needs

According to key principles such as audience and purpose, there should be a stringent method of articulating intelligence needs of senior management.

- "You should have a method in which you can unpack what the top management needs and if you have that as a stringent process, then you more than likely to correctly identify the intelligence needs. It really comes down to understanding what the end user needs are and working around them to deliver an intelligence product, so you cannot go there and say, "well this what we can offer", you must go there and ask what is that you need? What are you going to use it for? Who is your audience and what they need the intelligence for, then you have to build your deliverables around that, so there are standard ways of identifying intelligence needs and what important is to constantly follow up with the end user and ask them if you are on the correct path and if what you have matches their needs." ***(Joseph)***

4.4.3 Data collection from the internal and external environment

Question 3 (Appendix B) asked the participants to indicate difficulties experienced during data collection, and how they overcome these difficulties. In response to this question the participants did not elaborate on the failures that may arise during data collection, but

rather mentioned practices used in data collection that help prevent errors and failures. The emphasis was mostly on methods of overcoming difficulties and reducing errors during data collection. From an information behaviour perspective this is useful, since it relates to information activities. As with the previous questions, a brief overview and a limited number of verbatim quotations are given to put responses in perspective.

From the discussion the researcher observed that there are a number of methods that can be used to prevent errors and competitive intelligence failures during data collection, since data collection is a very important phase in the competitive intelligence cycle and also an information activity that includes information seeking and retrieval in various forms. Three participants mentioned that data collection should be a collaborative process between the competitive intelligence professional, the analyst and senior management. Two participants mentioned that the data collection process should be aligned with the intelligence needs and every piece of data collected should present a certain point, fact or idea. Two participants mentioned that the individuals who are responsible for collecting data should have some training in information seeking. They may not necessarily be information specialists or librarians, but they should have had some form of training. One participant suggested that the team (assuming collaborative data collection) should not be given the full picture of the project, but should rather be given specific tasks. The team collecting data should be able to verify and state the procedures they followed to obtain the data.

Seven participants argued that data should always be validated. Furthermore, most participants mentioned that they collected the same data from three or more sources, then if they all presented the same facts, they knew that they had successfully validated their data. Similarly, two of the participants mentioned that they tasked three different people to go and look for the same set of data; if they came back with the same results, then they considered the data to be validated.

Only two participants mentioned that there should be guidelines for the data collection process. They argued that without data collection guidelines, individuals might decide to collect data through unethical channels.

Although only one theme was identified for this question, it is rich in sub-themes (eight sub-themes), which are discussed below. In addition to the sub-themes, several other issues of importance were noted that can be considered in further work: the importance of *choice* of sources in terms of a balance between primary and secondary sources, trust in sources – especially trust in human resources – the need to develop and work on tacit knowledge and intuition, the need to withhold information on the whole picture and rather work on fragmented requests for intelligence, the need for guidelines to ensure quality, the need for information sharing practices during the process and the need for verification practices of facts as well as information sources.

4.4.3.1 Practices that prevent failures during data collection[13]

The following sub-issues were prominent:

- Explicit alignment of data collection with all facets of the intelligence need
- Training in information seeking, information retrieval and data collection
- Use of multiple sources for data collection
- Information source and data evaluation – specifically triangulation of data
- Collaboration between key organisational stakeholders(e.g. senior managers and data analysts) in defining the data to collect
- Fragmentations of intelligence need
- Ethical data collection guidelines.

a) Explicit alignment of data collection with all facets of the intelligence need

To avoid collecting irrelevant data, every piece of data collected should present a fact or idea that correlates with the intelligence need.

- "One way to collect data efficiently is to make sure that any piece of data that is collected can be put into use and present a certain point, fact or idea. I really have no idea as to how does one assure quality of data once it has been collected, I know my industry and I know where to look for information and I have a lot of experience, sometimes it is a matter of experience that tell you if something is not correct or seems wrong, but if you are young in the industry and have limited experience, you

[13] A single sub-heading is given to let the sub-theme stand out

are more likely to accept whatever is published. But there is really no magic formula or template that I use to measure the quality of information*." (Alice)*

- "In order to safeguard against competitive intelligence failures when collecting data, it is vital that the competitive intelligence team share any information that they collect and be sure that the data that they collect will be aligned with the intelligence needs of the end user."***(Cynthia)***

b) Training in information seeking, information retrieval and data collection

Individuals who are responsible for data collection should have some training on seeking, information retrieval and data collection.

- "It is very essential that the competitive intelligence practitioners have the correct training, they might not have been trained as librarians or data analysts, but it is very essential that they undertook some courses on data collection. In conclusion, make sure that the competitive intelligence professionals in your team are practically rigorous and they are trained in data collection, always double check the collected data using the validity and reliability scale and make sure that they use a wide range of sources, primary, secondary and so on." ***(Brandon)***
- "The competitive intelligence professional should always pick people who they trust to collect data, these should be people with some degree of good information seeking practice. There should be a method in place to verify the collected data and determine its accuracy, reliability and the sources credibility." ***(Cynthia)***

c) Use of multiple sources for data collection

To increase the validity and reliability of facts presented by a certain piece of information, competitive intelligence professionals use multiple information sources.

- "Once the data has been collected, we do a source evaluation, but it is not a formal process, it is something we do with insight, since we know which sources are reliable, we know which methods of collecting data has worked in the past, we know which sources have provided us with accurate information. We also use triangulation, in other words if you have a piece of information from one source, you should confirm it to another source, and we strike a balance between secondary information and primary information". (***Clieve)***

d) Information source evaluation – triangulation of data

Competitive intelligence relies on the collection and gathering of factual and relevant data. To eliminate errors and inconsistencies in the collected data, a method should be used to check for data relevancy and accuracy; furthermore, triangulation of information sources can be used as a form of source evaluation.

- "You have to make sure that data can be validated, we use triangulation, by collecting data from three different sources, and if they all say the same thing then we have successfully validated our data. It is important to check how the team verifies the data, are they collecting data from credible sources, can they justify the sources, can the sources stand up or are they using sources from Google Scholar for example as opposed to grey literature. When we look at competitive intelligence, we notice that 90% of the data is from human beings, so it is important to know who these people are, how did they go about collecting the data. I always rely on the process they used to collect the data rather than what the data says. Intelligence is not the same as journalism, you are not trying to sell a story, but you are trying to verify a fact, you have to be honest and truthful and be able to verify a fact, so the moment it sounds too good to be true, you need to go quickly check it, because it is not always that you find the information you are looking for. I always ask the team that collected the data, what challenges they went through to obtain the data, and I want to hear those challenges because I want to understand what efforts they went through to obtain the data." ***(Steven)***
- "To ensure that data collected does not produce any errors, you should have multiple eyes on it. Humans have what we call the '*the self-satisfaction strategy*' in which they can manipulate data until it satisfies their needs. So to safeguard against such practices, it very important that the data is not validated by one person. When a group of people is collecting the same data, you are ensured to have pure data."***(Brandon)***
- "To avoid any competitive intelligence failures, we normally use credible sources, we know and have a list of sources and organisations that are fairly validated and reliable. We also cross check if there are any contradictions in the data we collect. For data collection we often consult primary resources rather than secondary resources." ***(Anna)***

- "I also duplicate data, I have two or three people to go look for the same piece of data without their knowledge, it is not a matter of trust, but it is a way of verifying the data." ***(Clint)***
- "At times we collect data from employees, but we only ask the ones that we know for a fact that they are very knowledgeable in the topic. We filter our sources before data collection, we do not just get our information from any Joe or Nomsa." ***(Clive)***
- "You need to be in a position to be able to distinguish what is false and what is factual. At first hand you may not be able to distinguish if the information is factual or false so we rely in the sources we acquire the information from and its more of a trust relationship. You need to apply yourself to the information that you receive especially if it's a human source, you have to ask yourself questions such as '*who is this human source,' and 'how well do I know this human information source' and 'based on our previous encounter, can I really trust this source.'* Information gathering is very much objective process because you only collect information from the sources that you rely on, and even if other sources have relevant information, it unlikely that they will be trusted." ***(Tyrone)***

e) Collaboration between key stakeholders involved in the organisation (e.g. senior managers and data analysts)

Competitive intelligence should be a collaborative effort between the competitive intelligence professional, the data analysts and senior management.

- "Competitive intelligence analysis is hardly done by the same people who collected the data, it is usually a collaboration between the competitive intelligence professionals and data analyst. I always think of competitive intelligence analysis as 'collective wisdom' were everyone brings in their perspective, opinion and analytical strengths together." ***(Brandon)***

f) Ethical data collection guidelines

Because of the delicate nature of competitive intelligence, data collection should be bound by rules and ethical guidelines.

"There should be guidelines of the approaches you would use to collect data and also know where you would draw the line. The problem with being unethical when

collecting information is that you may lose your credibility. The best way to overcome a situation where you cannot find the desired information is to go back to the senior manager and tell them that although you did all you can to answer the question, you couldn't find any information that will answer their question. Basically there is no way of guarding against failure when collecting information since it just depends on human behaviour and if someone decides to tell a blatant lie, there is nothing that can be done." ***(Joseph)***

g) Fragmentations of intelligence need

There is a purposeful fragmentation of the intelligence need which is used to prevent or to avoid errors during intelligence needs articulation.

- "When I task my team, I am very specific in what I tell each individual. I do not get my entire team together and give them the full picture, because they will already know what the answer is. I have been working in the field for a very long time, I already know what we are looking, but the younger competitive intelligence professionals do not have the expertise that I have, and they cannot see the full picture without actually collecting the data. I keep the bigger picture to myself and task the team in specifics, I give them very specific tasks and if they do not actually go out and look for that data, there is no way of getting the answer.*"**(Clint)***

4.4.4 Reporting and disseminating of intelligence

Question 4 of the interview schedule (Appendix B) asked the participants which failures may arise from the dissemination and reporting of intelligence. Following the interviews and discussions, it was learnt that the participants did not explicitly mention failures that may arise from reporting and dissemination of intelligence, but rather highlighted techniques and practices to follow when reporting and disseminating intelligence that may reduce the risk of failures. The focus was on methods and practices for effective intelligence reporting and dissemination; most participants mentioned methods and good practices of presenting and disseminating the intelligence findings. As with the previous questions, a brief overview and a limited number of responses are given to put responses in perspective.

From the interviews, the researcher gathered that it is very important for a competitive intelligence professional to have detailed understanding of the senior management preferences for the presentation and repackaging of information. One of the participants mentioned the use of a technique called personality profiling, which is a knowledge management tool used to evaluate the personal attributes, values and life skills of management. Eight participants emphasised that competitive intelligence professionals should have a clear understanding of the format in which senior management requires the intelligence products. It furthermore became clear that it is imperative that the competitive intelligence findings are aligned with the organisation's strategy and senior managers' intelligence needs. Two participants mentioned that it is important to align the intelligence products with the initial intelligence needs of senior management. In addition, two participants argued that competitive intelligence professionals should explain to senior management how the intelligence findings can be implemented in the organisation's strategy.

Most participants mentioned that intelligence should be disseminated in the most effective manner. One participant mentioned that the urgency and priority of the intelligence findings will determine the best method of dissemination. In addition, three participants emphasised the importance of sharing and disseminating the intelligence findings throughout the organisation.

Thus only one theme and some techniques and practices that enhance intelligence reporting and dissemination were identified.

4.4.4.1 Techniques and practices that enhance intelligence reporting and dissemination

Three sub-themes were identified, namely:

- Reporting according to senior management preferences
- Alignment of competitive intelligence findings with the organisations strategy and intelligence needs
- Dissemination of intelligence in the most effective manner.

a) Reporting according to senior management preferences

For competitive intelligence to make the greatest contribution to an organisation, the intelligence products should be reported efficiently to those with the ability and responsibility to act on the findings, in an appropriate format and at the right time. Tailor-made presentations and a profile knowledge of the target group for the presentation of competitive intelligence are thus very important. The perceived impact of the findings should be explicitly stated. The report also needs to be tailored to the needs of the target audience – "one size does not fit all" (Similar to what Williamson [2005] report on information provision to breast cancer patients).

- "At first you need to know who you are finding data for, you need to conduct a personality profiling. You should try to found out what the senior manager prefer and likes. If it is a group of people, you should find out who these people are and what they like, for example *'if I am presenting my findings to a group of mathematicians, and if I go there with a long PowerPoint presentation with many slides and a lot of theory, it will not make sense to these mathematicians because they want to see formulas, graphs and tables'* so in essence I have to tailor make my findings in a manner that these mathematicians will understand and will get them excited. So the simple thing to do, is to speak the language that your audience understands. The other important factor to consider when presenting the findings is to show the audience what those findings mean to them, how the findings are going to improve their lives or current situation. The competitive intelligence professional should therefore have an understanding of what exactly the senior managers want. So there is no correct way of doing this, it is all about keeping in touch with people whom you are presenting the findings to, and getting to know them. We can do this by profiling, getting people in focus groups, spending time with them and understanding what they like. You should also aim to present the findings in a manner that makes sense to your audience." ***(Steven)***
- "It all comes down to your audience, you should explore the different types of mediums, might be a computer application, might be a presentation or send the intelligence via email, it depends on how the senior management wants their intelligence to be delivered." ***(Jospeh)***

- "Reporting of intelligence is built around the fundamental understanding of your audience and what they want." ***(Brandon)***
- "I think that upfront you must know and clarify what format and what manner does the senior management want the feedback. This is usually done during the scoping of the project, so if the feedback is wanted in a presentation format, that will be the format you deliver it in." ***(Anna)***
- "Before conducting any competitive intelligence project it is important to know who you are creating the intelligence for, and the intelligence product should be tailor made for the intelligence user." ***(Cynthia)***
- "The first thing to do is to identify your audience and also know what the objective of the project is and make sure that however you put forward the information, I say information because at this point what you are presenting should be information and not just data. The information presented should meet the needs of the client and always keep the audience in mind; it enable you to package it in a manner that will meet the requirements of the requester." ***(Rebecca)***

b) Alignment of competitive intelligence findings with the organisation's strategy and intelligence needs

The intelligence findings should be easily incorporated in the decision-making process. Furthermore, the competitive intelligence professional should explicitly show the senior management how the findings are related to the intelligence needs.

- "You have to make the presentation interesting to the senior manager and present only facts. And clearly show how the intelligence findings will be aligned to the organisations strategy and how it will benefit the organisation." ***(Cynthia)***
- "The findings of the data analysis process should align with the initial information needs. This is the most challenging phase of the entire competitive intelligence process, and it varies from the size of the organisation." ***(Kate)***
- "When meeting with the intelligence user, the main thing to keep in mind is addressing what their problem is and how the competitive intelligence professional can solve it. Most competitive intelligence professionals make the mistake of giving senior management what they want, and not what they need. A good competitive

intelligence professional has to be able to distinguish between what the executive wants and needs." ***(Brandon)***

c) Dissemination of intelligence in the most effective manner

The intelligence findings should be disseminated and shared throughout the organisation. The urgency and priority of the findings will determine the most effective method of dissemination.

- "If the intelligence is not so sensitive in nature, the best method to disseminate intelligence is sharing it with the entire organisation. Once intelligence is disseminated throughout the organisation, someone will see its value. It is not only senior management who benefits from the intelligence, so it is very essential that the intelligence is broadly shared throughout the organisation." ***(Brandon)***
- "There is no standard way, it all depends with the situation at hand, for example *'if there is a sudden fire in our building, I cannot send out newsletters to tell people to evacuate the building',* which is the same phenomenon that applies to dissemination of intelligence. The time factor, urgency and priority of the information will help you decide which form of dissemination methods you will use." ***(Steven)***
- "Apart from the type of organisation, the size of the organisation and the organisational culture. There are standard ways of delivering and disseminating the intelligence which is a face to face method which usually works when you are in the same place and geographic dispersion is not an issue. The CI professional needs some level of confidence during the presentation of the findings because they might have to answer questions probed by the organization. Since you are presenting a new product to the intelligence user you have to explain to them how you reached such a conclusion, so you cannot just send the intelligence user a pack of slides without fully explaining how you reached your conclusion." ***(Michael)***

4.4.5 Evaluation and revision of intelligence findings when senior management is not satisfied

Question 5 (Appendix B) asked the participants what they did in cases where the senior management was not satisfied with the intelligence findings. Many participants did not elaborate on this question, stating they had not been in situations where the senior

management was not satisfied with the intelligence findings, since they worked closely with senior management throughout the process. Many participants' responses were on a pragmatic level, providing suggestions and specific actions.

As with the previous questions, a brief overview and a limited number of responses are given to put responses in perspective. Feedback from senior management differs from organisation to organisation. One participant mentioned that in order to avoid failure or any dissatisfaction from senior management, the competitive intelligence process should be a collaborative effort. Three participants mentioned that regular feedback should be provided to senior management to ensure that the intelligence project was still on track and the initial intelligence need was being answered. One participant mentioned that it was very important to draft a contract before the start of every competitive intelligence project; the contract should clearly state what the deliverables of the project should be and what senior management will consider to be a successful project. Two participants mentioned that the reporting phase should be treated as a dialogue and allow senior management to ask questions and point out any facts that they do not understand.

From the participants' responses one theme was identified: Development of best practices for dissemination and reporting of intelligence findings.

4.4.5.1 Improved communication and dissemination practices

Three sub-themes were identified:

- Practices for regular collaboration and communication with senior management
- Formal agreement between competitive intelligence professionals and senior management on the expectations of intelligence findings
- Development of a report dialogue between competitive intelligence professionals and senior management.

a) Practices for regular collaboration and communication with senior management

To ensure that senior management is satisfied with the intelligence findings, regular communication and collaboration between the competitive intelligence professional and senior management are important.

- "Yes it has happened that the senior manager is not satisfied. Lately we handle the conduct of our competitive intelligence in a collaborative manner, meaning that there is a lot of communication going back and forth. We use an automated system that send that client regular updates and offers the client to comment on what we have done so far, we keep records of such communication so that at the end of the day, the client cannot come to us and say '*you have failed us, you did not do what we asked you to do.*' Because we outline the key intelligence questions and topics at the outset of the project and we have very regular communication back and forth, followed by automating the update system, where the senior manager can give feedback or input, and ask questions to some of the findings that are included in the report and when the project is done, it means that the client has been the collaborator by default because they have been working very close with us.*"* ***(John)***
- "If the senior managers are not satisfied with the intelligence product, they are more likely to ask you to either verify certain information or explain in detail certain parts of the intelligence." ***(Eric)***

b) Formal agreement between competitive intelligence professional and senior management on the expectations for intelligence findings

The competitive intelligence process should be bound by a contractual agreement between the senior management and competitive intelligence professional on the expected outputs, findings or deliverables.

"To safeguard against senior managers being dissatisfied about the intelligence provided, it is very critical to draft a contract in which the senior manager can clearly state what they will consider a successful competitive intelligence product. The senior manager must clearly state their expectations of the project before it begins and if they are not satisfied with the end product then you can go back to the contract and match what you have with what they require or need*."* ***(Brandon).***

c) Development of a *report dialogue* between competitive intelligence professionals and senior management

When the competitive intelligence professionals present the findings, they should allow the senior managers to ask questions.

- "Usually when presenting the intelligence to the intelligence user, we create a dialogue in which the intelligence user can ask questions if they do not understand, in that manner they provide feedback. The feedback that we obtain usually." ***(Steven)***
- "It has happened to us before, it is something that happens to the best of us. So the key to competitive intelligence is all communication, you need an understanding of your stakeholders, before you present to the stakeholder we talk to individuals in the organisation, we verify our findings once again and we double check what we have. We also have a technique called '*dry runs*', were we present to stakeholders that do not use the intelligence just to hear from them if what we have really makes sense, and we also offer them the platform to comment on the intelligence products being presented to them, before we actually take the intelligence to senior management. In cases where we present intelligence to the stakeholder, and they are not pleased with what we have, we go back and work on the parts of the intelligence that they are not pleased with. You find at times that the senior manager is actually happy with the intelligence gathered but they are not happy with the way it has been structured. So it is very important before you actually present the findings to find out from the stakeholders what they like and prefer, whether they prefer summaries, graphics or pictures, so it is all about knowing your audience very well." ***(Clive)***
- "Once the data has been analysed and intelligence presented to top management, comes the part that determines if the senior manager is satisfied with the intelligence product or not. It is always important that the initial question is answered, the answer provided well understood." ***(Stephen)***

4.4.6 Keeping the intelligence user informed

Question 6 (Appendix B) asked the participants how they keep senior management informed throughout the competitive intelligence process. Although the participants did not explicitly mention any factors causing competitive intelligence failures that are related to communication and keeping the user informed, most of the participants mentioned briefing sessions and regular intervals of communication with senior management as two practices that help keep the intelligence user informed. The need for regular communication with senior management was emphasised. As with the previous questions, a brief overview and a limited number of verbatim quotes are given to put responses in perspective.

Most participants mentioned that there are two underlying practices to keeping senior management informed, namely having regular briefing sessions with senior management and regular communication. These were captured into a theme: Methods of keeping senior management informed.

Eight participants mentioned that briefing sessions help to keep the competitive intelligence function on track and still align it with intelligence needs. Furthermore, briefing sessions inform senior management about progress with the project. One participant mentioned that it is very important for competitive intelligence professionals to tell senior management what progress they have made with the project, what they have achieved, and if they are experiencing any setbacks. Most participants mentioned that for any competitive intelligence programme to be successful, there should be regular and thorough communication with senior management. They mentioned that the competitive intelligence professional should have meetings with senior management at regular intervals, on either a weekly or monthly basis, depending on the scope of the project. In addition, five participants mentioned that communication can take place using different mediums, including face-to-face meetings, reports or newsletters.

4.4.6.1 Methods of keeping senior management informed

Two issues stood out as sub-themes:

- Briefing sessions with senior management
- Scheduled intervals of communication with senior management.

a) Briefing sessions with senior management

It is important that the competitive intelligence professional schedules regular briefing sessions, which serve to keep senior management informed about progress with the project.

- “I can very much relate to this question, because I work in a place where we have long dated projects, a simple project can take 12 to 18 months to complete. What we normally do is meet up with senior manager on a weekly basis. During the meeting, we update the senior manager as to how far we have went with the project and what it is that we plan on doing for the following week. It is very important as a

competitive intelligence professional to be very honest with the senior manager, usually we tell the senior manager that we intended on achieving A, B and C but you could only manage to achieve A and B, hence for the following week, we plan to achieve C, D and E, and the methods we intend on using to make this achievable." ***(Tyrone)***

- "To ensure that you are still on track with the project, you should have interim briefing sessions in order to touch base on what you have done so far. The briefing session has two major benefits, it keeps the competitive intelligence professional on track and keeps the intelligence requester on track." ***(Rebecca)***

b) Scheduled intervals of communication with senior management

The key to a good competitive intelligence process includes clear communication and keeping senior management informed.

- "There is no such thing as over-communication. I always prefer to provide weekly reports. Weekly reports serve as a safeguard against executive's dissatisfaction as they prevent the project from drifting away from the intelligence needs. Communication is a critical element of competitive intelligence and that is a weakness in some people. Keeping senior management involved will make you achieve your goal more efficiently." ***(Brandon)***
- "I am going to break down the communication process into two areas. The first one we call it the continuous form of communication, which includes news briefs and it is done on a weekly basis or a monthly basis depending on the topic and newsletters that go out throughout the organisation, so it is a continuous form of communication. On the other side, if we have a request from the senior management, we first scope the project and then we arrange meetings with the senior management either on a weekly basis or monthly basis and maintain that flow of communication until the project ends. At the end of the project, we have a one to one meeting with the senior manager, were we present the final project. Which allows the senior manager to ask a couple of questions which can be addressed and communicated further." ***(Anna).***

- "In order to keep the senior manager involved we have regular communication schedules and we constantly make presentations in order to ensure we are still on track and answering the initial intelligence needs. We follow a proactive approach and always release weekly reports. We let the senior manager know as to when they can expect feedback." ***(Cynthia)***
- "To avoid competitive intelligence failures, it is essential to create a communication channel between the competitive intelligence professional and the senior management, I prefer to keep communication on a weekly interval." ***(Kate)***

4.4.7 Other processes that contribute to competitive intelligence failures

Question 7 (Appendix B) asked the participants their opinion on other factors that may contribute to competitive intelligence failures apart from those covered in the preceding questions. Most participants did not give in-depth answers to this question and some of the participants mentioned that they had already addressed everything in their answers. As with the previous questions, a brief overview and a limited number of verbatim quotes are given to put responses in perspective.

From the responses, it was gathered that the causes of competitive intelligence failure originate from either organisational factors or individual factors. Three participants mentioned that when the competitive intelligence function is not closely positioned to strategic decision-making, it is very difficult to influence the decision-making process.

Furthermore one participant mentioned that competitive intelligence professionals do not have a seat in the executive panel and they have to rely on informal channels of communication, which makes it difficult to influence the decision-making process. Three participants mentioned that most organisations are reactive instead of proactive. The participants argued that organisations should continuously monitor the environment and forecast future trends of competitors. Two participants mentioned that the main problem with competitive intelligence is the vast amount of available information, especially on the internet. The participants argue that information richness leads to information overload, since competitive intelligence professionals spend a lot of time collecting information and very little time interpreting and analysing the information.

Two key issues stood out, and are presented as themes:

- Organisational factors causing competitive intelligence failures
- Individual competencies causing competitive intelligence failures.

4.4.7.1 Processes related to organisational factors causing competitive intelligence failures

Competitive intelligence is placed lower down in the hierarchy of organisations, and is not placed near to the decision makers were it will have an impact on the decision-making process. Furthermore, most organisations are not proactive.

a) Inadequate positioning of the competitive intelligence process and function in the organisation

The placing and location of the competitive intelligence process and function in the organisation is critical. It is important that competitive intelligence should be placed in a way in which it will have an impact on the decision making process.

- "The strength of competitive intelligence lies in the team, if you have weak members in the team then it will jeopardise the credibility of the entire team." ***(Anna)***
- "Remember that as competitive intelligence professionals we are challenged with the fact that we do not have a seat in the executive panel and we have to use informal means of communication." ***(Aaron)***
- "The biggest failures of organisations is being reactive, in other words they don't approach the market in more proactive manner. Suppose there is a new company that is about to enter the market, the best thing to do would be to find out what the company is about and what they will be offering, way before the company actually launches their business. Failure with intelligence is not actually caused by the competitive intelligence professionals, but actually caused by the late implementation of the intelligence finding." ***(Clive)***

4.4.7.2 Processes related to Individual competencies causing competitive intelligence failures

Since issues started to be repeated e.g. poor analytical and research skills, training in information retrieval and data collection, only conspicuous ones are highlighted here:

- Inability to handle information richness
- Inadequate articulation of intelligence needs.

a) Inability to handle information richness

Because of the vast amount of available information and limited time allocated to data analysis, information overload becomes a factor contributing to competitive intelligence failure.

- "Information overload should be considered. With the growing amount of data and information on the web, as well as the advancement in big data, there is so much information and data available, competitive intelligence professionals should remain extremely focused to avoid information overload." ***(Stephen)***

b) Inadequate articulation of intelligence needs

Competitive intelligence professionals do not take time to understand the organisation and therefore cannot correctly articulate senior management's intelligence needs.

- "Competitive intelligence is not a '*simple probe question and receive answer process'.* When studying competitive intelligence it is important to always consider the human factor. The accuracy in which the information needs are articulated will determine the success or failure of the entire competitive intelligence effort." ***(Kate)***
- "The other failure is caused by competitive intelligence professionals who do not take the time to understand the needs of their stakeholders and lastly there is not enough resources behind the competitive intelligence, hence companies usually opt for junior competitive intelligence professionals rather than people who are experienced."***(Clive)***

4.4.8 Information related factors responsible for competitive intelligence failure

Question 8 (Appendix B) asked the participants their opinion of the information activities that cause competitive intelligence failure. Most of the participants mentioned that they did not have a strong theoretical background in information behaviour, therefore they did not provide in-depth responses. Such a background was not required, and when setting the question it was actually assumed that they would not be experts in information behaviour, but that insight could be gained from how they expressed their views on information activities.

Most of the issues addressed were already mentioned in the above question, but two issues were stressed:

- Disclosing and locating access to information
- Inadequate articulation of senior management's intelligence needs.

a) Lack of access to information

Access to information is a huge enabling factor for competitive intelligence. Constraints and limitations in access to information can have a negative effect on the competitive intelligence process and function. Often it is difficult or even impossible to access subscription sources, or identify alternatives. Inability to consider primary information as well as a wide array of information resources is also evident. Identification and location of access to information relates to information seeking. Although information seeking can be reactive in some circumstances or as the need arises, one participant believes that it is also important to be proactive. Although not stated as such, this can be interpreted from an information behaviour point of view as a need for information monitoring and the use of current awareness and alerting services.

- "I am going to talk about the current situation that is happening in the corporate world, we really struggling to motivate our budget. So as competitive intelligence professional it is very important to subscribe to the correct databases. Due to the cut in budget, we do not have access to the correct information sources anymore, we do not have access to full articles, and they are only available on request. So I would say the large problem is the limitation of our budget which causes limitation of good information sources."***(Anna)***
- "Access to information is a serious issue, people do not know how to get information. Most people who seniors in the organisations, have no clue on how to look for information, information retrieval is not a skill that everyone has, it's more of a taught skill."***(Aaron)***
- "One of the big challenges is access to information, you have to make sure you have access to the right information such as subscription databases. The other aspect to pay attention to is primary research*, 'some information workers have the mentality of if I don't find it in Google then it does not exist',* which goes back to primary skills of a competitive intelligence professional which is very essential to identify the intelligence

needs. There are certain cases in which new information and new processes are coming into place and some competitive intelligence professionals become more reactive than proactive." ***(Michael)***

- "The problem we are now faced with, especially with this generation, is that they do not want to use all the avenues that are available to them to locate information, they want to use only technology and if it is not electronic, then they are not going to find it." ***(Steven)***

b) Inadequate Articulation of senior management's intelligence needs

Because of the lack of adequate procedures to assist in articulation of intelligence needs, competitive intelligence professionals often fail to identify issues that are critically important to the organisation. Identification and articulation of information needs are key to information behaviour and triggering other activities such as information seeking, information searching and information retrieval.

- "The single information activity that causes competitive intelligence failures is the inability to properly articulate the senior management intelligence needs. Once the intelligence needs are not correct, what follows from there will also be incorrect. The human element also plays a huge role in competitive intelligence failures, since *information has no behaviour,* but people who work with information have behaviours, we can safely say *all elements and activities in human information behaviour play a role in competitive intelligence failures."* ***(Kate)***
- "Basically any phase in the competitive intelligence cycle can cause failures, but the activities mostly causing failures is the identification of intelligence needs and asking the intelligence users the right questions, it is essential to study the organisation before starting any project as to know which questions to ask." ***(Cynthia)***
- The other problem is that people have difficulty in telling you what their true information needs are due to the issue of trust; most people still have that thing *of 'if I tell you what, then you will steal my idea',* therefore the sharing of information is still not a common practice*."* ***(Steven)***

4.4.9 Information activities that reduce competitive intelligence failures

Question 9 (Appendix B) asked the participants their opinion of the information activities that reduce competitive intelligence failure. Similar to Question 8, the participants did not provide in-depth responses. As with the previous questions, a brief overview and a limited number of verbatim quotes are given to put responses in perspective.

Two participants mentioned that adequate sharing of information throughout the organisation results in adequate production and use of competitive intelligence. Furthermore, most organisational cultures do not support or incentivise information sharing throughout the organisation. Two participants mentioned that it is very important to start with the arguably more difficult but critical activity, which is the articulation of senior management's intelligence needs. Another two participants mentioned that competitive intelligence should explore different data analytical tools. Four participants mentioned that lack of access to information contributes to competitive intelligence failures. In addition, one participant mentioned that lack of access to information is caused by organisational factors and lack of sufficient financial resources for the competitive intelligence process and function. Another participant mentioned that at times information is widely available, but individuals lack the ability and skills to access it.

The overall findings show that most participants highlighted both factors that cause competitive intelligence failures and practices that can reduce the risks of competitive intelligence failures. Most participants stated that senior management still lacked understanding of competitive intelligence and how it can benefit the organisation, hence at times no support was received from senior management. Furthermore, it was reported that senior management rarely incorporated the intelligence products in the organisation's decision-making process.

Potential competitive intelligence professionals must develop certain skills in order to conduct competitive intelligence efficiently. Most participants highlighted competitive intelligence professionals' lack of skills, especially data collection, information seeking, data analysis and primary research skills, as the leading factors that contribute to competitive intelligence failures. Most participants mentioned competitive intelligence professionals' lack of understanding of the organisation as one of the factors contributing to competitive

intelligence failures; this exacerbates the incorrect articulation of intelligence needs. Only one theme with five sub-themes was identified.

4.4.9.1 Activities that help reduce the risk of competitive intelligence failures

- Identification and articulation of intelligence needs - developing supportive protocols and tools
- Contextualising the collection of competitive intelligence data and information within the organisational goals and mission
- Embedding competitive intelligence in information use - specifically senior management decision-making
- Information sharing across the organisation
- Development and use of best practices for data analysis.

a) Identification and articulation of intelligence needs - developing supportive protocols and tools

Defining the organisation's actual intelligence needs should be done in a systematic manner through the development of certain tools and procedures.

- "It is very important to identify the correct intelligence needs, if you don't have the correct questions to ask senior management than there will be no products to produce." ***(Michael)***
- "The basis for the failure is to ask the wrong questions, when articulating the intelligence needs of senior management." ***(Cynthia)***

b) Contextualising the collection of competitive intelligence data and information within the organisational goals and mission

Contextualising the collection of competitive intelligence data should be aligned and aimed towards the organisations' goals and mission.

- "Senior management spend so much money on competitive information or competitive intelligence projects, so I have to produce intelligence in such a way that they can understand the bigger picture and they can understand where they are going and why they implemented competitive intelligence in the first place and the strategic effect to the organisation."***(Cynthia)***

c) Embedding competitive intelligence in information use - specifically senior management decision-making

The competitive intelligence process and function aim at improving and enhancing the organisation's decision making process, therefore it is imperative that the intelligence findings can be incorporated in the strategic and decision making process.

- "The main purpose of competitive intelligence is to make decision makers smarter', so it is all about how to make the decision makers, make better decisions. It is really a matter of matching senior management's needs with the intelligence products. At the final stage you should ask senior management what their initial intelligence needs were, you should clearly show them that you have a solution for each one of their need". ***(Brandon)***

"Competitive intelligence should also be close to strategy and decision making. If it is placed further down in the hierarchy it simply shows that competitive intelligence is not valued that much and it is seen as an inferior source of information." ***(Anna)***

d) Information sharing across the organisation

Information sharing throughout the organisation is important, since individuals within the organisation can also contribute and increase the value of the competitive intelligence process and function.

- "Competitive intelligence failures can be prevented by sharing information and creating a central place in which everyone involved in the project can accesses information. People should be able to access the intelligence findings; although intelligence findings are mostly used by decision makers, it is still important that employees in various departments can still have access to that information. The packaging of the intelligence should be tailored-made to the organisation and the intelligence users." ***(Cynthia)***

e) Development and use of best practices for data analysis

During data analysis, the raw collected information is turned into intelligence. Effective competitive intelligence relies on the use of various analytical tools and practices to produce findings that are usable in strategic decision-making.

- "Competitive intelligence has many rigorous processes in place, basically each of the steps in the process are very important. To ensure that a project succeeds, you should make sure that there are no short cuts that are taken, when analysing it and think

holistically about your audience, and do monitor control on a daily and weekly interval." ***(Brandon)***

- "When we talk about competitive intelligence, *"human intelligence analysis is the king of the castle".* Competitive intelligence should be moved out of the realm of practicality into the realm of thinking. To prevent competitive intelligence failures we should focus on the human cognitive than any other phase."***(Michael)***

The rich and thick descriptions collected from the 15 participants offered the opportunity to identify information activities, and intervening variables or barriers that related to information behaviour, and that impacts on competitive intelligence failures. There are certainly more that can be learned from the data. Table 4.4 with the themes and sub – themes, is however considered sufficient for this exploratory study.

4.5 CONCLUSION

This chapter presented the findings of the study. The findings were based on data collected from the participants profile questionnaire and the individual interviews. The following chapter will present a triangulation of the main findings that have been identified through analysis, and correlate them with findings from the literature. The following chapter will also present the populated frameworks that guided the study, and the information behaviour model that can be used for further studies to investigate and improve on the causes of competitive intelligence.

CHAPTER 5: TRIANGULATION AND DISCUSSION OF THE FINDINGS

5.1 INTRODUCTION

The previous chapter presented the empirical findings, which included findings from the descriptive questionnaire participant profile and qualitative findings from the interview schedule. This chapter will therefore present a discussion of the main findings that were outlined in Chapter four, and where applicable correlate and triangulate the findings.

5.2 DISCUSSION OF THE MAIN FINDINGS

5.2.1 Outstanding findings from the participant profile and relation to the subject literature

The descriptive findings from the profile questionnaire are fully covered in Chapter four and do not need much further discussion. Three issues that can be highlighted are participants' highest education qualifications, description of professional position and type of organisation. As reported in the subject literature (Odendaal, 2006; Strauss & Du Toit, 2010), many do not use the title of competitive intelligence professional. They come from diverse backgrounds in terms of the subjects in which they majored, ranging from the humanities, social sciences to economic management sciences. The very nature of competitive intelligence requires specialised knowledge and skills in information seeking and retrieval (Carr, 2003), as well as understanding of the triggers and barriers in information behaviour and the processes, cognitive, socio-cognitive and affective dimensions of information seeking (Elis, 1989; Wilson, 2000; Kuhlthau, 2007; Case & Given, 2016). Even though training in information retrieval and seeking was reported, participants did not seem to relate this very well with competitive intelligence failure. Poor skills in information seeking and retrieval were often noted. The participants who identified themselves as competitive intelligence educators and trainers were more aware of the underlying competitive intelligence theory and gave extensive and in-depth responses. The following section presents a discussion of the main findings.

5.2.2 Main findings from the qualitative interviews and relation to the subject literature

Appendix B shows the phrases used in the interview schedule to collect participants input. In order to address findings that followed from collecting participant views according to these phrases, the sub-headings below (5.2.2.1 to 5.2.2.9) are formulated as questions relating to the interview schedule phrases. A question format seemed more appropriate to reveal findings in terms of an information behaviour lens. Where relevant the main findings are compared with findings from the subject literature and findings noted in the descriptive profile data.

5.2.2.1 What problems arise from specific role players' lack of conceptual understanding of competitive intelligence?

Many problems were ascribed to lack of understanding of competitive intelligence. These ranged from cognitive problems in differentiating between competitive intelligence and similar/related functions of importance to organisations such as business intelligence and the use of ICT, and the ability to contextualise competitive intelligence in terms of value for the organisation and reaching organisational goals. Senior management perceive competitive intelligence as a cost-centre and not as contributing to profit. This lack of understanding was noted at senior management, the overall organisational level and individual operational level.

Likewise, Wright, Pickton and Callow (2002) and Nasri (2010) found that competitive intelligence is not well recognised in most organisations. Very few organisations knew that competitive intelligence is a process that consists of phases; needs identification, data gathering, data analysis, and reporting and dissemination of intelligence. From the study it was learnt that competitive intelligence is a non-linear but ongoing process that consists of complex phases, which should each be carried out with systematic care to avoid failure.

Problems with conceptualisation and gaining experience with the process and functions of competitive intelligence can be further complicated by ad hoc performance of competitive intelligence, especially when lack of experience and skills is noted from the start. Comprehension of a process goes hand in hand with skill sets and experience. Competitive intelligence is marked by the complexity of skills required and the fact that these skills need to be applied at an advanced level. Participants mentioned skills such as data and

information gathering skills, communication skills, analytical and presentation skills. In addition Muller (2000) and Strauss and Du Toit (2010) identified the skills and characteristics needed by competitive intelligence professionals:

- Traits-communication skills, creativity, business terminology and business understanding
- Teachable skills - market research, knowledge of the business environment, primary research skills, analytical abilities and presentation skills
- Professional experience - knowledge of the decision-making process, knowledge organisational power structures and industry knowledge.

Whereas Muller (2000) and Strauss and Du Toit (2010) identifies skills needed by competitive intelligence professionals, Adidam, Gajre and Kejriwal (2009) and Tsitoura and Stephen (2012) elaborate on the skills competitive intelligence professionals often do not have as well as their shortcomings:

- Competitive intelligence professionals lack the ability to produce intelligence.
- Competitive intelligence professionals communicate findings too late.
- They fail to use the appropriate methodologies and facts to produce intelligence.
- They alter and fabricate information to avoid being the bearer of bad news.
- They create competitive intelligence products that are too lengthy and complicated.
- Their knowledge of the organisation is poor.
- Their ability to manage cultural diversity is poor.

Some of the above mentioned skills noted by Muller (2000) and Strauss and Du Toit (2010), and the lack of skills identified by Tsitoura and Stephen (2012) are in line with the findings from the study. The study found that competitive intelligence professionals should possess certain skills which includes but not limited to research skills, knowledge about the organisation and its surrounding business environment, and presentation skills. Furthermore the study learnt that competitive intelligence professionals lack the skill to use various data analysis tools, thereby limiting the intelligence outcomes and findings.

From the findings of the current study as well as the literature, it is evident that competitive intelligence professionals must master a very specific set of skills to avoid competitive intelligence failure. They must also be sensitive to specific poor practices and the absence of

skills that cause competitive intelligence failure. A solid comprehension of competitive intelligence is a first step in initiating the competitive intelligence cycle and collection of intelligence, as well as in recognising the skills and characteristics required to complete this successfully. As will be shown in Figure 5.1 (populated model) and figure 5.3 (proposed model), an information behaviour lens can raise awareness for the conceptual clarity on the information need which can partially relate to the characteristics of the information needs. It points to the context of the information need (Wilson 2nd model in Wilson, 1999:251), the person in context (i.e. the competitive intelligence professional and senior management communicating the need), and intervening variables such as lack of experience, lack of relevant skills, etc.

5.2.2.2 What problems are experienced during the identification and expression of competitive intelligence needs?

The identification and articulation of the information needs is a major problem. The study found that the problems that occur during the articulation of intelligence needs are caused by factors including inadequate understanding of the organisation's strategy, individuals forming their own notion of what is required during intelligence interviews with senior management, and what were labelled as human errors that may occur during intelligence interviews, e.g. misinterpreting the senior managers' intelligence needs during intelligence interviews. Furthermore, the study found that there are practices that can help prevent failures when articulating intelligence needs; these include regular communication and project clarification with senior management and conducting rigorous intelligence interviews and needs analysis. These are all very important, but when considering the literature on information behaviour, more rigour can be added to how competitive intelligence professionals can address the problem of poor identification and articulation of intelligence needs. The work of Taylor (1968) on question negotiation during reference interviews and more recent input by Coonin and Levine (2013) and Shenton's (2007) work on the Johari window can address problems with the identification and expression of intelligence needs.

The literature consulted did not point out any causes of competitive intelligence failure during the intelligence needs articulation. From the work roles and tasks (figures 5.1, 5.3) it

is clear that the components of context must be added including organisation as context as well as person in context. Problems to the articulation of needs point out to cognitive problems that might be addressed by models bringing in more from a cognitive perspective e.g Ingwersen and Järvelin (2004), as well as Dervin's (1999) work on sense – making.

5.2.2.3 What difficulties are experienced by competitive intelligence professionals during data collection from both the internal and external environment?

Although the questions were about the difficulties experienced during data collection, in participants' answers difficulties were only implied by the solutions offered. The study found that there are methods of overcoming difficulties and reducing errors during data collection, which include aligning data collection with intelligence needs, confirming the reliability and credibility of information sources through triangulation and source evaluation, establishing collaboration among the team of people collecting data, and making the data collection process a collaborative effort between the competitive intelligence professional and senior management. This points to issues of information seeking and collaborative information seeking which is well captured in the information seeking behaviour literature (Case & Given 2016). More attention should be paid to information processing and use in Wilson's revised model as published in Wilson & Walsh 1996 (Ford, 2015:129). Furthermore, the study found that individuals who are responsible for collecting data should have training in information seeking and retrieval.

If interpreted as difficulties these would be: difficulties with data collection, poor alignment of data collection with intelligence needs, poor assessment of information sources, poor triangulation of data, poor collaboration amongst data collector team as well as poor collaboration with others such as senior management, and finally also poor information seeking and retrieval skills. Thus poor skills in all facets of information seeking and information use.

In addition, Jin and Bouthillier (2008) identify reasons for the low usage of organisational libraries and organisational information services by competitive intelligence professionals: competitive intelligence professionals are not aware that information agencies exist in their organisations, there are no competitive intelligence-related information, competitive intelligence professionals do not believe that information agencies can help them, and

competitive intelligence professionals do not trust information and products offered by information agencies. Similarly, Dishman and Calof (2008) and Tsitoura and Stephen (2012) identify problems competitive intelligence professionals experience with organisational information infrastructure, including inaccurate data, incomplete data, biased information, outdated information and information overload.

Similar to the studies by Jin and Bouthillier (2008), Dishman and Calof (2008) and Tsitoura and Stephen (2012), the current study found that competitive intelligence professionals do not explore and use all the information avenues that are available to them. From the literature review it was found that the problems associated with data collection include poor alignment of data collection with intelligence needs, lack of confirmation of the reliability and credibility of information sources and inadequate verification of data and information resources. These problems are in line with studies by Jaworski, Macinnis and Kohli (2002), De Pelsmacker et al (2006) and Garcia-Alsina, Ortoll and Cobars-Morales (2013).

5.2.2.4 How do competitive intelligence professionals keep the intelligence user informed throughout the competitive intelligence process?

Participants did not explicitly report on problems associated with keeping senior management informed, but the problems can be deduced from the solutions they mentioned. It was found that there are two methods of communication that competitive intelligence professionals use to keep senior management informed, namely briefing sessions and regular meetings with all the individuals who have the responsibility and capacity to act on the intelligence findings. Furthermore, it was found that communication between senior management and competitive intelligence professionals takes place at regular intervals, namely weekly or monthly.

Similarly, the literature points out that the key to a good competitive intelligence process is regular and constant communication with senior management (Miller, 2000; Muller, 2002; Heppes, 2006). During the planning phase of the competitive intelligence process, communication standards with senior management are outlined. The study found that constant communication with senior management ensures that the competitive intelligence process remains in line with the initial intelligence needs. Although communication does not

feature in all information behaviour models, the importance of communication for success in information retrieval and use has been noted by various information behaviour researchers (Case & Given, 2016). The work of Dervin addressing information behaviour as well as communication might also be useful in future (Dervin & Chappee, 2003).

5.2.2.5 What are the best practices used to report and disseminate intelligence?

The study found that criteria are essential for effective reporting and dissemination of intelligence. These include reporting the intelligence findings efficiently to those with the ability and responsibility to act on them, aligning the intelligence findings with the intelligence needs and reporting the intelligence products in a timely manner. In addition, for effective reporting of intelligence the competitive intelligence professional should have appropriate communication skills and the ability to present only facts to senior management – implying selection of appropriate information and tailored presentation. Furthermore, the study found that the method used to disseminate the intelligence findings should be based on the priority and importance of the findings.

The literature also confirmed the need to present intelligence to those who are in a position to act on the intelligence (Odendaal, 2006). In the feedback stage the competitive intelligence professional must be able to answer the intelligence questions that were asked during the initial discussion of intelligence needs (Du Toit, 2010; Tsitoura & Stephen, 2012). The literature noted various methods of reporting and disseminating intelligence. It was learnt that intelligence delivery can either be done by writing formal reports or through a presentation, and intelligence can be disseminated through various methods, including alerts, emails, computer applications and news briefs. There thus seem to be a strong need for appropriate repackaging of information. From the literature on information behaviour the need to receive information (packaged) in a preferred form is often noted. Although the concept of the repackaging of information and value-added services feature mostly in older research reports, it seems to stress the point to consider appropriate repackaging of information and value-added service as discussed by Rosenfeld (1994) and Taylor (1992).

5.2.2.6 How is the competitive intelligence process evaluated by senior management?

The study found that in order to avoid unsatisfactory feedback from senior management, competitive intelligence professionals should handle the process in a collaborative manner between the competitive intelligence professional, the senior management and the data analyst, and there should be constant communication. It was also found that in a case were the senior management is not satisfied with the intelligence products, the competitive intelligence professional can either re-evaluate the intelligence findings or the senior management can submit a new request to the competitive intelligence unit, thus requesting a reiteration of the collection of intelligence and information seeking. In addition, the study found that the competitive intelligence process should be bound by a contractual agreement between senior management and the competitive intelligence professional, clearly stating the expected deliverables. The need to record intelligence needs and to articulate them was stressed.

The literature confirmed the value of the feedback phase to provide opportunities for revision of the intelligence findings, as well as the evaluation of the competitive intelligence findings by senior management (Dishman & Calof, 2008). The feedback phase can also provide an opportunity for the measurement of the impact of the findings on senior management (Nasri, 2011), and their satisfaction with the outcome of the competitive intelligence process (Strauss & Du Toit, 2010). Wilson (2000) mentions that during efforts to satisfy information needs, one makes demands on information sources that may result in success or failure to find relevant information. Similarly, Leckie, Pettigrew and Sylvain (1996) mention that the outcome of the information seeking process may or may not satisfy the information need. Many information behaviour studies arise from the need to investigate the reason for failure; even reasons for success are important (Case & Given, 2016).

5.2.2.7 Which other processes and factors contribute to competitive intelligence failures?

From the study it is learnt that competitive intelligence failure arises from organisational factors (i.e. context) and competencies of the individuals (i.e. individuals in context) involved in the competitive intelligence process and function. The study found that the placing and location of the competitive intelligence function in the organisational structure has a huge impact on its efficiency. The literature in turn indicated that competitive

intelligence is usually treated as an isolated function and that appropriate procedures, policies and infrastructure are not used so that the entire organisation can contribute to the process as well as gain from it (Pirttilä, 1998; Nasri, 2010; Garcia-Alsina, Ortoll & Cobars-Morales, 2013). From the literature it was also learnt that competitive intelligence lacks departmental status. It is usually located in the finance, sales or marketing department, where it has limited influence on the strategic and decision-making process (Pirttilä, 1998; De Pelsmacker et al, 2006; Du Toit, 2010; Yap, Rashid & Sapuan, 2011; Tsitoura & Stephens 2012). In addition, the study found that competitive intelligence is placed lower down in the hierarchy of the organisation and senior managers do not perceive it as a trustworthy source of information. This relates to the component of information processing and use (figure 5.3). Information processing and use in Wilson's revised general model published in 1996 (Wilson & Walsh cited by Ford, 2015:129)

Finkelstein (2003) and Tsitoura and Stephen (2012) point out that senior management hardly base their strategic and decision-making process on competitive intelligence findings, but rather use competitive intelligence findings to support decisions that have already been implemented. Furthermore, senior management either apply intelligence findings too late, misunderstand the findings or do not trust the intelligence findings enough to use them in the strategic and decision-making process (Guinmaraes, 2000; Odendaal, 2006; Heppes & Du Toit, 2009).

5.2.2.8 Which other information-related factors and activities cause competitive intelligence failures?

In addition to the incorrect articulation of senior management intelligence needs (already confirmed in section 5.2.2.2), lack of access to information and information overload caused by the richness of information with which competitive intelligence professionals need to deal were noted for their impact on competitive intelligence failure.

The previously mentioned findings are in line with studies by Tao and Prescott (2000) and Garcia-Alsina, Ortoll and Cobars-Morales (2013) who report that there are inhibitors to effective information seeking that include low analysis practice, low diversification of information sources, lack of searching practices, low use of information collection, irregular frequency of searching and lack of information awareness. From the literature (Garcia-

Alsina, Ortoll & Cobars-Morales, 2013) it was found that there are information factors that affect competitive intelligence practices through information consciousness. Competitive intelligence practitioner's unequal weighting assigned to information activities has an impact on the efficiency of competitive intelligence practices. Lower weighting is given to information analysis as opposed to information collection, i.e. exposure to information. The low diversification of information sources leads to less information-rich contexts, affecting the climate of information.

In addition, the study found that awareness to information seeking, and information seeking intervening variables influence the demands on information systems, which is not just at the end but also at the time of data collection. The study also found that competitive intelligence professionals have a preference for using mostly internal information sources, which include human information sources. Viviers et al (2002), Pirttilä (2007) and Sewlal (2004) also indicated that most information was obtained from colleagues and employees, and very little use was made of external information sources. Nasri (2010) revealed the two most important reasons competitive intelligence professionals prefer internal sources: ease of access and the ability to produce further raw material through processing of internal sources. Preference for information resources and the reason for preferences has been well researched in information behaviour in a variety of context ad with different groups of people (Fisher & Julien, 2009; Case & Given, 2016).

The above-mentioned information factors are in line with the findings of Tsitoura and Stephen (2012). Some participants reported that competitive intelligence professionals spend more time looking for information and less time on data analysis, while others reported that not all information avenues are always used to seek information.

5.2.2.9 What are some of the information activities that may prevent competitive intelligence failures?

The study noted information activities and information-related activities that can prevent competitive intelligence failures. These include the sharing of information across the organisation, the development and use of best practices for data analysis and identification and articulation of intelligence needs. Developing supportive protocols and tools contextualising the collection of competitive intelligence satisfying the organisational goals

and mission can reduce the risk of competitive intelligence failure, as can good information and data collection skills and capabilities.

It is evident from both the literature review and the empirical research that there are many factors that contribute to competitive intelligence failures and that there are practices and methods that can be used to reduce the risk of competitive intelligence failure. Much of these are related to information behaviour and the components and processes reflected in information behaviour models that can benefit from further investigation. The outcomes of the literature survey and empirical research were used to develop a practical model that can be used to explain and to identify issues that can be researched to find solutions to the failures of competitive intelligence from an information behaviour perspective. The following section will therefore present the model.

5.3 RE-ASSESSMENT OF THE FRAMEWORK THAT GUIDED THE STUDY

As previously noted in Chapter 2 (section 2.4.1 and 2.4.2) the study made use of the Wilson 1981 as adapted in Wilson (1999) and Leckie, Pettigrew and Sylvain 1996 model (figure 2.2) to be a framework, and the combined Bose (2008) and Botha and Boon (2008) competitive intelligence cycle to investigate the failures of competitive intelligence from an information behaviour perspective. Based on the empirical findings of this exploratory study, figures 5.1 and 5.2 presents the population of the frameworks for this study (i.e. the frameworks initially presented as figure 2.1 and 2.2). A suggested eclectic model of information behaviour that can be used to improve on studies of competitive intelligence and information behaviour to avoid failures, is provided in figure 5.3. Apart from the model/frameworks guiding the study, components from other information behaviour models are also included (Ford, 2015; Case & Given, 2016)

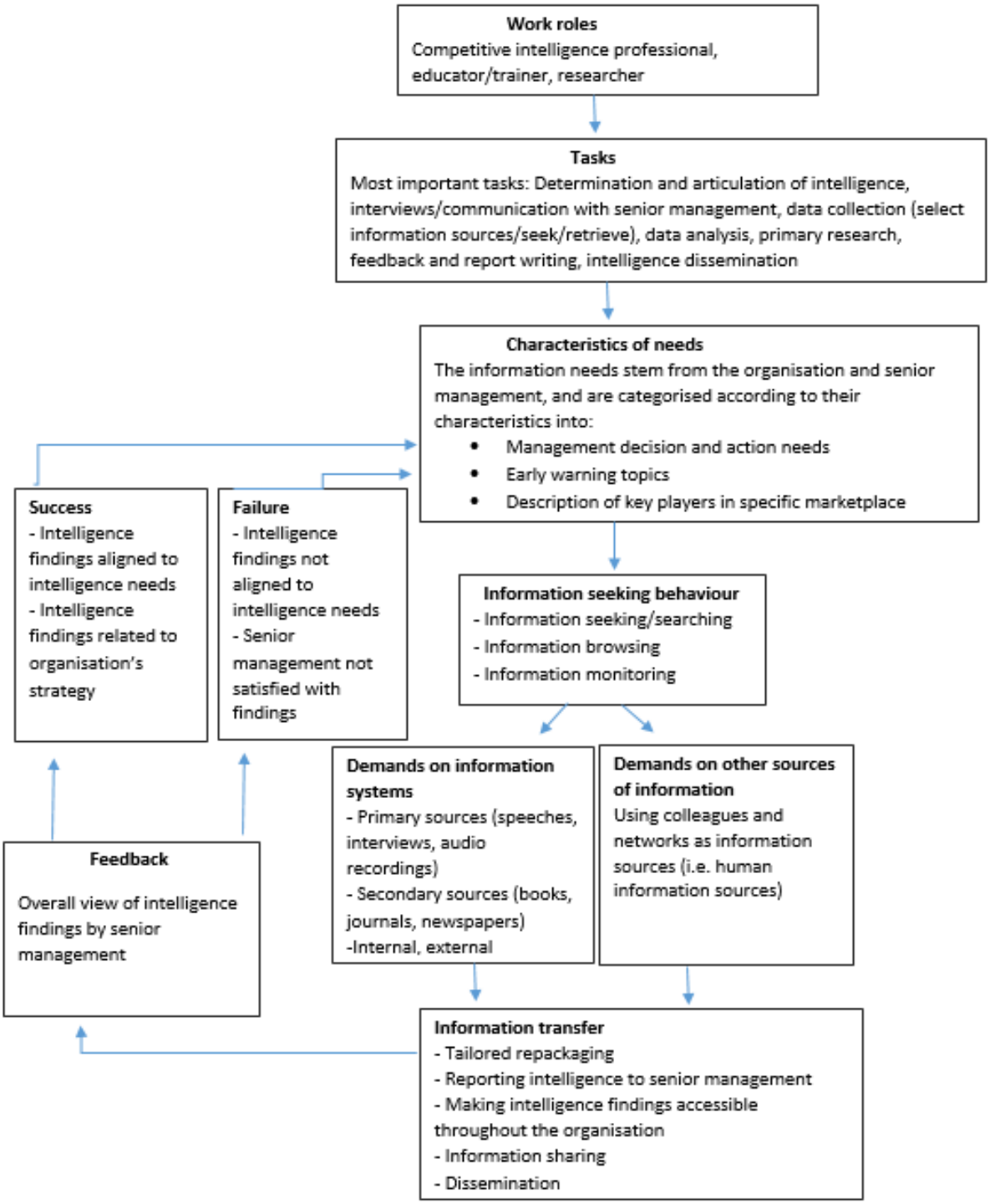

Figure 5.1: Population of the Wilson (1981) and Leckie, Pettigrew and Sylvain (1996) adapted information behaviour model that guided the study

Figure 5.1 presents the population of the Wilson (1981) and the Leckie, Pettigrew and Sylvain (1996) adapted information behaviour model guiding the study (i.e. the model presented in figure 2.1).

From the findings of the study it is clear that the other information behaviour models noted in Chapter 2 (section 2.4) and presented in Appendix E, can also contribute to studies of information behaviour to explore various contexts, such as the Choo (2001) framework for environmental scanning which can be used to explore influential factors that have an impact on information activities and environmental scanning. The Kuhlthau (1991) model can deepen insight on thoughts and emotional experiences that can feature in the competitive intelligence cycle, and the model by Byström and Järvelin (1995) can deepen insight from a focus on task complexity.

The potential value of these models for further studies does, however, not replace the value and appropriateness of the combined Wilson (1981) and Leckie, Pettigrew and Sylvain model as shown in Figure 5.1.

Next it is shown how the study findings are used to populate the competitive intelligence cycle adopted for the study – figure 5.2.

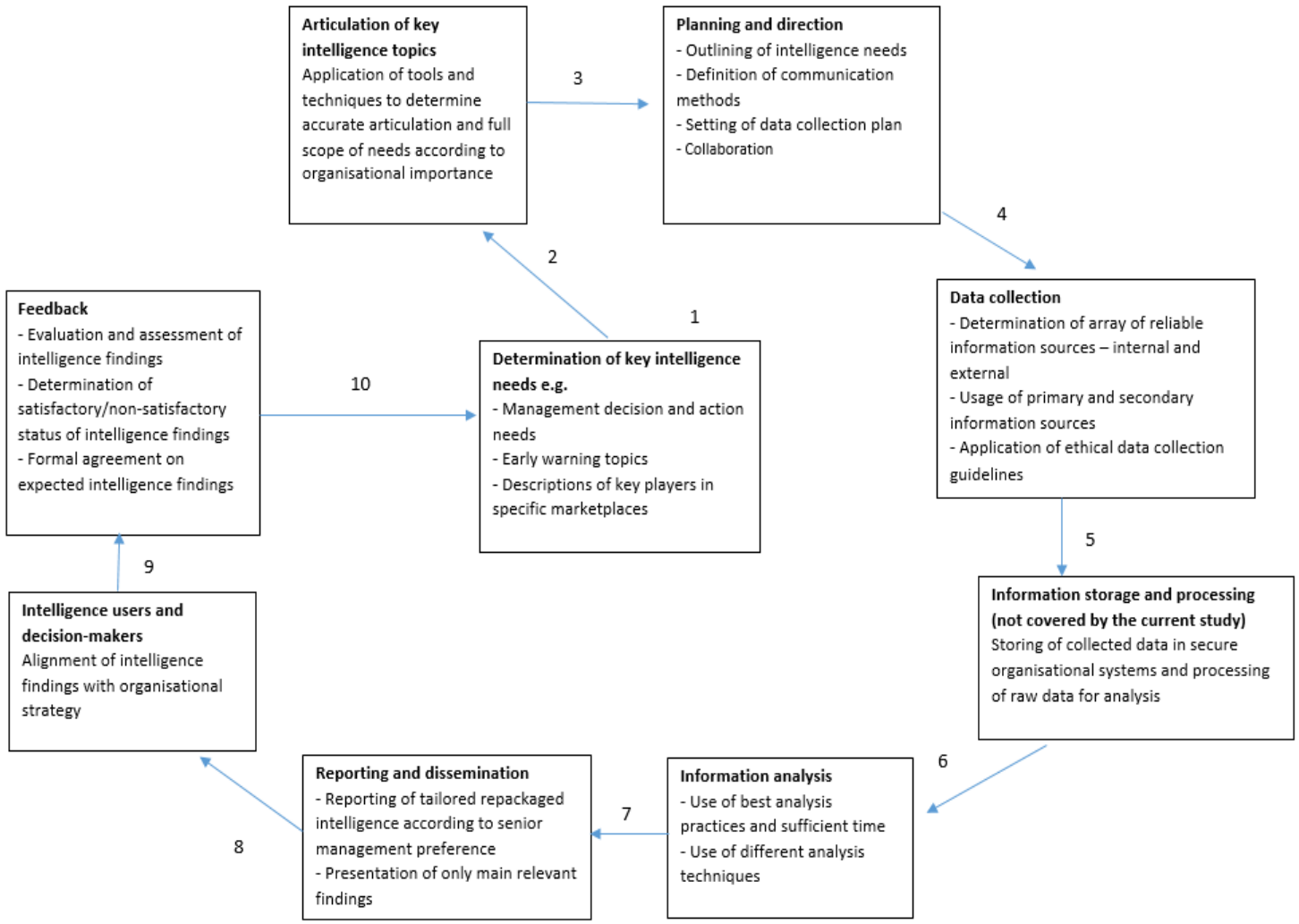

Figure 5.2 Populated Botha and Boon (2008) and Bose (2008) adapted competitive intelligence cycle that guided the study

Figure 5.2 presents the populated Botha and Boon (2008) and Bose (2008) adapted competitive intelligence cycle guiding the study. A detailed description of the competitive intelligence cycle showing various phases and components was provided in Chapter two (section 2.4.2), therefore this section will not further discuss the competitive intelligence cycle. The value is clearly demonstrated by how findings can be fitted to the cycle.

The next step is to reconsider the two populated frameworks – figure 5.1 and figure 5.2 to propose an eclectic model as framework for future study. Such a framework can be further supplemented with other models of information behaviour – such as those noted in preceding paragraphs.

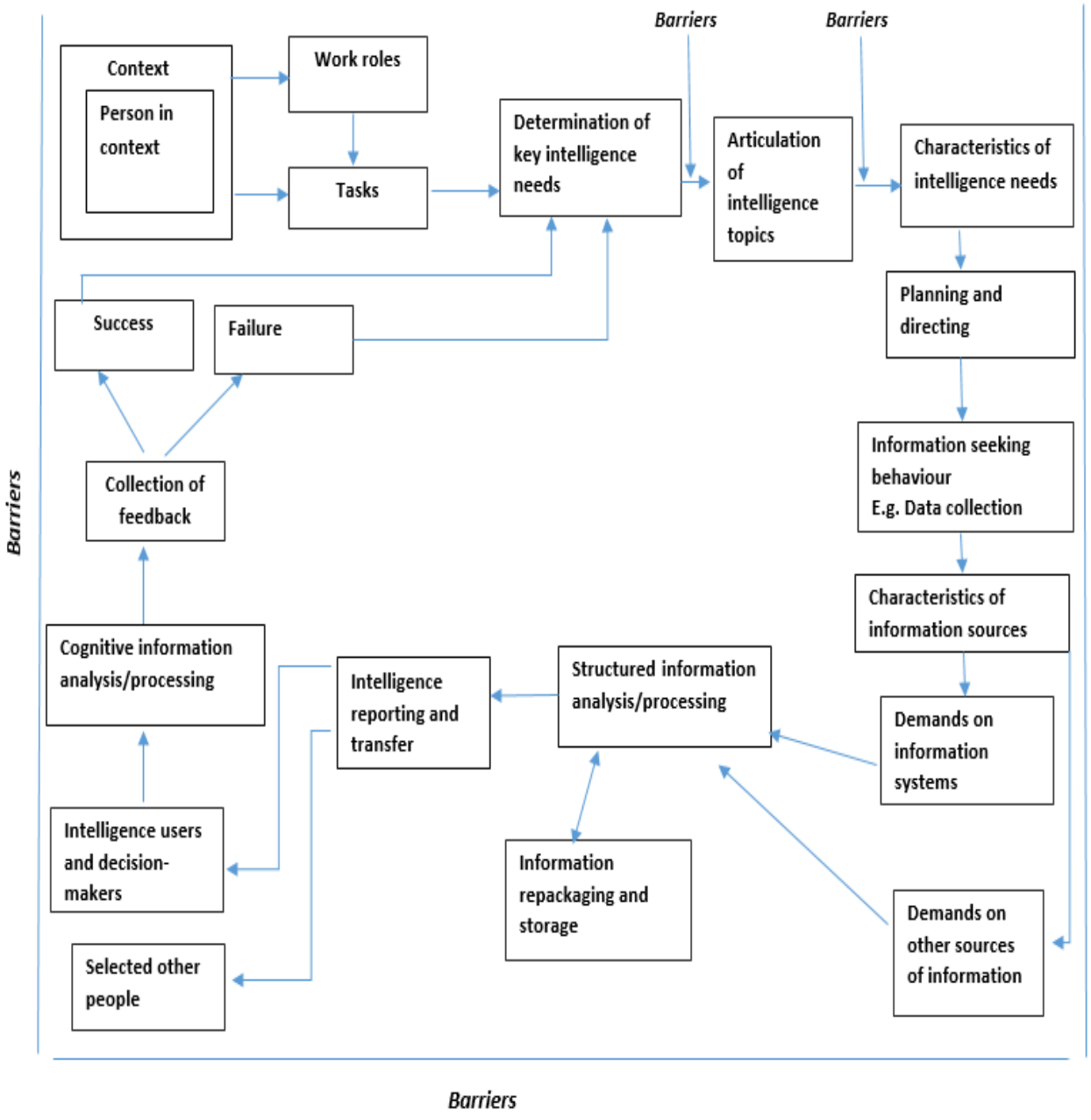

Figure 5.3: Information behaviour model suggested to guide further studies to improve competitive intelligence and to avoid failures

The model presented in figure 5.3 combines some of the elements from the initial theoretical frameworks. To avoid repetition of what was mentioned in Chapter 2 (sections 2.3-2.4) the model in figure 5.3 will not be discussed in detail, only prominent components that were not previously mention, will be noted.

The context as identified in Wilson's 1996 model (Ford, 2015; Meyer, 2016). The person in context as identified by Ingwersen and Järvelin (2004) impacts on the work roles and tasks

of the individual. During the determination and articulation of intelligence needs, certain intervening barriers affects the efficiency of the process which includes incorrect articulation of intelligence needs, and forming own notion during intelligence needs articulation. Intervening barriers are also note during data collection which includes information richness leading to information overload and information source preference causing a limitation in relevant information acquisition. The reporting and dissemination of intelligence also includes information exchange (not reflected in the model to avoid clutter).The barriers are shown on three axis, however highlighted and more prominent in the determination and articulation of intelligence needs. The suggested model should give more structure to information behaviour.

5.4 CONCLUSION

This chapter presented a discussion of the main findings based on the empirical component addressed in Chapter four, as triangulated findings. This chapter further presented a re-assessment of the two populated theoretical frameworks guiding the study: (1) an eclectic information behaviour model based on the work of Leckie, Pettigrew and Sylvain (1996) (the information seeking of professionals model) and the general 1981 model of information behaviour of Wilson as adapted by Wilson (1999), and (2) a competitive intelligence cycle based on the work of Botha and Boon (2008) and Bose (2008). A tailored framework incorporating the competitive intelligence cycle as well as the eclectic information behaviour model is suggested to guide further studies, and improvement in competitive intelligence to avoid failures. The next chapter will address a summary of the findings, recommendations and final conclusions.

CHAPTER 6: SUMMARY OF FINDINGS, RECOMMENDATIONS, SUGGESTIONS FOR FURTHER RESEARCH AND CONCLUSION

6.1 INTRODUCTION

This chapter presents a summary of the findings and recommendations of the study that investigated the failures of competitive intelligence from an information behaviour perspective. The chapter presents the purpose and objectives of the study and how the study met them, a summary of the study design and a summary of the findings from both the literature and the empirical component. It also discusses the value of the study and contribution to the field, and limitations of the study. Recommendations for theory, practice, and competitive intelligence educators and trainers are also noted, as well as suggestions for further research. Finally, an overall conclusion to the study is provided. The study's research question was:

How are competitive intelligence failures attributed to information behaviour?

To answer the principal research question, the following sub-questions were set:

- How is lack of understanding of competitive intelligence contributing to competitive intelligence failure?
- How do problems in the identification and expression of intelligence needs contribute to competitive intelligence failures?
- How are difficulties experienced in data collection contributing to competitive intelligence failures?
- How are information sharing and specifically feedback mechanisms contributing to competitive intelligence failure?
- How are other information activities (apart from the recognition and expression of information needs, data collection and information sharing)
    - contributing to competitive intelligence failures?
    - preventing competitive intelligence failures?

6.2 MEETING THE PURPOSE OF THE STUDY AND OBJECTIVES

The purpose of this study was to examine the failures of competitive intelligence from an information behaviour perspective, including understanding of competitive intelligence, expression of information needs, data collection and other information activities that may contribute to competitive intelligence failure. Information behaviour served as a research lens. Table 6.1 indicates the study's objectives, and how the study met these objectives.

Table 6.1: The study objectives

The study objectives	**How the study met the objectives**
To provide a theoretical background from the subject literature on causes of competitive intelligence failures that relate to information behaviour.	A model developed from a version of the competitive intelligence life cycle and an adapted version of the Wilson 1981 as revised in Wilson (1999) information behaviour model with some components from other models, and the Leckie, Pettigrew and Sylvain 1996 model of the information seeking of professionals, as well as findings from the study, are suggested to guide further research directed by an information behaviour lens (see section 5.3). Information horizon theory and information transfer and communication theories are noted as theories that can guide further research. Also the issue of proxy information seeking.
To explore key factors and information activities from an information behaviour perspective that contribute to competitive intelligence failures from an information behaviour perspective.	In addition to confirming the impact of lack of understanding of competitive intelligence, problems with the identification of intelligence needs, information awareness, information seeking and searching capabilities (i.e. person in context), support from senior management and understanding of the business environment (i.e. issues of context), as well as other factors and information activities that cause competitive intelligence failure were noted. (Discussed in detail in Chapters four and five.)

To draw a conclusion and make recommendations, based on research findings, on the information behaviour related causes of competitive intelligence failures.	The value of an information behaviour lens to reveal information activities typically falling under information behaviour, intervening factors and barriers that cause problems and even failure in the competitive intelligence cycle is noted and incorporated in recommendations on theory and practice, specifically to competitive intelligence educators and trainers. These are also reflected in suggestions for further research (see section 6.8).

6.3 SUMMARY OF THE STUDY DESIGN

The following table presents a summary of the study design. This includes the research paradigm, research approach and the time frame of data collection. The methods of data collection, the sample group and participants are also indicated in the table. Table 4.1, as part of the chapter on findings and analysis, shows more detail.

Table 6.2: Summary of the study design

Study conducted	The current study was aimed at exploring the failures of competitive intelligence from an information behaviour perspective.
Research paradigm	The study was placed in a post-positivism research paradigm.
Research approach	This study used a qualitative research approach guiding data collection and analysis, with a quantitative approach of limited scope.
Time frame of data collection	Data were collected from 31/08/2016 to 27/02/2017.
Research methods	Survey
Methods of data collection	A self-administered semi-structured profile questionnaire and an interview schedule were used to collect data from the participants. The profile questionnaire is attached as Appendix A and the interview schedule is attached as Appendix B.
Sample group and participants	Purposive and snowball sampling techniques were used for this study. The sample included two groups, namely (1) competitive intelligence professionals, and (2) competitive intelligence educators or trainers. The participants originated from two countries, namely South Africa and the United States of America. Some of the participants were recruited at the SCIP conference that was held on the 17-19/10/2016 at the University of South Africa.

6.4 SUMMARY OF THE MAIN FINDINGS

The following section will present a summary of the main findings from both the literature and the empirical component.

6.4.1 Research questions answered from the literature

In a study of the literature, the current study noted certain factors, methods and practices that are related to competitive intelligence failure, and can prevent competitive intelligence failure if addressed appropriately. The following section will present a summary of the findings from the literature on competitive intelligence failure, and the theoretical framework that guided the study.

6.4.1.1 Main findings from the literature that informed the study

Only the findings prominent to further work are highlighted here. The low usage of internal organisational information sources such as organisational libraries limits the wider acquisition and use of relevant information sources. A great deal of human resources and time are spent on data collection and very little time is allocated to data processing and analysis. Because of inadequate information seeking and retrieval skills, the vast amount of available information resources creates a situation of information overload. Other notable issues included negligence to validate data and irregular information searches (Detailed discussion in Chapter 2, section 2.2).

6.4.1.2 Theoretical framework that guided the study

After a review of several models of information seeking and information behaviour (see Table 2.1, Appendix E), an adapted version of the Wilson 1981 in Wilson (1999) information behaviour model and the Leckie, Pettigrew and Sylvain 1996 model of the information-seeking professional was developed as one of the theoretical frameworks (figure 2.1). After a review of several versions of the competitive information cycle (see Table 2.2), a competitive information cycle based on the cycles presented by Botha and Boon (2008) and Bose (2008) was adopted as the second framework for this study (figure 2.2).

6.4.2 Research questions answered from the empirical component

The following section will present a summary of the main findings from the empirical component according to the sub-questions (see 6.1; also Chapter one section 1.4).

6.4.2.1 How is lack of understanding of competitive intelligence contributing to competitive intelligence failure?

There is strong evidence in the literature and empirical findings that competitive intelligence failure occurs owing to lack of conceptual understanding by both senior management and competitive intelligence professionals. Lack of conceptual understanding of competitive intelligence by specifically senior management affects the way in which competitive intelligence needs are communicated, how competitive intelligence is perceived and used, and overall the perceived value of competitive intelligence for an organisation. An organisational culture marked by poor conceptualisation of competitive intelligence also, in various ways, leads to competitive intelligence failure. Conceptualisation of competitive intelligence, the process, cycle and value lie at the heart of successful competitive intelligence. Addressing such conceptualisation is a shared responsibility between senior managers, competitive intelligence professionals and other stakeholders. This points to a need to explore the information behaviour and Library and information Science literature for solutions. From an information behaviour perspective solutions to failure thus need to be searched from the perspective of context, the person in context and cognition (i.e. the conceptualisation of competitive intelligence).

6.4.2.2 How are problems in the identification and expression of intelligence needs contributing to competitive intelligence failures?

Failure resulting from intelligence needs articulation stems from intelligence interviews and other means and tools to clarify the intelligence needs to address. Various individual skills and capabilities are required to conduct intelligence interviews, which points to the need to explore communication tools and technologies. This aligns with findings noted in studies on information behaviour where problems with the expression of information needs often feature. The articulation of intelligence needs is further influenced by views to share information only partially with different people tasked with the collection of intelligence.

6.4.2.3 How are difficulties in data collection contributing to competitive intelligence failures?

Many problems related to information activities were noted with regard to data collection. These ranged from the choice and preferences for resources of information, habits, lack of best practices, poor information seeking and retrieval skills and poor prioritising of activities at the cost of allowing sufficient time for data analysis to problems experienced with the richness of data collected. The latter is often experienced as information overload that again can inhibit future data collection. Data collection is not always aligned with intelligence needs, which, as pointed out in section 6.4.2.2, are often also poorly identified and articulated. Data collection is moreover often marked by inadequate source evaluation and triangulation of findings. This points to the need for more work on the information seeking and information retrieval perspectives in information behaviour.

6.4.2.4 How are information sharing and specifically feedback mechanisms contributing to competitive intelligence failures?

Information sharing is influenced by how intelligence is shared in terms of the format, style, amount of data, etc. Information should be shared according to the needs and preferences of senior management; findings point to the need for the sharing of competitive intelligence to be repackaged according to the preferences of the specific target group. The intelligence findings should be disseminated in the most effective way, depending on the priority of the need (e.g. placing higher priority on consumer-related intelligence). The need for prior contractual agreement on the feedback was a solution frequently suggested. This points to information sharing/exchange/transformation in the information behaviour work for solutions.

6.4.2.5 What are and can be the impact of other information activities?

Two issues were addressed with regard to the impact of information activities not covered in the interview schedule collecting data: (a) other information activities that cause competitive intelligence failure, and (b) information activities that can prevent competitive intelligence failure. In-stead of commenting on activities participants often noted information related factors causing competitive intelligence failures.

a) Other information related factors causing competitive intelligence failure

Although asked about other activities and problems not including the activities already covered, such as articulation of intelligence needs, this still featured very strongly in participants' responses. However, a few other issues or factors were noted, such as limited access to expensive subscription information resources, lack of awareness of a wide array of appropriate information sources and source preference to such an extent that it actually limits the usefulness of the intelligence information collected. This points to the need to take a closer look at intervening variables and barriers from an information behaviour perspective.

b) Information activities and factors that can prevent competitive intelligence failures

Information sharing throughout the organisation was highlighted as an information activity that can add value to the competitive intelligence process and competitive intelligence *per se*, that can enhance the use of best analysis practice, and that can help to prevent competitive intelligence failure. The contextualisation of the collection of competitive intelligence data and information within the organisational goals and mission was highlighted as one of the factors that can prevent competitive intelligence failures. The issue from an information behaviour perspective that stands out, is the need for further work on information sharing, transfer/exchange and the importance of context.

6.5 VALUE OF THE STUDY AND CONTRIBUTION TO THE FIELD

The study reflected on awareness of competitive intelligence failure, more especially on information activities and information-related factors that cause competitive intelligence failure.

6.6 LIMITATIONS OF THE STUDY

Although there were some limitations, the study meets the requirements of an exploratory study as captured in the purpose of the study that was formulated (section 1.8). The limitations include:

- Difficulty to identify and recruit participants. This is in line with similar experiences reported in the subject literature and was expected. For exploratory purposes, the

richness of qualitative data shared by the 15 participants proved valuable to satisfy the purpose and objectives of the study, and for making recommendations.

- Limited literature on the core issue of competitive intelligence seen from an information behaviour perspective. This limitation, however, also provided the gap to be addressed by this study. The limitation was addressed by drawing on two bodies of literature: (1) The explicit relation between information behaviour and competitive intelligence, and (2) literature on the organisational factors, individual attributes and information activities that have an impact on the efficiency of the competitive intelligence process and function. This resulted in two theoretical frameworks that guided the current study.

The following recommendations are intended for theory, practice and use by competitive intelligence educators and trainers.

6.7 RECOMMENDATIONS

6.7.1 Recommendations on theory

- Exploration of theories that can deepen insight into practices and the rationale for matters affecting preferences in information seeking, information resources and influential factors in the process. The work by Sonnenwald, Wildemuth and Harmon (2001) on information seeking using the concept of information horizons can be useful in this regard. The theory of information horizons proposes that various data types, including decisions made during the information seeking process, are important in increasing understanding of human information behaviour (Sonnenwald, Wildemuth & Harmon, 2001). The information seeking process in relation to the information horizon is influenced by factors that include context, situational factors and social networks (Sonnenwald, Wildemuth & Harmon, 2001).
- Exploration of the concept of “proxy information seeking” in relation to competitive intelligence gives rise to two issues: (1) searching on behalf of another, which leaves an opening for misconception, and (2) deliberate partial sharing of information required. Proxy information seeking has an influence on the data collection phase of competitive intelligence and other key phases, such as the articulation and

determination of intelligence needs. The work of McKenzie (2003) and Fisher, Durrance & Hinton (2004) can shed more light on proxy information seeking.

- Exploration of theories of communication and information transfer, and how they affect the competitive intelligence cycle, specifically the phases of intelligence needs identification and articulation, and intelligence reporting and dissemination. The work by Case and Given (2016), Dervin and Chaffee (2003) and Fourie and Meyer (2014) where Meyer worked on information transfer, and Johnson and Case (2012) can be used to explore the potential of communication, and information transfer to competitive intelligence failure as seen from an information behaviour perspective (Case & Johnson, 2012; Robson & Robinson, 2013).

6.7.2 Recommendations for practice

- Application of stringent assessment methods of the individual involved in the competitive intelligence process before conducting the competitive intelligence process in order to strengthen the process.
- Development of an instrument to assess the skills of the individual involved in the competitive intelligence process.
- Training in information seeking and retrieval and repackaging of information to suit the target audience.

6.7.3 Recommendations for competitive intelligence educators and trainers

The awareness, insight and responses of the competitive intelligence educators and trainers in relation to the causes of competitive intelligence failures as seen from an information behaviour perspective might influence the training of future competitive intelligence professionals. It is thus recommended that input from Information Behaviour is considered.

6.8 SUGGESTIONS FOR FURTHER STUDY

Since very limited literature is available on the failures of competitive intelligence from an information behaviour perspective, a knowledge gap exists. It was noted that certain exploration of theories can be used to investigate the failure of competitive intelligence

using information behaviour as a perspective. Therefore the following recommendations are made on future studies:

- *Theory of information horizons:* How can the theory of information horizons influence an understanding of the impact of preferences for information resources, networking in competitive intelligence and the prevention of competitive intelligence failure?
- *Theories of communication and information transfer*: How can theories of communication and information transfer influence understanding of key phases in the competitive intelligence cycle, specifically the determination and articulation of intelligence needs and the reporting and disseminating of intelligence and its use to prevent and avoid failure?
- *The use of information-seeking models to study failures in competitive intelligence (only one example is given)*: failures in competitive intelligence in practice (i.e. case studies) might also be studied by applying the Kuhlthau information-seeking process model with specific reference to cognitive issues (i.e. thoughts) and affective issues (i.e. emotions experienced) during the competitive intelligence cycle.
- *Relationship between competitive intelligence and information behaviour*: A few studies to date show the relationship between competitive intelligence and information behaviour. Further research should be conducted to explore the explicit relationship between competitive intelligence and information behaviour, including all the components of information behaviour.
- *Location of competitive intelligence in organisations*: Literature shows that most organisations place competitive intelligence in the marketing or sales department. Further research should be conducted to determine why most organisations do not place competitive intelligence higher in the hierarchy of the organisation and close to decision makers.
- *Decision makers' trust in competitive intelligence findings:* Although not highlighted in the empirical component, however the literature shows that competitive intelligence findings in some organisations do not form the basis for decision making; they rather use intelligence findings to support the decisions that have already been

implemented. Further research should be conducted to show why competitive intelligence is not used as a superior source of information.

- *Understanding of competitive intelligence and skills of competitive intelligence professionals*: The study showed that senior management and individuals involved in the process lack understanding of competitive intelligence. The lack of understanding was mostly attributed to poor conceptualisation, poor skills and capabilities of competitive intelligence professionals. Further research should be done to explore how the skills and capabilities of competitive intelligence professionals influence the competitive intelligence process.

6.9 CONCLUSION

This chapter presented a brief summary of the study and the findings on the main research question and its sub-questions as addressed in Chapter one section (1.4). This chapter also made recommendations that will help to improve the efficacy of the competitive intelligence process on a practical level, and to deepen understanding of the causes of problems as well as the search for solutions from a theoretical level. Apart from showing the value of an information behaviour lens (comprising all information activities as defined in section 1.9) to deepen understanding of competitive intelligence failures, this study succeeded in showing that competitive intelligence professionals have some understanding of the key causes of competitive intelligence failure, even though they focus mostly on solutions when discussing the problems.

The study noted that participants – especially those who are not working as educators or trainers – tended to express their experiences with competitive intelligence failure, their concerns and views on solutions mostly at an operational level, contextualised against organisational practices. These are important since they might offer solutions. Those who operate as both competitive intelligence educators and trainers showed more acute awareness of the issue. However, responses did not reveal awareness of how these causes had been addressed in information behaviour research as well as the wider fields of Library and Information Science, nor of the theories that developed in these fields. In the literature consulted and the empirical findings, only a competitive intelligence lens was noted in

addressing problems. Issues raised by the study thus need to be further explored. Suggestions for further research highlight some of these issues.

> *Conversation is a basic mode of human interaction. Human beings talk to each other…Through conversation we get to know other people, get to learn about their experience, feelings, and hopes and the world they live in. (Kvale, 1996:5). The researcher noted that through interaction with all the participants there was, and still is a lot to learn about the causes of competitive intelligence from the perspective of information behaviour. Revisiting the data at a later stage will reveal more.*

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APPENDIXES

APPENDIX A- QUESTIONNAIRE

COMPETITIVE INTELLIGENCE PROFESSIONALS, EDUCATORS AND TRAINER'S QUESTIONNAIRE

Title: How are competitive intelligence failures attributed to information behaviour?

Researcher: Tumelo Masego Maungwa

Profile questionnaire[14] for interview participants – competitive intelligence educators and trainers

Dear Potential Research Participant

I am a Master's student in the Department of Information Science, University of Pretoria. The purpose of my study is to determine how competitive intelligence (CI) failures can be attributed to information behaviour. The study looks at the problem from an information behaviour perspective (a sub-discipline of Information Science). Information behaviour includes all information activities such as realising a need for information, seeking information and using information.

I am aware that you might not be using the job title of CI professional or educator/trainer; this study is, however, aimed at collecting data from people who hold positions involved with CI.

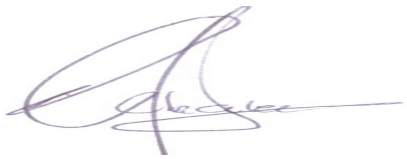
Your participation in this study is entirely voluntary, and all the information you provide will be treated with the utmost confidentiality. More detail is provided in the form you need to sign to give informed consent if you are willing to participate in the study.

The purpose of this questionnaire is to collect profile data supplementary to data that will be collected by means of the individual interviews. Data from this questionnaire and the interviews might, if necessary, be used to compile a follow-up questionnaire that will be distributed to a wider group of people. You will not be required to participate in such a follow-up questionnaire survey.

Supervised by: Prof. I. Fourie (ina.fourie@up.ac.za)

[14] The interview schedule and form for informed consent are provided in separate documents

Researcher: Tumelo Masego Maungwa (tumelo.sebata@up.ac.za)



PLEASE MARK THE CORRECT OPTION WITH (X)

SECTION A: DEMOGRAPHICS AND BACKGROUND INFORMATION

Q1: What is your highest educational qualification?

a) Bachelor's degree (3 year)	
b) B Tech degree (4 years)	
c) Honours degree	
d) Master's degree	
e) Doctoral degree	
f) Other (please specify)	

Q2: Please indicate a **maximum of three** disciplines in which you majored (3rd/4th) year.

Q3: Which of the following best describe your professional position? **(Please mark one applicable option)**

a) Competitive intelligence professional	
b) Competitive intelligence educator/trainer	
c) Combination of both	
d) Other (please specify)	

Q4: Did you complete any formal training/education in competitive intelligence? **(Please mark all applicable options)**

a) Under-graduate course	
b) Post-graduate course	
c) Other (please specify)	

Q5: Have you received formal training/education in any of the following? **(Please mark all applicable options)**

a) Information retrieval/online searching (theory and practical)	
b) Information seeking/information behaviour (theory)	
c) Other relevant training/education (please specify)	

Q6: Please indicate your years of experience in the following? **(Please mark all applicable options)**

Years of experience in…	**<1**	**2-5**	**6-10**	**11-15**	**>15**
a) CI professional					
b) CI educator/trainer					

Q7: Please give a general description of your job title

SECTION B: COMPANY BACKGROUND

Q8: Please indicate the type of company you work for **(Please mark all applicable options)**

a) Educational organisation	
b) National organisation	
c) Multinational organisation	
d) Parastatal organisation	
e) Private organisation	
f) Registered NGO	
g) Other e.g. independent (please specify)	

APPENDIX B – INTERVIEW SCHEDULE

INTERVIEW SCHEDULE FOR COMPETITIVE INTELLIGENCE PROFESSIONALS, EDUCATORS AND TRAINERS

Title of study: Competitive intelligence failures from the perspective of information behaviour

Dear Potential Research Participant

The literature notes many reasons for competitive intelligence (CI) failures. You will have had your own experience. The purpose of this interview is to explore the reasons for CI failures from an information behaviour perspective. Information behaviour is a comprehensive concept for all information-related activities such as recognising and expressing the need for information, seeking information, sharing information and using information.

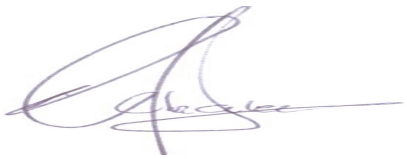
Understanding how information behaviour might lead to failures in CI might inform guidelines to improve processes and communication in the various phases associated with CI.

In the interview I would like to get your opinion on a number of themes. You can answer these from either the point of view of a practising CI professional or from the point of view of an educator/trainer. You might even have experience of both positions. I will appreciate it if you will indicate from which position you are responding to the various themes (please refer to the accompanying short profile questionnaire). The choice of themes was influenced by the CI cycle and further adapted according to findings from a literature review of information behaviour and content analysis of reports on CI failure. Please feel free to elaborate on the themes and to raise additional themes you think would add to understanding information behaviour in CI and how this can lead to CI failure.

Your time and participation are highly appreciated. The interview will take between 30 and 60 minutes. I undertake not to exceed 60 minutes, except if you feel the need to extend the discussion.

Supervised by: Prof. I. Fourie (ina.fourie@up.ac.za)

Researcher: Tumelo Masego Maungwa (tumelo.sebata@up.ac.za)



1. Poor understanding of CI (by the organisation, management, individuals involved in the CI cycle)

2. Identification and expression of CI needs, including competitive intelligence questions, and competitive intelligence topics (These are also referred to as key intelligence needs; for the purpose of this study I will interpret them as information needs.)
3. Data collection from the internal and external environment (This includes the use of information resources.)
4. Reporting and disseminating intelligence
5. Keeping the intelligence user (e.g. management) informed throughout the CI process
6. Obtaining feedback from the intelligence user(s)
7. Other steps/processes that you think need to be considered when studying CI failure
8. Your opinion on the information activities mostly causing CI failure
9. Your opinion on information activities that may prevent CI failure

APPENDIX – C

INFORMED CONSENT FORM FOR PARTICIPANTS

You are invited to participate in a study conducted by Tumelo Masego Maungwa, registered for the Master's degree in Information Science, Department of Information Science, University of Pretoria.

The study is entitled: **How are competitive intelligence failures attributed to information behaviour**? The study focuses on the causes of competitive intelligence failures from an information behaviour perspective. The researcher is particularly interested in discovering different factors that lead to competitive intelligence failures.

Your confidentiality will be protected throughout the study. There are no anticipated benefits or risks to you as a participant, aside from helping the researcher to develop a better understanding of factors that contribute to competitive intelligence failures as seen from an information behaviour point of view.

I …… hereby voluntarily grant my permission for participation in the project as explained to me by Tumelo Masego Maungwa. The nature, objective, possible safety and health implications have been explained to me and I understand them.

1. I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am aware that the results of the investigation may be used for the purposes of publication and presentations at conferences.
2. When I sign this form, you will be provided with a copy.
3. I grant my permission to participate in the study (mark with X)
   Yes ☐ No ☐
4. I grant my permission for the interview to be recorded (mark with X)
   Yes ☐ No ☐

Signed: _____ Date: ☐

Witness: _____ Date: ☐

Researcher: _____ Date: ☐

Please return a copy of the signed form to: your email address

APPENDIX - D

PERMISION FROM EMPLOYER FORM

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Pretoria 0002 Republic of South Africa http://www.up.ac.za

Navrae / *Enquiries*	:	Prof I Fourie (supervisor)	**Skool vir Inligtingtegnologie**
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Faks / *Fax* no.	:	+27 (0)12 362-5181	
E-pos / *E-mail*	:	ina.fourie@up.ac.za	**Departement Inligtingkunde**
Kantoor / Office	:	IT-Building 6-65	***Department of Information Science***

To whom it may concern:

This is a request to allow one of your employees to participate in a master's study conducted by Masego Tumelo Maungwa in the Department of Information Science (University of Pretoria). The study is titled: **Competitive intelligence failures from the perspective of information behaviour.** It is supervised by Prof Ina Fourie. Until recently Prof Adeline du Toit was co-supervisor; however, she has since retired. The purpose of the study is to explore the reasons for competitive intelligence failures from an information behaviour perspective.

Please note the following:

- The answers given by research participants will be treated as strictly confidential; neither the participant nor employer will be identified by name.
- The results of the study will be used for academic purposes only and may, apart from the dissertation, be published in article format or presented as a conference paper(s). We will provide you with a summary of our findings on request.
- Please contact the supervisor or researcher if you have any questions regarding the study.
    - Supervisor: Prof Ina Fourie (ina.fourie@up.ac.za)
    - Researcher: Masego Tumelo Maungwa (tumelo.sebata@up.ac.za)

If you agree to the employee participating, please sign the form to indicate that:

- You have read and understood the information provided above.
- You give consent for the employee to participate in the study on a voluntary basis.
- You have the capacity to give this permission as employer/representative of the employer.

Name of participating employee: _____

Name of employer (e.g. University of Pretoria):_____

Name of person giving permission for participation on behalf of the employer:

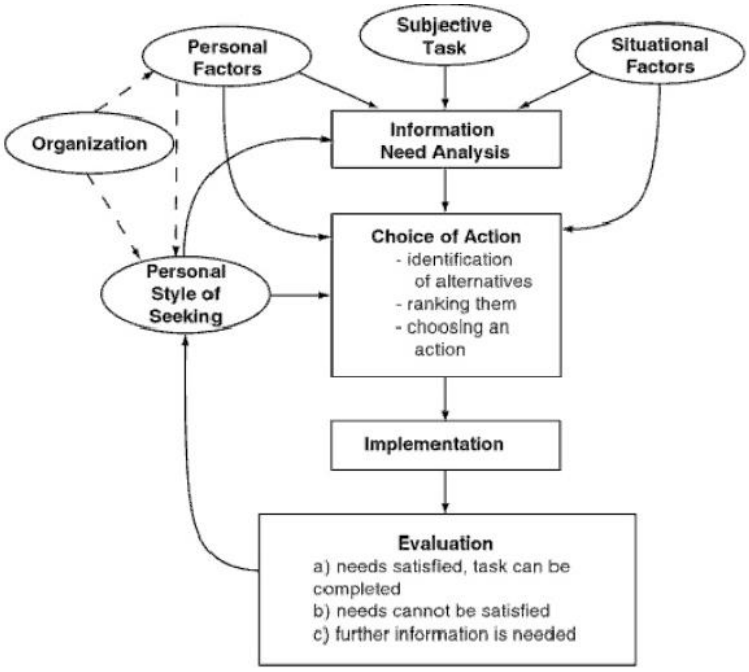
_____

Your signature:_____ **Date:** _____

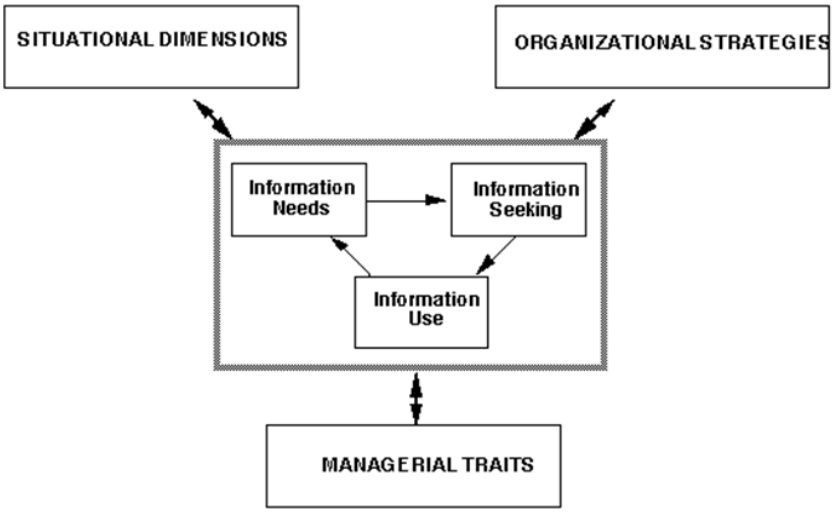
Kind regards

Prof Ina Fourie (Supervisor) Masego Tumelo Maungwa (Researcher)

APPENDIX E - INFORMATION BEHAVIOUR MODELS

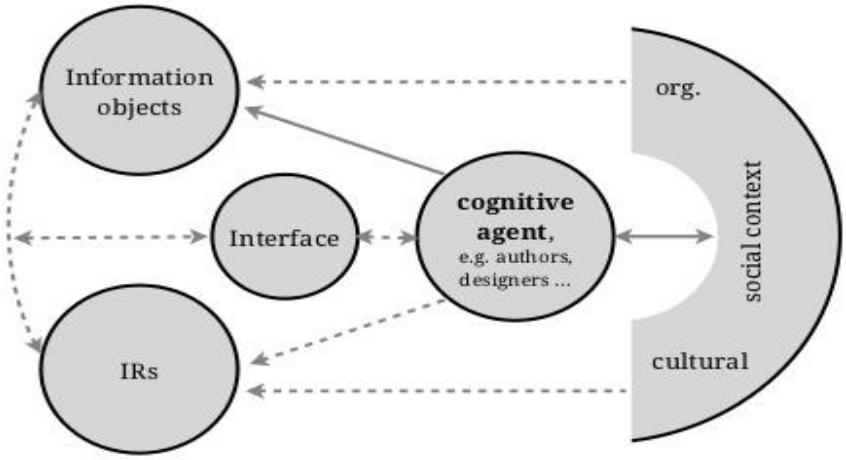


Model by Byström & Järvelin (1995:197): Task complexity and information-seeking and use



Model by Choo (2001:86): Framework for environmental scanning

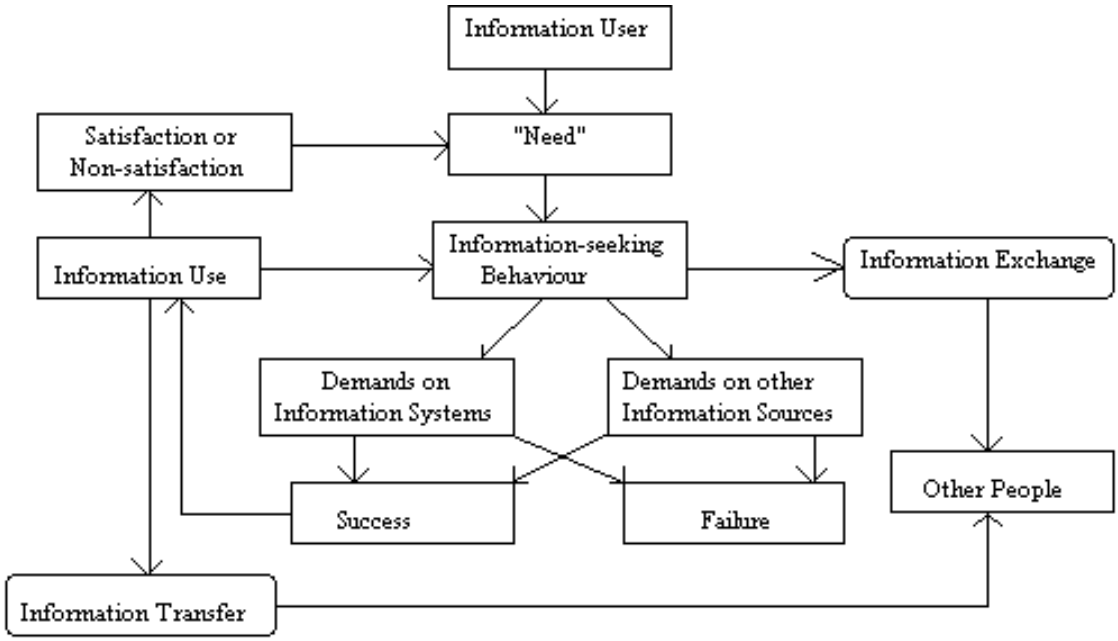
Model by Ellis (1989:176): Behavioural model of information seeking



Model by Ingwersen & Järvelin's (2004:3): information seeking and retrieval

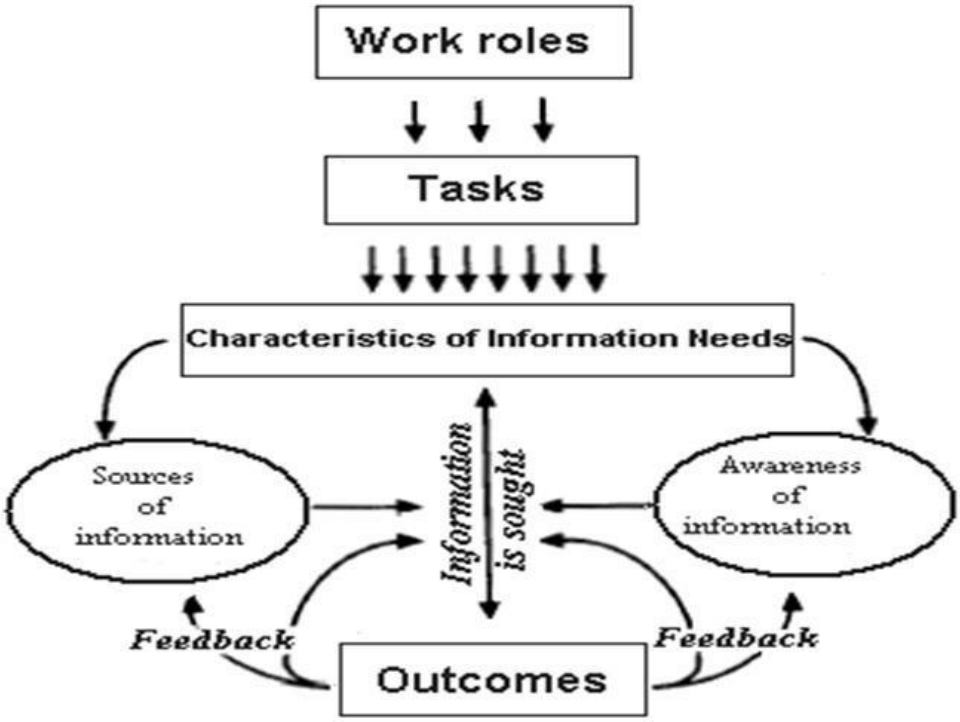
Stages in ISP	Feelings Common to Each Stage	Thoughts Common to Each Stage	Actions Common to Each Stage	Appropriate Task According to Kuhlthau Model
1. Initiation	Uncertainty	General/ Vague	Seeking Background Information	Recognize
2. Selection	Optimism			Identify
3. Exploration	Confusion/ Frustration/ Doubt		Seeking Relevant Information	Investigate
4. Formulation	Clarity	Narrowed/ Clearer		Formulate
5. Collection	Sense of Direction/ Confidence	Increased Interest	Seeking Relevant or Focused Information	Gather
6. Presentation	Relief/ Satisfaction or Disappointment	Clearer or Focused		Complete

Model by Kuhlthau (1991:367): Information search process (ISP) model



Model by Wilson (1981:4)[15]: Model of information behaviour

[15] Wilson (1981) model as adapted in the Wilson (1999) model



Model by Leckie, Pettigrew and Sylvain (1996:180): The Information-seeking of Professionals model

APPENDIX F - THEMATIC CODING SHEET

Example:

Interviewer: What problems are experienced during data collection?

Response from participant:

***Steven*: (1)** To ensure that data collected does not produce any errors, you should have multiple eyes on it**. (2)** Humans have what we call the "satisfaction strategy in which "in which they can manipulate data until it satisfies their needs**. (3)** So to safeguard against such practices, it very important that the data is not validated by only person. With a group of people collecting the same data, you are ensured to have pure information or pure data. **(4)** The other problem with competitive intelligence especially with data collection is information overload, since there is no clear distinction as to how much data is enough**.** **(5)** To ensure that data has no errors, I prefer to use a scale that checks for accuracy, timeliness, completeness, relevancy and reliability of the source. **(6)** It is very essential that the competitive intelligence practitioners have the correct training, they might not have been trained as librarians or data analysts, but it is very essential that they took some courses on data collection.

Table showing categorisation of the themes[16]:

Theme of the statement	**Statement from the response**
Source evaluation and triangulation	Statement 1, 3 and 5
Information richness leading to information overload	Statement 4
Training in information seeking and data collection	Statement 6

[16] The thematic analysis followed methods noted by Guest, MacQueen and Namey (2012)