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Chapter One

Introduction

1.1 Introduction

Competitive intelligence (CI) is multi-faceted, with the density of terminology indicating how it has and may be understood, explained and practised using different expressions. Given the wide-ranging lexicon, the practising of CI may also take on different and forms done in different ways. Scholars and practitioners refer to the concept as knowledge management (KM), business intelligence, business strategy, strategy analysis, information, customer relationship management, data mining, big data, entrepreneurial attitude, forecasting and foresight. Others view it as information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning and/or competitor espionage. Strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance all are additional definitional points of reference and practice (Fleisher & Bensoussan, 2015; Reinmoeller & Ansari, 2015; McGonagle & Vella, 2012; Venter 2009; Hall & Bensoussan, 2007; Odendaal, 2004; Madden, 2001).

The Strategic and Competitive Intelligence Professionals (SCIP) is the most established professional body in this field and defines *Competitive Intelligence (CI)* as the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself (SCIP, 2017). Competitive Intelligence thus seems well defined and benchmarked globally. The intellectual puzzle informing this analysis is therefore to explore how CI manifests itself in a tightly focused case within particular configurations of the chosen 'business case', within a national context of industrial development, integral to the growing economy of Ethiopia. The assumption is that the industrial and business sectors of Ethiopia are poised to reap the benefits of calculated and deliberate CI.

From the literature review, presented in Chapter 4, 4.3 (CI in Ethiopia—the Status), it became evident that most companies in Ethiopia are using incomplete, informally gathered and crude competitive information to make strategic and other business decisions. They appear not to have a clear understanding of the concept of CI. Additionally, the right recognition and

attitude towards using CI to support SDM is under-exploited in an environment that calls for competitive ambitions. Critically, therefore, the study explores the strategic value of CI for SDM in a developing country context and within a company that has a conglomerate structure whose subsidiaries are vertically integrated. The intent of this study was to show how CI could be enhanced for the strategies and/or SDM of the conglomerate and its subsidiaries. Notwithstanding the lens of practising CI at a strategic level, many organisations, including the case company, may also use CI for tactical and operational decision-making.

As may be understood from the points above, it is also important to state that the researcher has not framed the study, at a grand level, with a strategy typology (theory), given that the strategic priorities of the case company are closely derived from the Ethiopian Growth and Transformation Plan (GTP) strategic priorities themselves. Investigating the theoretical implications of the country's framework and policy (public management) is beyond the remit of the study.

This introductory chapter states the problem statement, research questions, purpose, scope and contribution of the study. Highlights of the context and phenomenon of the study are also given. These will be elaborated on in Chapter 2 (Case Background & Context) and Chapter 5 (Research Methodology).

1.2 Problem statement

CI, through its support to strategic decision-making, is an indispensable function in achieving and maintaining sustainable competitive advantage. Critical to today's businesses are the establishment of formal CI units or systems to support companies' strategies and strategic decision-making. Yet Ethiopian businesses seem to be oblivious of this requirement and there is generally very little empirical research on the role of CI in strategic decision-making. Of the limited research that exists, the main findings reveal the gaps that this problem statement outlines. Most companies in Ethiopia appear to be using incomplete, informally gathered and crude competitive information to make strategic and other business decisions. These exemplars could be attributed to the relatively closed nature of the economy, to the lack of private-sector/business-driven thinking or because competitiveness has not been/is not sufficiently embedded in the context of many state affiliated sectors. Business leaders' understanding of the concept of CI appears to be unstrategic and/or they have not recognised the importance of CI to support strategic decision-making.

Within the case conglomerate (and its subsidiaries) a formally established competitive intelligence (CI) unit, programme and/or process is almost non-existent. From preliminary

investigation into the case organisation and desk research, there was no evidence of a separate and formal competitive intelligence service and where it was used, it was not primarily used to support the SDM of the case conglomerate. Instead, these services appear as incidental functions, where business intelligence is perhaps known and discussed, but not shaped into useful or purposeful advantage for SDM.

Although its heritage is rooted in strategic thoughts and military science, at discipline level, CI is a growing discipline (Du Toit, 2015; Sewdass & Du Toit, 2014; Taib, Selangor, Yatin, Selangor, Ahmad, Selangor, Mansor & Selangor, 2008; Farrell, 2007). There are theoretical and knowledge gaps that clearly explain the universal application of the discipline, meanwhile, theories that directly link CI and SDM. Hence, inspired by 'middle-range thinking' that emanates from SDM and CI context specific studies, the researcher logically thought that a synthesis could be made with the empirical findings so that theoretical convergence (i.e. theory extension) might be found on the two disciplines in terms of contextual issues shared by both disciplines or theories.

Specifically, the concept of CI application in SBUs (subsidiaries) and possible variations in collection, usage and implementation of CI in SBUs (specifically in vertically integrated conglomerates, whose subsidiaries are guided by one grand strategy, similar structure and management) are hardly recognised. As can be learned from the exhaustive literature search covered in Chapter 3 and Chapter 4 of this thesis, not many empirical studies directly assessed and tested the contextual factors which influence both CI usage and SDM. That is why this case study also intends to come up with middle-range theories or propositions that will be tested regarding the subjectivity and contextual nature of CI application among subsidiaries of a vertically integrated conglomerate.

1.3 Research questions

Defining the research question is the most important step in a research study. A case study method helps to answer research questions more attuned to the dynamic nature of a research phenomenon. To conceptualise the research questions, the researcher first used existing literature to guide the theoretical contributions against a researchable topic, regardless of any specific set of questions. Following that, the researcher closely examined accessible international literature on the topic. The recommendations for future research and the embedded puzzles in the extant literature prompted specific research questions, linking up with the literature, where appropriate (Rose, Spinks & Canhoto, 2014).

The primary motive for using a case study is related to the nature of the research questions. According to Yin (2014; 1994), a case study is likely to be an appropriate research strategy when a "how" or "why" question is being asked about a contemporary set of events over which the investigator has little or no control.

Research questions

Main research question: How can competitive intelligence better support strategic decision-making in the case conglomerate and its current context?

Secondary research question: What contextual factors influence the application of CI for SDM in the case conglomerate?

With reference to the current strategic plan of the conglomerate, a single-case study design, with seven units of analysis (six subsidiaries and the headquarter), is used to address the following more specific research questions. These research questions also demonstrate key dimensions of CI to be explored and tested through the framework.

1. What are the general understanding, perceived usefulness and status of competitive intelligence in the conglomerate and its subsidiaries/industries?
2. What are the scope, focus and value of competitive intelligence for the conglomerate and its subsidiaries?
3. How is competitive intelligence used in SDM in the case?
4. To what extent have the existing competitive intelligence location and coordination influenced the usage of competitive intelligence for strategic decision-making?
5. How can competitive intelligence be organised in a way that enhances SDM in the case of a conglomerate and its subsidiaries?

1.4 Purpose of the study and specific objectives

Purpose statement: Exploratory studies, by definition, lack the development of well-articulated proposition derived from the theory and/or prior research (Rowley, 2002). At the same time, some studies have a legitimate reason for not having any propositions and set out to uncover the depth of particular instances of the focus of the study. Exploratory case studies help to provide insights into the structure of a phenomenon in order to develop working assumptions, propositions or assertions and building towards theories. Rowley (2002) adds to his contentions, by suggestion, that exploratory case studies that do not start with propositions may adopt an alternative approach. The research has therefore developed a descriptive

framework for organising the case study in Chapter 3 (theoretical foundation), iterated and amplified by the literature view in Chapter 4.

Mixed method approaches need to convey both quantitative and qualitative dimensions to the purpose statement. In mixed method research, researchers may both test theories and generate them (Yin, 2009; Creswell, 2003), given the architecture of deductive and inductive logics.

Taking the above facts and considerations into account, the following purpose statement guides this exploratory single-case study.

Purpose statement of the study: The main purpose of the study is to explore and explain various constructs of CI, as manifested in the case, in order to develop, using tested variables (identified constructs), a competitive intelligence programme implementation strategy framework. The framework is intended to be analytically applicable to a more effective use of CI in strategic decision-making, in a specific conglomerate.

Secondary objective (emerged objective): At a secondary-level, the intent of the objective of the study was to find a 'middle-range theory'[1] that extends from SDM and CI theories: "SDM and CI application can be affected by common contextual factors, so that SDM and CI application can be taken as two faces of the same coin in the domain of these contextual issues. In short, the objective as to seek shared contextual grounds for SDM and CI application in the case company, whether both SDM and CI implementation are affected by common contextual factors."[2]

Specific objectives of the study: A number of specific objectives can be set based on the research questions of the study.

1) To investigate the general understanding, perceived usefulness and status of competitive intelligence in the conglomerate and its subsidiaries/industries
2) To assess the scope and value of competitive intelligence in the conglomerate and its subsidiaries so that a clear demarcation can be set on the scope and responsibility of CI collection throughout the conglomerate

[1] The definition to 'middle-range theory' is provided in 1.6.2.

[2] As connected to this intention, the researcher also sensed that the emerged issues would reveal out themselves in the course of the study and emerged as opportunities to state series of middle-range theories (propositions), which could give an opportunity for future studies on CI-SDM issues. Guided by a middle-range theory (MRT) construction approach, the MRTs (propositions) are developed through iteration and synthesis of literature and theoretical discussions [reviewed under sub-sections 3.6 (SDM in Context) & 3.7 (CI in Context)] and empirical findings. (Discussions for the MRT are specifically provided under 3.6.2, 3.7.2 & 3.8).

3) To evaluate the location of CI and how CI coordination has influenced the strategic role of CI in a conglomerate's decision-making
4) To identify the strategic value of CI by finding the right structure for CI and aligning CI efforts within the conglomerate, its integrated subsidiaries and the different functional units
5) To develop a CI programme implementation strategy framework so that CI can be conceptualised, started-up and carried out in a structured way with CI facilitating the SDM of the case conglomerate and its subsidiaries
6) To construct a middle-range theory by seeking shared contextual grounds for SDM and CI application from the empirical findings and literature.

1.5 Overviews of research methodology

The preliminary steps in designing a research proposal are to assess the knowledge claims brought to the study, to consider the strategy of inquiry that will be used and to identify specific methods. Using these three elements, a researcher can then identify either the quantitative, qualitative, or mixed methods approach to inquiry (Creswell, 2003). The choice as to which method to employ is dependent upon the nature of the research problem (Baharein & Noor, 2008). Generally, the methodological literature suggests that combined or triangulated strategies offer the best of both quantitative and qualitative research possibilities (Schell, 1992).

The case study in business intends to look deeply for explanations and expand perceptive of the phenomenon through various data sources. Specifically, the embedded case design allows for both qualitative and quantitative data and strategies of synthesis or knowledge integration (Lewis & Thornhill, 2007). Embedded case studies involve more than one unit, or object, of analysis (see 'embedded unit' definition in 1.6.2) and usually are not limited to qualitative analysis alone. The multiplicity of methods may be applied within the subunits (Scholz & Tietje, 2002). The embedded case studies rely on more holistic data collection strategies for studying the main case but then call upon surveys or other more quantitative techniques to collect data on the embedded unit(s) of analysis (Yin, 2003). Following the mixed paradigm approach (positivist and interpretive), both qualitative and quantitative data are used in answering the research questions. Overall, the thesis involves more qualitative than quantitative aspects, but both approaches have their place in the study (Pirttimäki, 2007).

The research methodology employed in this study is that of a 'single case study" with embedded units of analysis (multiple unit of analysis) and an exploratory qualitative dominant research. In utilising case study, this thesis closely followed Yin's (2003) definition of an

exploratory single case study with embedded multiple units of analysis. More specifically, this research is exploratory in terms of its purpose, qualitative-dominant in terms of the data gathering and process adopted, deductive and inductive in terms of the logic of the research/inference and unique/basic in terms of its outcome (i.e., embedded multiple units single case study in an Ethiopian conglomerate, which is also accompanied by middle-range theories).

The planned research procedure provided in the original research proposal is shown in Appendix 4. The research procedure (put as framework) also indicated even the possibility of revising the conceptual framework to the study.

The main case research procedure already followed the planned research procedure. In maintaining the quality of the case study, the researcher had mostly followed the following activities within the case study procedure.

1) Made a preliminary investigation using a desk review about the status and use of CI in Ethiopia. At this initial stage, the researcher had already made extensive desk research on the practice of CI for SDM and competitive information sources or decision support systems/tools that Ethiopian companies use to make strategic decisions, strategy development in large Ethiopian companies (i.e., practice of using CI for SDM in an Ethiopian context).
2) Decided to make the study in the metal and engineering sector based on the desk research and researcher's motivation.
3) Selected the case—Case organisation (CaseOrg) selection.
4) Made a literature review from open sources and document analysis (the major ones are listed in Chapter 5, 5.7.3.1 Qualitative Data) about the case conglomerate and preliminary investigation at the Head Quarter (HQ) of the conglomerate to determine the units of analysis and refine the context of the study.
5) Determined the unit of analysis (CaseOrg and selected six industries or sub-units in CaseOrg) using already conducted preliminary interview at the HQ and the secondary sources (i.e., developed Case Context (Chapter 2) and shaped case phenomenon/study problem (Chapter 1);
6) Developed a theoretical framework for the study (Chapter 3). Developed a conceptual framework for the case study based on the phenomenon or problems on the issue of investigation at the case conglomerate and the theoretical framework. The CFW mainly guided the study (Chapter 3, Figure 3.2).

7) Made an extensive literature review from empirical studies specifically related to the situation in the case conglomerate (Chapter 4). While the study was guided by the CFW, as a qualitative-dominant study, this chapter also framed the study since the investigation was made based on CaseOrg's and its industries (sub-units) strategies (derived from the GTPs), possible key intelligence topics, CI activities and CI organisation in a conglomerate, which comprised vertically integrated industries.
8) Made data collection, preparation and analysis concurrently using the QUAL and quant data collected by conducting individual interview and small group interview (FGD) with CIPs and CI users; and administering questionnaire to employees (CIPs) at both the HQ and the sub-units; Made empirical analyses in the multiple embedded sub-units (in selected industries)—using both qualitative and quantitative data (from employees at large). In an embedded study, the analysis of all data begins with the single case (industry) rather than general pooling of cases across the case conglomerate (Chapter 6);
9) Made data integration and interpretation embedding industries in the CaseOrg (QUAL and quan) and the CaseOrg's functional units (CIPs) and the industries as a whole (Chapter 6, 6.12). Yin (2003) cautions novice researchers who integrate embedded units into case study design, noting that novices tend to conduct analyses at the subunit level and fail to return to the global phenomenon central to the research study. In an effort not to lose site of the global issue at the heart of this study, the discussion of results for this study returned to the global level of the phenomenon central to this research study (i.e., the main case conglomerate).
10) Made overall conclusions based on the synthesis made for the main unit of study (the conglomerate or HQ) and consolidating the overall results obtained from all the selected industries (sub-units) (Chapter 7).
11) Recommended a model (rather initial framework) for starting up a formal and structured CI function for the CaseOrg along the step-by-step CI implementation strategy framework (Chapter 7).
12) Developed middle-range theories and/or provided proposition (as shown by the backward arrow, if this was revealed through the MRT iteration process) based on the improvements made mainly on the theoretical discussions and literature review (Chapter 3) and the empirical results (Chapter 6). The procedures followed to develop the MRT and the MRTs are presented in Chapter 6, 6.13.
13) Indicated future research studies from this exploratory study and as implied from the developed MRTs (Chapter 7). Conducting this type of single case-study is to be

understood foremost as a prelude to further study, in other words as an exploratory device or as a pilot case where issues are identified rather than hypotheses tested.

The *actual procedures in data collection, analysis and presentation* are also presented in 5.6.1 Research procedures (case study protocol). The detailed research methodology and design are presented in Chapter 5 and comprise the following main topics: 5.1 Introduction; 5.2 Research methodology; 5.3 Research perspective (paradigm); 5.4 Research method—mixed method and logic of inference; 5.5 Case research strategy; 5.6 Case study procedure, case selection and units of analysis; 5.7 Instrument design, data collection and sources; 5.8 Data analysis and interpretation; and 5.9 Methodological norms and quality.

1.6 Acronyms/abbreviations and key definitions

The following acronyms and operational definitions are provided to ensure uniformity and understanding of these terms throughout the study.

1.6.1 Acronyms and abbreviations

APQC: American Product and Quality Centre
BI: Business Intelligence
BICC: Business Intelligence Competency Centre
CaseOrg: Case Organisation
CI: Competitive Intelligence
CIPs: Competitive Intelligence Professionals/Personnel
FDRE: Federal Democratic Republic of Ethiopia (present government of Ethiopia)
GTP: Growth and Transformation Plan (of GoE)
HQ: Headquarter (Parent Company)
KITs: Key Intelligence Topics
KM: Knowledge Management
MI: Marketing Intelligence
MOFED: Ministry of Finance and Economic Development (of Ethiopia)
MRT: Middle-range Theory
PCUs: Principal Corporate Units (found at the HQ)
RBV: Resource-based View
SBU: Strategic Business Unit
SCIP: Strategic and Competitive Intelligence Professionals (formerly named as Society of Competitive Intelligence Professionals)
SD: Strategic Decision
SI: Strategic Intelligence
SM: Strategic Management
SDM: Strategic Decision-making
TBDM: Tactical and Business Decision-making

1.6.2 Definition of key terms

Competitive intelligence: It is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence (external and internal) regarding the implications of the business environment, competitors and the organisation itself (SCIP, 2017) for SDM purpose and competitiveness. This definition is the operational definition the study uses. However, as it is also frequently used in literature and in different study contexts, for the purpose of this study, competitive intelligence can be interchangeably used with competitive information in some places. This statement was also included in the data collection instruments for same reasons.

CI clients (CI users): Decision-makers or users of CI products or outputs in order to facilitate and enable strategic decision-making.

CI personnel (CIP): Although the terms 'CI practitioner' and 'CI professional' are often interchangeably used, the latter suggests more professionalism—everybody may practise CI, but not everybody practises it as a salaried job and in such an engaging, systematic way (Jin, 2008: 22). The term 'personnel' is used for this study to isolate those who are directly involved in such activities in both the HQ and the selected subsidiaries from others. These respondent groups can be engineers, marketing personnel, researchers and IT specialists who are mainly responsible for CI and CI related activities, who may be located in the principal corporate units and in the different units of the subsidiaries of the conglomerate.

Corporation or conglomerate (the): The Corporation (the case conglomerate as main case of the study). Conglomerates represent multi-business companies engaged in different businesses. It is often said that for them it is about multi-industry companies. The property of conglomerates is used to start a business in two or more areas that are not connected or related to each other (Kurtović, Siljković & Dašić, 2013: 112, 113).

Embedded units: Embedded case study refers to a single-case study design with multiple units of analysis. This research design is preferred when the same case study involves more than one unit of analysis (Grünbaum, 2007). Embedded case studies involve more than one unit, or object of analysis (Lewis & Thornhill, 2007). In an organisational study, the embedded units might be "process units" such as meetings, roles, or locations (Yin, 1994: 41). In the case of this study, the corporate headquarter and the six selected industries are the embedded units of analysis. See the explanation provided for 'units of analysis' in this section.

Growth and transformation plan (GTP): The GTP of Ethiopia is the document from which the conglomerate's strategic plans are derived. The main reason for the existence of the conglomerate is to realise the GTP of the country. It is the national development (also industrialisation) plan, from which the conglomerate's strategies are directly derived and aligned to. The GTP I's period is from 2010/II to 2014/15 and GTP II's period is from 2015/16 to 2019/20 (FDRE MOFED, 2016; FDRE MOFED, 2010).

Industries: The term refers to a group of firms or companies that produce similar products. The subsidiaries (sub-units or sub-cases) of the study are officially called 'Industries' by the case company. The terms 'industries' and 'subsidiaries' may be used interchangeably in this thesis, where appropriate.

Intelligence: The skilled analyses of facts and inferences. Intelligence analysts select and filter information; they interpret the resulting evidence, put it in context and tailor it to meet the needs of their policy-making customers (i.e., CI users or decision-makers). In short, analysts—and analysts only—create 'intelligence' (Moore, 2011). Intelligence is high-level, processed, exploitable information (Prior, 2009).

Key intelligence topics (KITs): Key intelligence topics focus on strategic issues of the firm or company and are gathered to aid strategic decision-making.

Middle-range theory (MRT): MRTs are theories about the minor, but necessary, working propositions and hypotheses that manifest themselves in abundance during daily scientific research and the all-inclusive systematic efforts to develop a generally acceptable, coherent, comprehensive theory that should explain all the empirically observable uniformities of economic organisation and social changes (Smith, 2008; Merton, 1967). MRTs differ from grand theories because they emphasise interaction between theory and empirical research (Geels, 2007) and "are close enough to the empirical world to be tested and refined" (Smith, 2008: 6).

Principal Corporate Unit (PCU): The case conglomerate uses this term (abbreviated to PCU) to denote the main functional units that are found at the HQ. The CI function exists as activity in different units, mainly in the Principal Corporate Units at the HQ. The embedded industries are linked to the Principal Corporate Units and the Director's Office at Headquarter. Moreover, these units can be both producers and users of CI. The respondents in this group were vice-presidents of the Corporate Commercial Operations, Corporate Marketing and Sales, Corporate Strategy and Controlling, Corporate Research and Development, Corporate New Business Development and Transformation and Capacity

Building units; and section heads found in the PCUs at the HQ. See Appendix 3 (Existing structure of the case conglomerate).

Strategic decision-making: A decision (making) that affects a company's competitiveness and long-term survival (Fleisher & Bensoussan, 2015).

Strategic business units (SBUs): SBUs are organisationally complete and separate units that develop their own strategic direction. They still report back to company headquarters but operate as independent businesses organised according to their target markets.

Strategic intelligence (SI): Strategic intelligence represents CI provided in support of strategic decision-making. Strategic intelligence is CI supporting strategic, as distinguished from tactical, decision-making (SCIP, 2017).

Subsidiaries: In multi-business corporations, such as the case conglomerate, the term denotes business entities, which may have semi-autonomous status in their relationships with the parent company (HQ). The case conglomerate comprises seventeen subsidiaries (15 industries and 2 sub-industries), which are also vertically integrated. See also the the next two terms.

Units of analysis: A unit of analysis is different from the case (Grünbaum, 2007). The unit of analysis for a case study might be a country's economy, an industry in the world marketplace, an economic policy, or the trade or capita flow between two countries. Sometimes the unit of analysis may have been defined in one way, even though the phenomenon being studied calls for a different definition. Each unit of analysis would call for a slightly different research design and data collection strategy (Yin, 1994: 22-23). The case conglomerate (parent company) and the six selected industries are the main units of analysis. In the thesis, while the HQ (as one unit of analysis) is represented by Corp-HQ, the industries are represented by the prefix 'sub' to indicate that they are subsidiaries and/or sub-cases as well.

Sub-A (Sub-case/Subsidiary A)	Sub-D (Sub-case/Subsidiary D)	Corp-HQ (Corporation's Headquarter)
Sub-B (Sub-case/Subsidiary B)	Sub-E (Sub-case/Subsidiary E)	
Sub-C (Sub-case/Subsidiary C)	Sub-F (Sub-case/Subsidiary F)	

Vertical integration: Vertical integration is a basic concentration strategy of multi-business corporations to increase the organisation's competitiveness by internalising functions otherwise carried out by suppliers or other organisation up or down the value chain (Jofre, 2011: 38). For example, an automobile company may own a tire company, a glass company and a metal company. Control of these three subsidiaries is intended to create a stable supply of inputs and ensure a consistent quality in their final product (Gerald & Elisifa, 2013: 12).

1.7 Scope of the study

The study is about CI utilisation for strategic purposes at a big conglomerate with integrated subsidiaries. These subsidiaries are sub-units of the single case analysis in the case conglomerate. Taking a single-case study and embedding sub-units (subsidiaries), the study examined the strategic use of CI in a big state-owned concentric conglomerate that has its corporate centre in Addis Ababa (Ethiopia) and operates both locally and in neighbouring countries. Thus, the data is limited to one case company (a conglomerate), but exploration and analysis of the study is made in six subsidiaries and the headquarter.

Content wise, the unit of analysis was done by identifying the activities, function, products, organisation, sharing and challenges in using CI for SDM in the case. The exploration on the mentioned issues was made at both the headquarter (parent company) and the selected six subsidiaries (industries). Besides, as the strategies of the conglomerate were already designed and operated within the scope of this strategy and the GTP periods (GTP I and GTP II), the literature review and empirical discussions were made on painstakingly selected topics vis-à-vis strategies and SDM of the case company.

1.8 Contribution of the study

The literature review investigated for this study revealed a shortage of empirical studies linking competitive intelligence to SDM in developing countries. Besides, unlike this case study, which mainly follows pragmatic-to-interpretative assumptions, most studies reporting on the usefulness of CI for SDM were explanatory or otherwise followed the positivist approach to test theories. This evidence adds to the potential of the study to contribute to this growing discipline, CI for SDM, in developing markets and manufacturing sectors.

The proposed middle-range theories (MRTs) are the major theoretical contributions of this study since limited studies have been done on CI and SDM in the context of a big conglomerate, which comprises a number of vertically integrated subsidiaries. The researcher was unable to find any MRT developed on the concepts and theories of competitive intelligence and SDM which were initially intended to develop MRT following clearly defined ways of MRT construction. In relation to this reality, the development of the MRTs also indicates the literature gap on the issue of CI implementation and utilisation for SDM in conglomerates made up of multiple subsidiaries. Related to this fact, the MRTs of the embedded multiple units single-case study can initiate future studies on the concepts and its validation, which will ultimately prove/disprove and/or build-up on the developed concept.

As has been claimed, CI is not formally carried out in most Ethiopian companies, which is also true in the conglomerate. But there are potential private and public for-profit making corporations (cases) in different industries in the country that are well established and seem to be taking on a knowledge-based orientation or evidence-informed business practice. This study has provided both data and a framework for those companies operating in the metal and engineering sectors in Ethiopia. Using the findings from this report, companies may entertain a formal CI function and feel that there is validated data to use in CI to support their SDM. The literature study, in itself, confirmed that a formal CI system is advisable and encouraged, since CI has strategic significance for almost all companies of all sizes.

Methodologically, the study provided scientific procedures for integrating CI-SDM knowledge, using embedded multiple units within a single-case study and relying on both qualitative and quantitative research methods, which have not been employed by many CI and SM research. Following the research decisions that the researcher has made provides guidance for similarly novel studies or to confirm methodologically qualitative or quantitative approaches considered in the growing area of CI, for which this study has set the impetus.

Being a case study conducted in a conglomerate acknowledged as keen to use CI for SDM, the study makes managerial and case-specific contributions, namely the design of a practical CI solution. Thus, the researcher's consultations with the case conglomerate, as part of the ethical considerations, will provide momentum to a first-time initiation and potential implementation of a CI programme to enhance its SDM and its competitiveness.

Since the strategy lens of the case company is the GTP, the study's findings and recommendations have shown utility for the national function. While beyond the remit of the study to have direct policy impact, the nature of the evidence sets up the possibility for discussions on CI as related to country competitiveness, industrialisation, import-substitution, technology transfer, knowledge sharing, benchmarking, strategic alliance, coopetition, licensing, acquisitions.

Enhancing individual firm's competitiveness will ultimately enhance country competitiveness. Better understanding of both domestic, global market and business environments and particularly CI's contribution in technology transfer and industrialisation, will enhance Africa's knowledge on firm's competitiveness in the global markets. The outputs of the study, it is posited, may be extended to continental contributions towards the understanding of the CI discipline and for the reasons that limited research has been done in

Africa on this topic, most African firms are operating under customary or traditional business practices and African firms often share similar problems.

1.9 Thesis structure

The thesis is organised in seven chapters. These chapters are logically integrated for clearer understanding of the phenomenon as well as for considering the context of the case study. Broader explanations about the context and phenomena of the study are provided in Chapter 2. This chapter also gives background information about the study, its context and the case.

Chapter 3 provides theoretical foundations for the two disciplines, CI and SDM. The chapter tries to show the linkages between CI and SDM/strategy theories. The discussions in the chapter confirm the theoretical gaps that give rise to the theorising within the middle-range theory. The middle-range theories are extended after making detailed theoretical and literature investigations of the contextual issues in both CI application and SDM sharing and merging the empirical findings on the contextual issues observed in the case conglomerate. The chapter also sets out the conceptual framework that guides the study in its last section (3.11 Conceptual Framework of the Study).

The literature review is largely dictated by the context and phenomenon of the study, which are provided in Chapter 2 (Case Background and Study Context Chapter). The literature is organised following a 'funnel' structure. The exploration of literature starts out from global CI practices. As the strategies of the conglomerate are already designed and the corporation operated within the scope of this strategy and the GTP periods (GTP I and GTP II), the topics for the literature review are painstakingly selected to relate the strategy with the issues of CI. Related to this unique case, the chapter also discusses how the case conglomerate can leverage from its military staff's intelligence expertise by transferring this skill for business use (CI). Furthermore, an attempt is made in terms of how CI is positioned in the conglomerate that has many SBUs. The alternative structures for CI within sizable corporations with many subsidiaries/SBUs have been shown. This literature chapter also gives discussions on the best practices of CI from empirical studies made on CI-SDM and from time-tested CI practices of the globally identified companies. Moreover, following the MRT development approach (i.e., iteration between theories and empirical findings from the case), the discussions in Chapter 3 and Chapter 4 have been improved in relation to the emerging middle-range theories.

Chapter 5 covers the research methodology. The case study employed mixed methods research (qualitative dominant). To indicate this fact more precisely, it is an embedded units

single-case exploratory study. The chapter provides detailed explanations or justifications for using a single-case study that involves multiple embedded sub-cases. The later sections of this chapter explain the instrument design, data collection and sources and data analysis tools and interpretation methods employed to analyse the findings in Chapter 6.

The empirical results obtained from both qualitative and quantitative data are presented in Chapter 6. For the most part of the discussions, the statistical analyses for the data obtained from the questionnaire are presented, following on the dominant qualitative data analysis. The data analysis from the two sources, namely interview/content analysis and questionnaire, are discussed together when the need arises. Inferential statistics such as ANOVA and multiple regressions are employed to explain points of significant differences among the responses obtained from the sub-cases and to see the effects of CI availability on SDM and other decision-making in the conglomerate at large, respectively.

The last three sections of this chapter present the constructed middle-range theories (6.13), linkages between the conceptual framework and empirical evidences (6.14) and the crafted CI programme implementation structure or model (6.15). 6.13 presents the middle-range theory, along the approach employed. Though the constructed middle-range theories (propositions) are conclusions by themselves, for easy presentation, limitations and future study directions for the middle-range theories and the whole study need to be presented altogether in the last section of the next chapter (Conclusions & Recommendations). 6.14 magnifies how the conceptual framework is linked with empirical evidences. Based on the empirical results (i.e., present structure, strategy contexts, CI status, perceived value, implementation possibilities/capacities and challenges) of the case conglomerate and its industries) and CI-SDM theories and CI best practices (discussed in Chapter 3 & Chapter 4), it is possible to craft CI programme implementation structural model to the case conglomerate in 6.15.

Chapter 7 presents conclusions and recommendations. The conclusions are organised into the research questions. Similarly, the recommendations are presented into two sections. The first section comprises key suggestions; and the second one explains CI programme implementation strategies to the case company. The empirical results, coupled with the best practice literature review opens up evidences to develop a CI programme implementation strategy and theory extensions (two closely related middle-range theories). In the final chapter, the study indicates limitations and future possible researches on the topic.

Chapter Two

Case Background and Study Context

2.1 Introduction

This chapter deals with the context and orientation of the study, specifically the background to the case and sub-cases. The research problem and question delineated the issues included in this chapter, leading the researcher to review and select appropriate secondary source material for inclusion. The researcher further refined the secondary material through insights gained from the data collection stage. Views that were obtained during the preliminary investigation from key informants supplement the secondary evidences. Meanwhile, all of the information included in this context chapter is based on claims by higher officials of the case company and on statements issued officially by the corporation through its different dissemination media, such as corporate and industry magazines, brochures, newsletters, corporate and industry websites and other open sources.

The researcher conducted the current study in a state-owned, military-run vertically integrated conglomerate. Its strategies are directly derived from the country's Growth and Transformation Plans (GTP I and GTP II; each GTP runs for five years). The conglomerate, therefore, has already identified the economic priorities in relation to the GTPs. Furthermore, the government has provided guidance in the form of mission statements for the conglomerate to accomplish government's strategic priorities.

In line with the purpose of this study, it is critical that the conglomerate requires quality CI to improve the quality of its SDM. Such CI will strengthen decision-making related to, among other issues, technology selection and transfer, choice of strategic alliances for joint production and turnkey arrangement, capacity development and learning, benchmarking, value chain improvement, licensing and negotiations during acquisitions and other corporate expansions (Corporate Magazine, 2013; Corporate Bulletin, May 2012; Corporate Strategy and Organisation Manual, 2010). As noted in Chapter 1, the study aims to discern how CI practices in the conglomerate are enhanced, bearing in mind that the strategies are already prescribed by the GTP I and GTP II.

2.2 Conglomerate's background

The conglomerate is the biggest of its kind in Ethiopia. It is viewed as a market and innovation leader in Ethiopia because of its strategic purposes, core competencies, size and the advantages it gets from fulfilling its government mandate.

2.2.1 Establishment and purpose of the conglomerate

The conglomerate was formed by grouping together nine national missions of the Ethiopian government. Thus, the strategies of the case are directly derived from and aligned to national industrialisation, economic development, import-export development, technology transfer and national capacity development policies, as well as defined strategies of the present government. The conglomerate was established publicly by the Council of Ministers and reports directly to the Prime Minister's Office of Ethiopia, given its strategic positioning. It is also required to report its performances to the FDRE Parliament once in a year and when called upon for extraordinary reports.

The corporation became a conglomerate through the merging of five of the former military engineering industries. Additionally, publicly owned business enterprises and different private business establishments (even hotels and ships) were also included. Emulating the experiences of South Korea and Taiwan, the conglomerate thus cumulatively incorporated close to 70 state-owned enterprises within the engineering sector. Presently, the conglomerate runs more than 100 factories under its 15 subsidiaries (industries) and 2 sub-industries. From a vertical integration side, the conglomerate also established several new businesses in the metal and engineering sector in Ethiopia.

Vision: Conglomerate's vision is to ensure that Ethiopia prospers through industrialisation.

Mission: According to the FDRE's Council of Ministers Regulation to the Corporation (FDRE Council of Minister Regulation No. 183/2010), the conglomerate was given the following prescribed mission statements. (Note that only the first five statements, in italics, are integral to the study and were rearranged as the first five, for the purpose of the study.)

1. *To design, manufacture, erect and commission manufacturing industries;*
2. *To engage in maintenance and overhauling of manufacturing industries;*
3. *To manufacture industrial machinery, capital goods and industrial spare parts;*
4. *To expand and enhance engineering and technological capabilities through creating partnership for the entrepreneurship for the integration and interfacing industrial resources;*
5. *To build technological capabilities of the country's defence force through identifying existing and potential needs based on research and development;*

6. To undertake production, manufacturing, maintenance, overhauling and upgrading of weapons, equipment and parts useful to defence and security forces for combat and war operations;
7. To sell its products of weapons, equipment and parts to domestic and overseas buyers in conformity with the law;
8. In line with directives and policy guidelines issued by the Ministry of Finance and Economic Development aimed at ensuring macroeconomic stability, to sell and pledge bonds and so negotiate and sign loan agreements with local and international finance sources; and
9. To engage in any other related activities necessary for the attainment of its purposes

As can be learned from the above mission statements and other sources, though there is no specific legal framework to establish a 'conglomerate' business in Ethiopia, the Government gives the conglomerate special considerations and privileges like the special support given in the 'model' countries, for example Korea, Japan, Taiwan and China (Corporate Magazine, 2013). Detailed discussions are presented in Chapter 4, 4.2.2 (CI in Asian 'Model' Countries).

2.2.2 Conglomerate's core businesses, product lines and markets

Core businesses of the conglomerate: According to the corporation's publications, the conglomerate's core business is to design and manufacture products and facilities for the benefit of the public and the private sectors. The conglomerate specialises in the integration of engineering capabilities through the production of selected products, machines and the installation of industrial facilities.

Though the conglomerate produces both commercial and military products, the current study focuses on the industries producing commercial products. Some of the conglomerate's subsidiaries produce both types of products and so it is necessary to see the broader product lines of the conglomerate. Such products are part of the larger product value chain strategy of the integrated conglomerate.

Table 2.1 Core businesses of the case conglomerate

Major Division	Sub-group
Manufacturing	Manufacturing of auto motor trade
Manufacturing	Manufacturing of cells and batteries
Manufacturing	Manufacturing of agriculture and forestry machines
Manufacturing	Manufacturing of aircraft and spacecraft
Manufacturing	Manufacturing of basic iron and steel
Manufacturing	Manufacturing of bodies (coachwork) for motor vehicles; Manufacturing of trailers and semi-trailers
Manufacturing	Manufacturing of electric motors, generators and transformers
Manufacturing	Manufacturing of electricity distribution and control apparatus
Manufacturing	Manufacturing of energy-saving technology devices
Manufacturing	Manufacturing of insulated wire and cable
Manufacturing	Manufacturing of machinery for mining, quarrying and construction
Manufacturing	Manufacturing of motor vehicles
Manufacturing	Manufacturing of other motor vehicle parts and accessories
Manufacturing	Manufacturing of radio, television and communication equipment and apparatus and of medical, precision and optical instruments, watches and clocks
Manufacturing	Manufacturing of railway and tramway locomotives and rolling stock
Manufacturing	Manufacturing of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
Manufacturing	Manufacturing of tents, tarpaulins, sails and other canvas goods
Manufacturing	Manufacturing of weapons and ammunition
Manufacturing	Manufacturing of wearing apparel, except fur apparel
Manufacturing	Manufacturing of footwear
(Source: FDRE Ministry of Trade, New Standard Business Classification, 2015)	

As seen in the above table, the Corporation is engaged in the production of industrial machineries, generators and transformers, construction and agriculture machineries, vehicles, high-tech products, weapons and other metal engineering equipment.

Product Lines and Markets: The conglomerate is engaged in the production of generic machinery, generators and transformers, construction and agriculture machinery, vehicles and other metal engineering equipment. The subsidiaries focus on the design and production of heavy-duty capital goods and products that the private sector in Ethiopia is unable to supply, at least in the short term.

The conglomerate competes with foreign products through manufacturing import-substitute products for the local market. These are mainly heavy industry machines, fabrications and high-tech products. The analysis of national markets takes place within the context of global competition. The conglomerate responds to this analysis.

Production and technology in the conglomerate (production strategies): According to officials of the conglomerate, the Corporation focuses entirely on the production of capital

products (mainly technologies and heavy machinery) and not on service and trade activities. Capacity building and technology transfer are central to the major strategies of the conglomerate and are integral to the overall national technical and technological capability development strategies of the country.

The conglomerate's expertise in design includes every step in the product management life cycle. This include concept development, sketching, modelling, simulation, prototyping, production process design and testing, new product development and product improvement. Industries of the conglomerate design turnkey projects that are specifically customised to the precise needs of the customer.

As one is able to see from the introductory paragraphs, the case conglomerate is the first large conglomerate in Ethiopia. According to certain consulted officials of the conglomerate, the corporation engages in business by identifying any market failure/gaps and then works towards filling in these areas/gaps. By doing this, the conglomerate continues to find future market gaps and satisfies these gaps by taking advantage of its ongoing learning and experiences. The conglomerate has closely integrated subsidiaries in its value chain strategy. The conglomerate considers the integration of subsidiaries as one of the key advantages it has in the local market. The management and staff also consider the conglomerate as a technology leader in the country.

2.2.3 Leadership and business philosophies of the conglomerate

Leadership as well as management and business philosophies are critical points to consider in this study since they are interdependent and interrelated. These dimensions affect the CI strategy of the conglomerate. Conglomerate's leadership evolves from the goals and missions prescribed at corporate level.

Leadership is the expression of the tone at the top and the executive vision of the conglomerate. Leaders lead, but also manage since management involves the translation of the leadership ethos into more operational outcomes. As is shown below, the style of leadership creates close kinship with management.

Leadership and management in the conglomerate: As officials of the case conglomerate say, the conglomerate believes in collective leadership, where each member of the conglomerate brings innovative ideas, shares knowledge and takes part in decision- making. This collective decision-making is cascaded from the top (CEO's Office) to the bottom (level

of workshop teams). Thus, free thinking and idea-sharing are highly valued in the conglomerate and its subsidiaries.

According to certain officials who were consulted, the corporation's approach is to create a problem-solving environment that includes staff who participate actively in problem-solving. The corporation's participatory leadership approach promotes two-way communication, knowledge sharing and freedom of thinking, which enables a more critical problem-solving environment.

The conglomerate's semi-autonomous companies focus on their own individual responsibilities while they all work together striving to achieve the common goals. Thus, almost all operations and decisions in the conglomerate and subsidiaries are made in teams. Team work at the conglomerate is not limited to the internal boundaries of the corporation. It includes teaming and collaborating with partners, suppliers, customers, academia and stakeholders. Effective team work starts with trust. Team members, by engaging with one another on a personal level, create trust and build better business relationships. These strong business relationships, built upon trust, foster an environment of increased productivity, better communication and fewer conflicts among team members. According to certain consulted officials, the participatory leadership approach facilitates the achievement of team work, trust and strong business relationships.

The conglomerate has a motto that distils its essential vision: "We are building our capacity while working; and we are working while building our capacity." The tone of this motto emulates the "Do-Learn-Improve" motto of the Korean conglomerates, which serve as a model for the conglomerate in Ethiopia (Corporate Magazine, 2013).

Business philosophy of the case: Unlike business enterprises that focus mainly on profitability, the strategy of the conglomerate focuses on filling gaps in the market, or addressing the market failure, which cannot otherwise be satisfied by the private businesses. The conglomerate has a desire to work with the private sector and believes that, after a few years, the private sector will widely engage in the present works of the conglomerate (Corporate Magazine, 2013).

One of the core businesses of the conglomerate is to lead industrialisation, technology localisation, heavy machine design and customisation. According to the Director of the conglomerate, the conglomerate believes in government-led industrialisation, which is a philosophy of many fast-developing economies of Japan, China and Korea in East Asia.

The strategy of the conglomerate ranges from joint production to marketing. Filling market gaps and/or addressing domestic market failures are part of the major strategies of the conglomerate. The conglomerate's high-ranking officials say that the conglomerate (and its industries) do not directly compete with local private firms, unless these firms keep on importing foreign-made metal and engineering products that add no value to the country's industrialisation. The conglomerate, however, has a policy to leave such markets to be adequately served by the private firms in the long run.

The conglomerate was established to lead and realise the industrialisation and technology development process of the country. To achieve this, working with all internal and external stakeholders is important. The conglomerate believes in the importance of creating a production network with both internal and external operators in its subsidiaries/industries. Thus, the corporate and market philosophy of the conglomerate is to work in partnership with all local producers by establishing an industry network throughout the country (Corporate strategy and organisation manual, 2010).

As mentioned previously the conglomerate promotes and practices participatory leadership, open communication and freedom of thinking. The conglomerate believes that innovative ideas are crucial to innovation and problem-solving. This philosophy directly facilitates and encourages knowledge sharing and transfer in the conglomerate.

2.2.4 Strategy and strategy development in the conglomerate

The portfolio approach to corporate strategy is often associated with the conglomerate organisational model. According to the *Portfolio Perspective*, each 'strategic business unit' (SBU) must develop a specific strategy according to its goals and be highly responsive to the competitive dynamics of its specific business (Kemp, 2006). The corporate centre has the liberty to involve itself in the business; select a portfolio (slate of offerings and workings) of business; keep tight financial control and allocate and redirect available capital (Hirt, Smit & Yoo, 2013).

Unlike the portfolio perspective that focuses on individual business unit performance and profitability, the *Core Competence Perspective*, gives importance on shared competencies that can contribute to the conglomerate's overall core competencies. The core competencies should accordingly be used and leveraged as much as possible across all the firm's business units (Kemp, 2006). All business units should contribute to the core competencies of the organisation, by being empowered with relative small autonomy (in comparison to the portfolio perspective). In this sense, corporate business units of activity should remain close

team players (Hirt et al., 2013). The case conglomerate is inclined to follow the core competence perspective.

2.2.4.1 Strategic focus of the conglomerate

The strategy of the conglomerate is derived from the nine main objectives and the four mission statements that were provided by FDRE's Council of Minister Regulation No. 183/2010. This approach is intended to help with the proper execution of the Growth and Transformation Plans of the country. For example, the Government's GTP, which is the pillar or framework of the conglomerate's strategy, focuses on technology transfer, industrialisation, export promotion and import substitution. Thus, the conglomerate follows this strategy to achieve national goals.

According to the interview made with the CEO of the conglomerate, the corporation derives its strategies from the philosophies, policies and directions of development-oriented governments and development-oriented business enterprises.

Technology transfer and strategic alliance strategy: As per the interview with the Deputy Director of the Corporation and Director for Commercial Operations, the research and development (R&D) strategy stipulates the what and how of technology transfer and which home-grown technology developments are to be achieved within the short, medium and long term. The Corporate R&D is required to conduct in-depth research and development to speed up and enhance the country's industrial development and manufacturing capacity of both critical and requisite areas. R&D also works at identifying and researching the engineering and research gaps across the nation as well as proposing directions for the on-going R&D of the country.

The conglomerate seeks foreign firms in the establishment of new businesses and in carrying out big government projects through sub-contracting arrangement. By following this strategy, the conglomerate believes in facilitating technological transfer and local capacity building in the areas of engineering and high-technology. Through partnering and working with different technologically advanced countries and leading technology foreign companies, the conglomerate learns from and transfers, this capacity to achieve 'scale up' and build up experience within local production enterprises (FDRE MOFED, 2013).

According to officials of the conglomerate, the conglomerate chooses suitable partners for its technology acquisition and transfer strategies. It enters into contracts and negotiations with different foreign companies including licensing, buy-outs and acquisitions. Presently, the

conglomerate is aggressively looking for technologies from abroad through strategic alliances and benchmarking arrangement. It deals with large number of suppliers, contactors and partners in both local and foreign markets. The conglomerate activities are not only for the production of goods, but also for the realisation of the technology transfer and local capacity development plans of the country.

Since the corporation is involved in several mega-governmental projects and has been given priorities, special privileges and protection by the government, it is establishing large metal industries in the country and developing a range of plants in the mechanical sector to help boost the country's development. Currently, the conglomerate is practising an acquisition strategy so as to acquire different factories abroad and establish several metal industries in different regions of the country to feed into major metal projects in which the conglomerate is engaged.

As the conglomerate is also acquiring different technological products and factory establishments, it is engaged in extensive deals and negotiations with these groups using different sources of information. The concentric conglomerate is still acquiring and buying out different factories (even hotels and ships) from different local and foreign owners.

As indicated by Deputy Corporate Director, the search for and acquisition of technology intelligence may be highly dependent on this acquisition strategy. Thus, it is possible to assume at this point that it is the strategy of the conglomerate that leads to the intelligence (i.e., key intelligence needs and/or topics). This assumption will be reviewed in this study.

Value chain development and vertical integration strategy: According to the backwardly, vertically integrated case conglomerate, the conglomerate specialises in the integration of engineering into production. This production includes products, machines and installation of industrial facilities. The case conglomerate's mission is to satisfy the country's growing development demands in the public as well as private arena by vigorously and innovatively designing, building and integrating related manufacturing industries. One of the nine strategic objectives of the grand strategy is to expand and enhance engineering and technological capabilities. Such capabilities will be done through partnerships for entrepreneurship in order to integrate the existing and potential industrial resources. As per the proclamation to establish the conglomerate, the separate semi-autonomous entities were established and integrated into the vertical value chain (strategy) of the conglomerate. These entities continue to establish and control new factories from both local and foreign sellers.

Most products of the conglomerate are elements of the larger product value chain strategy of the integrated conglomerate. The subsidiaries are linked into a supply chain and networking approach that gives priority to adding value to the products. Several subsidiaries are found in closely related industries that have been targeted for their inputs into the value chain strategies (conglomerate integration). These are in the metal and engineering sectors as well as technology (including the Ethiopia plastics industry). To illustrate, Sub-case C has five factories: a machine-building factory, a material treatment and engineering factory, a mechanical sub-system factory, a precision machinery factory and a conventional factory. The products primarily serve as inputs for a variety of industrial machinery used by other industries of the conglomerate as well as agencies in the public and private sectors.

In line with the conglomerate's strategy to link the different industries in the value chain, these industries (and the entities falling under them) are expected to work with one another to ensure the highest values are created in the value chain. This approach of adding value benefits both the Corporation and the country. The conglomerate's semi-autonomous companies focus on their own individual responsibilities while simultaneously working together to achieve the overarching common goals of the conglomerate (Corporate Magazine, 2013). For instance, in Ethiopian Power Engineering Industry, since all the industries are integrated within the supply chain, most purchase requests come from the other subsidiaries of the conglomerate. Thus, the industry mostly produces complementary products.

The existence of closely integrated industries, in the value chain strategy of the conglomerate may also be assumed as one of its core competencies in the local market. One of the major functional responsibilities of the Corporate Leadership Committee is to integrate operational issues of the conglomerate through effective leadership of value chain analysis as well as networking among the industries and their products. Similarly, the Corporate Commercial Operations and Military Operations have a duty to create vertical integration and networking among the different industries of the conglomerate.

This current study is, as outlined in Chapter 1, focused on CI utilisation for strategic purpose at a big conglomerate with integrated subsidiaries. Thus, CI sharing is vital to the Case Company. It may be argued that CI has to play great role because subsidiaries of the Case are highly integrated industries that are working to improve the overall value chain of the conglomerate.

Partnership and value chain strategy with external value chain partners/actors: According to some consulted officials, the conglomerate works in aiding the creation of one industrial community nationwide. The conglomerate believes that 'competition' is not 'cut-throat'; rather it is about creating the capability for competition. The conglomerate must carve out its niche role in implementing the industrialisation programme and technology transfer efforts of the country. Following this business philosophy, the conglomerate works with many members of the value chain (both local and foreign companies) through integrating them into its different sectors/industries.

Officials of the conglomerate claim that the conglomerate not only employs the value chain strategy in its attempt to work with foreign companies, but also works with local business enterprises on areas of product distribution, sub-contractual arrangement and installation of factories as well as local private businesses. It is also the strategy of the conglomerate to work with local business establishments through different strategic alliance and collaboration arrangements on areas such as: distribution (of the conglomerate's products); factory design and installation (to the private sector); value chain networking and a subcontracting approach (with micro and small enterprises) and technical/technological collaborations and contracting with other private firms in Ethiopia. These partners, as listed in these alliances emanate from educational institutions, engineering institutions, local companies and micro-small enterprises.

Capacity development and knowledge sharing: Officials of the conglomerate claim that the case corporation is a responsible corporate that practices corporate citizenship by working towards building national capacity with industry actors in a sustainable way. According to consulted officials of the conglomerate, by doing this, it is possible for the conglomerate to build its technical and management capabilities from the value chain approach, in general and the knowledge sharing approach (with its partners), in particular. By promoting the value chain approach with these groups, the conglomerate believes in building local capacity in industrialisation and enhancing the export capacity of the country. According to the conglomerate, the value chain approach should not only benefit the conglomerate itself, but it should also benefit other institutions (such as engineering faculties at universities) that will have the opportunity to develop and design technologically-driven products. In promoting the value chain approach with these groups, the conglomerate also builds local small firms' capacity ultimately to promote broader industrialisation and to enhance the export capacity of the Country.

With respect to technology, to accomplish its mission within a reasonable price and high quality, the conglomerate must continuously learn, develop and build its capacity. It must work to produce adaptable technologies and promote the technologies among users in the different sectors so that they will have experience of these technologies. Although technology development is one of the major implementation tools of conglomerate's strategy, it believes and work to make this tool a national capacity endeavour (Corporate Magazine, 2013.

Knowledge society development and knowledge sharing: The conglomerate is viewed as a knowledge-based organisation in Ethiopia in terms of its strategies in and approaches to knowledge sharing, benchmarking, technology transfer, learning organisation.

Unlike business enterprises that largely look for skilled human resources from the market, the conglomerate focuses on developing its staff in capacity and work discipline, from within. The conglomerate employs both high profile personnel and fresh graduates from universities. The conglomerate builds its own capacity through bespoke strategies for human resource development.

Practically, the case conglomerate and its industries (sub-cases) apply multi-perspective strategies such as core competence, resource-based view (RBV), innovation and technology orientation, market-orientation, customer-orientation, national demand and industry forces analysis and positioning.

2.2.4.2 Strategy development process at headquarter

As mentioned by the officials, the SDM process in the case conglomerate was done by both the HQ and the subsidiaries consultations and would be the remit of ensuing discussion.

Planning and strategy development process of the conglomerate: In developing its strategic plans, the conglomerate employs both a top-to-bottom and a bottom-up approach. In the top-to-bottom strategy development approach, the conglomerate usually designs the generic strategy following the GTPs of the Government.

On the other hand, the form of the bottom-up approach provides the aggregate detailed strategic plans of the conglomerate. In developing its detailed strategic plan and annual plans, Corp-HQ requests annual plans from the major stakeholders (customers) and annual plans from the subsidiaries, usually three months before the end of the fiscal year in June. While the researcher was conducting this interview, ten experts from the Strategy and Control Unit were doing a field visit to advise the subsidiaries in their strategy development and annual

planning. The main role of the strategy team from the conglomerate is to verify whether the plans are developed following the planning and reporting format of the conglomerate and to provide advice and guidance.

The strategy team also discuss whether and how the plans are integrated with the plans of the integrated subsidiaries so that a holistic plan is developed in the end. Before the plans are presented to the CEO and the Advisory Board (Committee) for approval, directors from the subsidiaries will discuss the final plan.

As per the interview made with the section head of strategic issues, the top-bottom plan development follows this process: (*GTP—Conglomerate's Strategic Plan—Tactical Plans—Operational Plans*). In the end, the semi-autonomous subsidiaries come together to discuss and craft the final consolidated strategic plan. The sum of the subsidiaries' strategic plan is the main part and parcel of the strategy and will make up the conglomerate's strategic document.

Strategy implementation is done by designing a yearly plan, which is periodically evaluated using progress reports. There are variations in the success of implementing the strategies.

2.2.5 Conglomerate's grand strategies as linked to CI

From the literature review and within the contemporary context (strategy of the conglomerate), the researcher too believes that CI would largely enhance conglomerate's SDM and thereby its competitiveness.

Unique strategies of the conglomerate: The present study focuses on the value of CI for different SDM areas of the case conglomerate, such as new business development; product development; technology transfer; innovation and learning; custom production; effective benchmarking; partnerships; strategic alliance; competition; joint-production; acquisitions, turnkey arrangement; licensing; negotiation and sub-contracting (outsourcing); foreign marketing; value chain (in the integrated subsidiaries) and supply chain strategy.

CI product focuses: The discussions on the strategic value of CI for selected strategic issues are other aspects of the context of the study. As related to the above strategic issues, the key intelligence topics of the case are determined by the SDM issues or strategies of the conglomerate. KIT determination and accordingly CI collection are guided by the already designed strategy (strategic objectives), which are derived from the national industrialisation and technology transfer priority issues or plans of the government.

2.2.6 Organisation and structure of the conglomerate

The case conglomerate had gone through extensive restructuring to have the present conglomerate shape. The conglomerate constituted several integrated subsidiaries. It is the first big state-owned conglomerate that is structured based on these subsidiaries (15 semi-autonomous industries and 2 sub-industries).

The Structure of the conglomerate follows its Strategy:

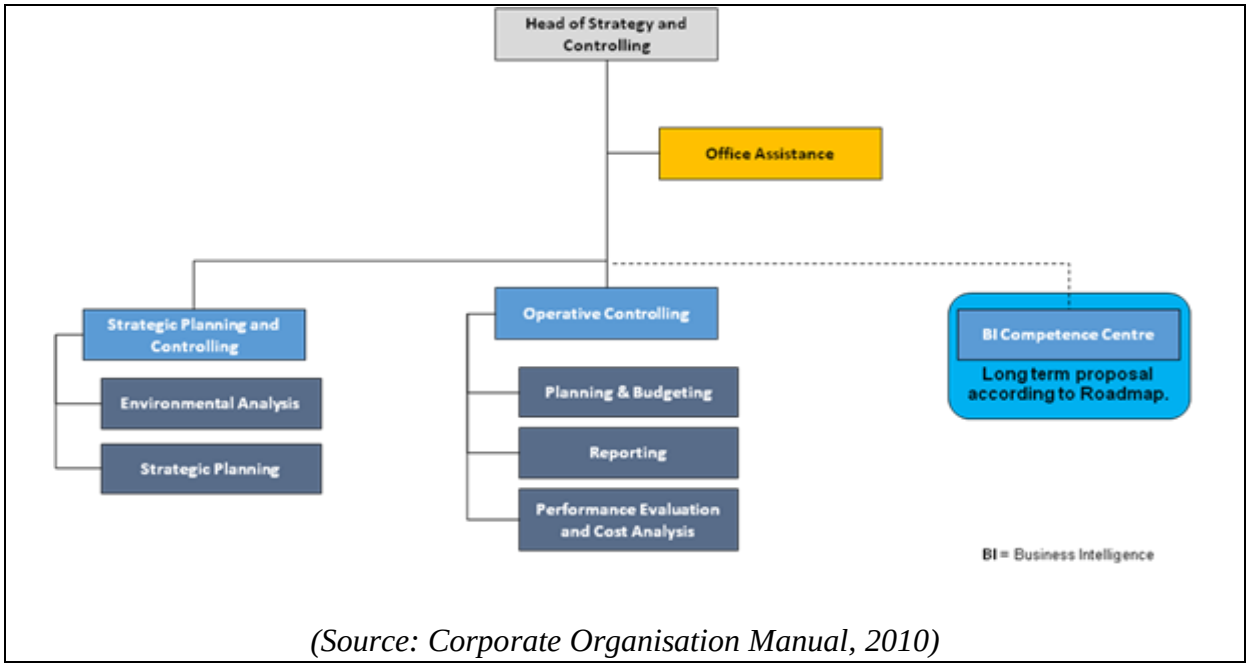
- the conglomerate comprises two Principal Units that serve the Commercial Industries/Subsidiaries and the Military Industries/products;
- the conglomerate is organised into six principal corporate units and fifteen subsidiaries that directly report to the Director (CEO); and
- there are three active Corporate Service Centres in the conglomerate.

Case conglomerate's highest leadership body is the Corporate Leadership Committee. The Committee involves:

1. Director of the conglomerate (Leader of the Committee)
2. Six vice-directors (the vice-directors lead the Six Corporate Principal Units)
3. Corporate Assistant (Secretary of the Committee)

Only the functional descriptions that are related to CI are discussed in the study. Appendix 3 shows the 'as is' organisation structure of the conglomerate depicting the relationship among the Principal Corporate Units and the Subsidiaries of the conglomerate.

In the formal structure manual of the conglomerate, the Corporate Strategy and Controlling PCU involves the following three sections: Strategic Planning, Controlling Operative Controlling and the Business Intelligence Competence Centre. However, these three major sections presented in the figure have now been modified to the following sections: Strategic Issues; Operations Planning; Contract Administration and MIS.



(Source: Corporate Organisation Manual, 2010)

Figure 2.1 Partial organisation chart where the planned BI/CI Function is located

2.3 Subsidiaries or sub-cases background

The case conglomerate's industries can be grouped into four major production categories: (1) Primary products (such as cement and fuel extraction); (2) Engineering products; (3) Agro-industry products; and (4) Consumer products.

2.3.1 General facts about the subsidiaries

The subsidiaries are linked to the Principal Corporate Units and Director's Office at Headquarter (i.e., Managing Director of the conglomerate, Corporate Assistant, Corporate Commercial Operations, Corporate New Business Development, Corporate Marketing and Sales, Corporate Finance and Investment). They are also linked to the Service Centres and Functional Departments (i.e., Corporate Quality Engineering Standards Centre, Corporate Transformation and Capacity Building Centre, Corporate R&D Centre, Corporate Strategy and Control, Corporate Public Relations and International Affairs). Functional departments exist in both the conglomerate and its subsidiaries.

2.3.2 Leadership and structure in the subsidiaries

Since the subsidiaries are in the conglomerate's structure and are managed by the conglomerate, they follow almost similar administration, operational and marketing procedures and strategies.

2.3.2.1 Leadership in the subsidiaries

The subsidiaries share similar management practices and the same advantages and disadvantages. Despite differences in the existence of establishments (for example, some are formed as new businesses, some are run in partnership with foreign companies, while others are acquired from local and foreign business entities), they are part of the conglomerate. As such, they are required to practise and cultivate the formally outlined organisational and cultural values.

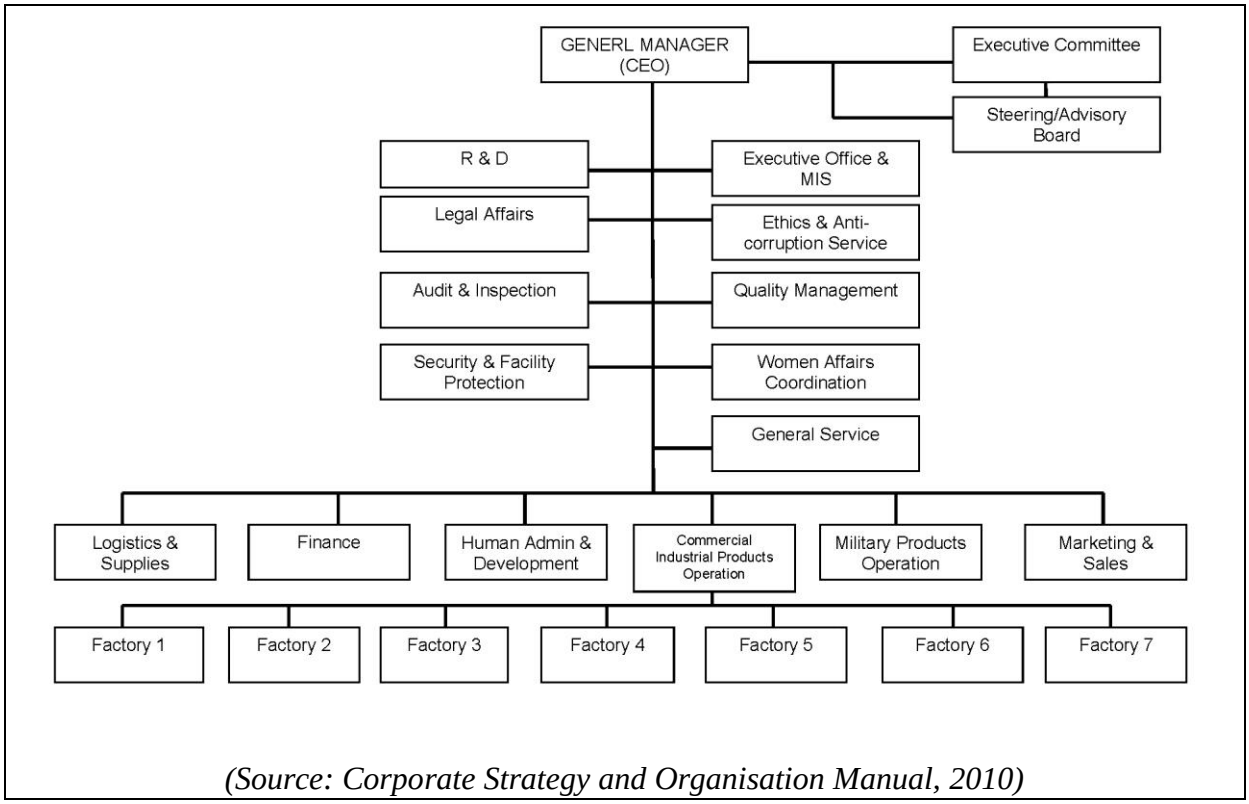
Committee decision-making in the subsidiaries: As per officials of the conglomerate and as stated in the corporation's organisation manual, almost all major decisions of the subsidiary and decisions that fall into the appropriate scope of the subsidiary are made by the Management Committee, which constitutes heads of departments and the CEO.

Although the Management Committee makes major and critical decisions in the subsidiaries, approval for major product development or new factory establishment proposals have to be approved at the HQ. The subsidiaries make strategic, tactical and operational decisions through the following committees.

1) *Management Committee:* The committee is led by the CEO of each industry and involves department heads. The committee makes major decisions regarding the scope of the conglomerate (corporate HQ).
2) *Steering Committee:* The committee is led by Industry Clustering Department Head and involves staff and factories in each industry (i.e., subsidiary). The focus of this committee is information sharing and supply-chain integration among the factories and other subsidiaries.
3) *Operations Committee:* This new committee involves experts from R&D, Plant Engineering, Manufacturing Operations and Clustering departments.

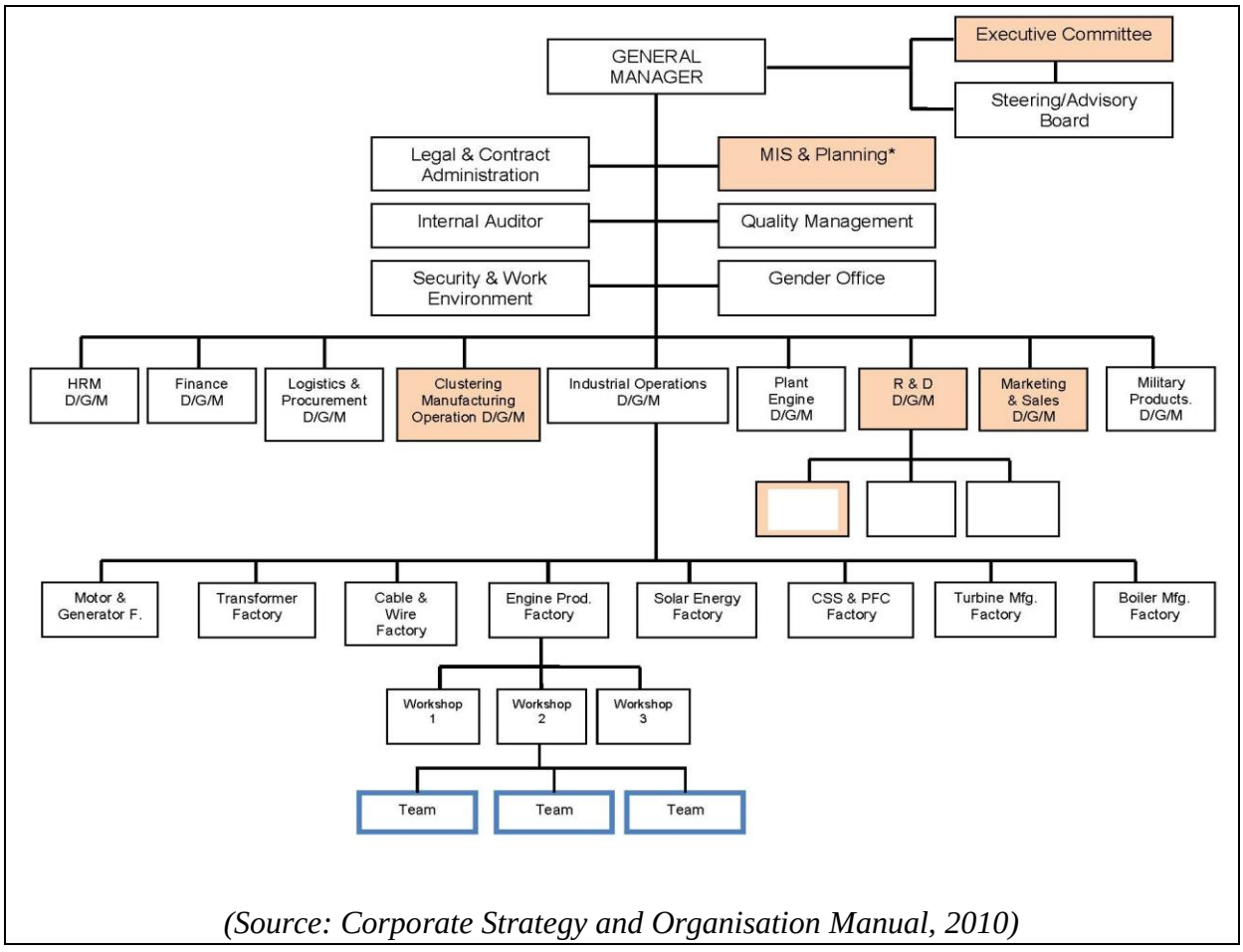
2.3.2.2 Subsidiaries' structure

Since the subsidiaries are semi-autonomous, they can have customised structures and functional descriptions. No more than seven factories are or will be established in each industry. Each factory is considered a profit centre (i.e., a strategic business unit). It is also stated that not more than five workshops will be run under each factory. The factories are constituted on sub-specialisation and each workshop produces at least one complete product. The subsidiaries can use the generic structure depicted in Figure 2.2 as a template.



(Source: Corporate Strategy and Organisation Manual, 2010)

Figure 2.2 Generic structure for industries/subsidiaries of the case conglomerate



(Source: Corporate Strategy and Organisation Manual, 2010)

Figure 2.3 Present structure of Sub-case D

2.3.3 Strategy-competitive intelligence-related issues at the subsidiaries

The industries are linked in a supply chain and networking approach that gives priority to value addition in terms of the products. The industries are, in effect, closely related industries established to fit the value chain strategy of the conglomerate. These fall within the metal and engineering sectors as well as technology. In line with the conglomerate's strategy to link the different industries in the value chain, however, these industries (and the entities falling under them) are expected to work with one another to get the highest possible value within the value chain for both the conglomerate and the country. The conglomerate's semi-autonomous companies focus on their own individual responsibilities while they all work together striving to achieve the common goals of the conglomerate (Corporate Magazine, 2013). This is why the major reference point that guides the industries' operation and its implementation is one single, but comprehensive, strategy document that is prescribed for all subsidiaries.

The management and structure shape the industries. Aligned with the GTP and the Government's budget period, this corporate strategy is customarily developed for five budget years. However, the industries have space to make strategic decisions within the scope of their market and for their respective industry. Although the industries have some latitude in planning and executing their own plans and developing projects, they are expected to comply with the requirements and grand strategies of the conglomerate.

The starting point in developing industries' strategic and annual plans is the generic strategy of the conglomerate. The development process for their plan is listed under the conglomerate's strategy development process. Industries follow these in a cascaded way. As per the interview made with one Section Head, the strategic planning process follows the top-bottom plan development scheme (GTP—Conglomerate's Strategic Plan—Tactical Plans—Operational Plans). However, considering its capabilities and resources, each industry is also required to develop its own strategic plan (annual plan) following this scheme. The industries thus develop detailed annual plans based on the strategies of the conglomerate.

Although the industries use the generic strategy as their reference to drive their own strategic plans, this strategy can be implemented only when it has approval from the CEO's office. The industries may also propose, for headquarter's approval, issues that might have strategic significance for the conglomerate. The Management Committee, which is also an advisory board to the CEO, evaluates and approves not only the industries' strategy documents but also the conglomerate's overall strategy document.

Strategy implementation: Strategy implementation is done by designing a yearly plan, which is periodically evaluated based on progress reports. Although the corporate strategy of the conglomerate is the reference point for the design of strategies and plans of the industries, the implementation of the strategies or the tactics may differ from industry to industry. Moreover, the capacity of the industry determines the success of strategy development and the plan's implementations. As per interviews that the researcher had with leaders of the industries, the industries did not have an equal level of performance in implementing strategies of the conglomerate in relation to their own strategies.

Practically, though the industries were guided by the corporate grand strategy, they also apply multi-perspective strategies such as core competence development perspective, resource-based view, knowledge-based view, dynamic capability view, new product development, innovation and technology orientation, market-orientation, customer-orientation, value chain development and integration, national demand and industry forces analysis and positioning.

For example, as explained by a CEO of one sub-case (industry), in developing its plans, the subsidiary usually requests the plans of its major customers in advance. However, the industry' plan also depends on its capabilities and the resources it has. It can be said that this industry also leans towards practising a resource-based view. Therefore, since each subsidiary's capability is different and each subsidiary is found in a relatively different industry serving a different market, the KITs are specific and unique.

2.4 Background to the selected subsidiaries

This study was undertaken within the conglomerate comprising 15 big industries and 2 sub-industries. The selected six semi-autonomous subsidiaries are the embedded units of analysis of the case study. The case does not extend to the registered 300 private limited companies or plants in each industry.

One reason to conduct a single case study with six embedded sub-units (sub-cases) and the HQ is also to obtain a deeper understanding of the nature and depth of CI sharing or knowledge transfer among these units within the conglomerate.

Selected industries for the study (embedded multiple units single-case design): The six industries and the headquarter are sub-units or sub-cases of the embedded single-case study. [They are: 1) Corp-HQ (Corporation's Headquarter); 2) Sub-A (Sub-case/Subsidiary A); 3) Sub-B (Sub-case/Subsidiary B); 4) Sub-C (Sub-case/Subsidiary C); 5) Sub-D (Sub-case/Subsidiary D); 6) Sub-E (Sub-case/Subsidiary E); 7) Sub-F (Sub-case/Subsidiary F)].

Although Corp-HQ was taken as the parent company or headquarter of the conglomerate, it was included in the study as a reference point and shall be considered as one sub-case so that it is possible to make comparisons among the responses of the sub-cases (the industries) and between the sub-cases and the conglomerate (as headquarter).

A detailed background to each selected industry is provided in Appendix 1 (Background to the Selected Sub-cases).

2.5 Chapter conclusion (case contexts)

This chapter presents only highlights for the case conglomerate's background, study contexts and the phenomenon investigated in the case study. Detailed explanations given in 5.5.2, "Justifications for using single-case research strategy", mainly those explanations that were given for 'unique case' and 'critical case', add to the context and phenomenon of the study.

Any phenomenon is embedded in its context. Thus, a case study method gives attention to the intertwining of phenomenon and context. This case study is about a phenomenon of CI utilisation for strategic purposes at a big vertically integrated conglomerate with many subsidiaries/industries operating in the metals and engineering sector in Ethiopia.

The researcher conducted the current study in a state-owned, military-run vertically integrated conglomerate, which has its strategies directly derived from the country's Growth and Transformation Plans (GTP I and GTP II, each GTP runs for five years). The conglomerate, therefore, has already identified the economic priorities in relation to the GTPs. Furthermore, the government has provided guidance in the form of mission statements for the conglomerate to accomplish government's strategic priorities.

The case study was made in the context of the existing structure and strategy of the case company. The parent corporation (corporate HQ) has already provided the generic structure and framework of an organisation in such a way that all industries should refer and develop their own structure in accordance with the framework put in place. Moreover, the industries were tailored to follow the strategy of the conglomerate. Although the industries had some latitudes in planning and executing their own plans and developing projects, they were expected to comply with the strategic issues, objectives and core strategies of the conglomerate such as technology transfer, custom production, national capacity building in technology, meeting national market failures and partnership or joint-production. Practically, the industries (sub-cases) apply multi-perspective strategies such as core competence development perspective, resource-based view, knowledge-based view, dynamic capability

view, new product development, innovation and technology orientation, market-orientation, customer-orientation, value chain development and integration, acquisitions, turnkey arrangement, licensing, negotiation and sub-contracting, import-substitution, national demand and industry forces analysis and positioning.

As the strategies of the conglomerate were already designed and operated within the scope of this strategy and the GTP periods (GTP I and GTP II), the literature review and empirical discussions were made on the painstakingly selected topics vis-à-vis strategies and SDM of the case company. The CI programme implementation strategy framework that was designed for first time use in this unique conglomerate had to be developed by making careful investigation and considerations about the context of the conglomerate. In other words, the study was taken as a unique single-case study, for it tried to design and initiate the implementation of a formal CI programme that could fit into the existing structure of the case company—taking the case's structure and present strategies as the main context.

Furthermore, the current study deals with two disciplines: competitive intelligence and strategic decision-making. Thus, content wise, the unit of analysis was done by identifying the activities, function, products, organisation, sharing and challenges of CI in the SDM of the case. The exploration on the mentioned issues was made at both the headquarter (parent company) and the selected six subsidiaries (industries). To be more precise, the scope and assumptions of the study are closely related to the context and phenomenon of the study. The study is about the phenomenon of CI utilisation for SDM in a large conglomerate with several integrated subsidiaries.

Finally, it is necessary to provide a Summary of the case study's context. The following table outlines the context of this single-case study.

Table 2.2 Summary of case study's context

Context	Description
Country	Ethiopia
Case company	A conglomerate vertically integrating many subsidiaries
Industry	Metals and engineering
Strategy discussion	Case conglomerate's existing strategy. It is a strategy within the political context of the Government of Ethiopia (i.e., strategy of the case is derived from Government's Growth and Transformation Plans)
CI issues	Intelligence needs derived from the conglomerate's strategies
CI and SDM	Linkages between the two and the contexts both share
CI framework	The study tries to find the right fit for CI in the existing structure in a crafted way (i.e., CI in SDM of an Ethiopian conglomerate)

Chapter Three

Theoretical Foundations and Conceptual Framework

3.1 Introduction

All empirical studies, qualitative, quantitative or mixed methods can be connected to literature or concepts that support the need for the study, be related to the study's purpose statement, and situate the study in terms of previous work (Rocco & Plakhotnik, 2009). The theoretical and literature reviews serve to construct a platform of the known, which the researcher uses as a springboard. The literature review and conceptual and theoretical frameworks share five functions: (a) to build a foundation, (b) to demonstrate how a study advances knowledge, (c) to conceptualise the study, (d) to assess research design and instrumentation, and (e) to provide a reference point for interpretation of findings (Merriam & Simpson, 2000).

One critical decision area in case studies is deciding whether or not to use *theory development* to help to select the case(s), develop data collection protocol and organise initial data analysis strategies. In quantitative research, the conceptual framework explains the key constructs studied and presumed relationships among them. It often has implications for the sub-populations studied, the variables measured and the data analysis techniques used. In qualitative research, the conceptual framework often defines the perspective from which the research will be approached. It usually has implications for the interpretive paradigm and methodological approaches selected. In general, the less experience the researcher has had in doing case studies, the more she or he might want to adopt some theoretical perspectives (Yin, 2004). For this reason, theory development prior to the collection of any case study data is an essential step in conducting case studies. Thus, the general aim of theoretical research is to construct and develop theoretical frameworks or systems which by themselves have no significance other than serving a specific purpose in describing new phenomena or categorising and organising information.

When research questions explore new territory, previous literature and theory may be inadequate in constructing frameworks for the study. Thus, as will be explained in this chapter, the lack of definite constructs and typologies that make strategic management studies difficult, also make research in CI difficult. The failure to find such constructs for strategy research and the availability of different strategy approaches, therefore, implies the necessity of making unique and tailor-made studies in order to find the right fit of CI in firm's strategy approaches and views in a specific context.

This chapter focuses on the theories and concepts of CI as related to SDM, which also provides the basis to construct the conceptual framework of the study. Following the explanations provided for the terms and concepts of CI and SDM, it is necessary for the study to discuss the main theories and concepts of CI and SDM linking both disciplines. The later sections will show how the two disciplines (and associated theories) are linked to each other in terms of the contextual domains both share. The middle-range theories (MRTs) which revealed out in the end of the study are also extended after making detailed theoretical discussions and literature investigations into the contextual issues both CI application and SDM share. The MRTs are constructed by merging the empirical findings with the contextual issues that were observed in the case conglomerate.

3.2 The discipline of competitive intelligence

CI, as an organised field of study, is a relatively new discipline which originated from the military field (Freyn (2017; Chevallier, Laarraf, Lacam, Miloudi & Salvetat, 2016) and its extends through history to the root of strategic thought and centuries of armed conflict (Prince, 1998). Even today, CI has some overlapping characteristics with some other fields in business such as knowledge management, business intelligence, market intelligence and marketing research. According to Taib et al. (2008), CI draws from three main fields of academic endeavour: information science, corporate management and security/military studies. Other authors, on the other hand, mention that CI emerged as a separate business activity from market research and general business intelligence (Nasri, 2011). Because CI evolved from marketing research, some authors (e.g. Walle III, 1999) call it 'a child of marketing.' "Today, competitive intelligence is acknowledged as a separate discipline and existed as a formal and distinct entity within many companies worldwide due to its successes and unique contributions" (Samat, Hakimin & Ismail, 2018: 118).

On the other hand, by exploring the literature, it is possible to find a couple of authors who argue that the 'discipline' is not a recent one. Juhari and Stephens (2006), Calof, Richards and Smith (2015) argue that the field of CI has a very long and rich academic and practitioner history, with academic literature citations first appearing in the 1950s and company practices noted in the 15 century. Thus, for them it can hardly be called a new discipline. "However, with the increasingly competitive environment, government and business have been turning to a greater extent to competitive intelligence to better understand their environment and develop better programmes and strategies" (Calof, Richards & Smith, 2015: 71).

3.2.1 CI and related concepts

As cited by Akgu¨n, Byrne and Keskin (2007: 272), and Schlinger (2003) describe the origin of the term 'intelligence' as, "…the word intelligence comes from Latin 'intellegere', meaning to perceive or understand, from the roots 'inter' meaning between or among and 'legere', meaning to gather, pick or choose." A simple dictionary definition of intelligence is 'the ability to acquire and apply knowledge and skills' (Concise Oxford Dictionary, 2011) or 'the ability to understand and think about things and to gain and use knowledge' (Macmillan English Dictionary, 2007). The concept 'intelligence' is also confused with the two-related but different terms—information and knowledge. Intelligence differs from data, information and knowledge because it requires some form of analysis to derive meaning from the deluge of data and information that every organisation faces (Bose, 2008).

Before elaborating on the term CI, it is important to note the distinction between information and intelligence and other relevant concepts for CI.

3.2.1.1 Information versus intelligence

Intelligence is what managers need to make decisions, not information (Govoreanu, Mora & Serban, 2010). Bensoussan (1999) differentiated information from intelligence by suggesting that intelligence is about a process and technique used to select and filter information and to interpret and analyse it. The major focus is not merely on identifying sources of information, which has no value for decision-making in itself, but rather on the analysis that turns information into intelligence. Intelligence is created through analysis and interpretation of the data, whereas, *information* consists of *data* arranged in some sort of order (for instance, by classification or rational presentation) so that they acquire meaning or reveal associations between data items (Prior, 2009). Štefánikováa and Masárováa (2014) maintain that CI focuses data and information from a very wide view, allowing enterprises to predict future events and use them for effective strategies in relation to the competitive environment, because every decision, especially a strategic decision, is based on certain assumptions.

3.2.1.2 CI versus marketing research and CI versus marketing intelligence

"A definition of market research with CI is called *market intelligence* which provides actionable business analysis" (Johns & Van Doren, 2010: 552). Market intelligence is focused on the very current activities in the marketplace (McGonagle & Vella, 2012: 15). Whereas, Tan Tsu Wee (2001: 247) states, "…market intelligence is more strategic and result-driven, is primarily qualitative, exploits secondary and primary sources and taps a wider variety of

networks for information such as customers, competitors, suppliers, former employees and of course electronic databases and the mass media". Contrary to this strategic notion of MI, according to the typical formulation of CI thinkers, marketing intelligence is a tactically oriented activity of sole interest to the marketing and sales staff.

3.2.1.3 CI versus business intelligence

Sometimes CI is confused with business intelligence (BI); or, based on the context of the study, it could be used interchangeably with CI. As stated by Ghazanfari, Jafari and Rouhani (2011), business intelligence is an umbrella term, introduced by Howard Dresner of the Gartner Group in 1989, to describe a set of concepts and methods to improve business decision-making by using fact-based, computerised support systems. Similar to the approach used to define CI, Stefanova and Kabakchieva (2012: 46) define BI as follows: "BI is a set of concepts, methods and processes that support the improvement of the decision-making process by using different sources of information, applying previous experience and defining assumptions to obtain an accurate picture of business dynamics." Štefánikováa & Masárováa (2014) also state:

> *Various authors distinguish between even three different views: 1) CI is equal to business intelligence; 2) CI is part of business intelligence; and 3) CI is understood as relatively separate information system. The first view is mainly encountered in American literature, where the two concepts are understood as synonyms. The second view presents, that CI is part of the parent category Business Intelligence, which is understood as a group of resources and ideas supporting all areas of management decision-making with an emphasis on improving the awareness of managers at all levels of management. It contains information that is not necessarily competitive and includes mainly news and information work, which is within the company.* (Štefánikováa & Masárováa, 201: 672)

According to Negash and Gray (2008: 3190), "…business intelligence systems combine operational data with analytical tools to present complex and competitive information to planners and decision-makers. Their objective is to improve the timeliness and quality of the input to the decision process." Business intelligence is used to understand the capabilities available in the firm; the state of the art, trends and future directions in the markets, the technologies and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. Negash and Gray (2008) even suggest that competitive intelligence (CI) is a specialised branch of business intelligence.

According to Bose (2007), the difference between BI and CI is that BI is internal intelligence about and within one's own company, whereas CI is external intelligence about the firm's competitors. Competitive intelligence is the analytical process that transforms scattered

information about competitors and customers into relevant, accurate and usable strategic knowledge on market evolution, business opportunities and threats; whereas, business intelligence is the activity of monitoring mostly the history of the company activity for information that is relevant for the decision-making process (Albescu, Pugna & Paraschiv, 2008).

Britt (2006) explains that the difference between BI and CI as BI is internal intelligence about and within one's own company, whereas CI is external intelligence about the firm's competitors. CI examples include analysis of the manufacturing or service capabilities of the competitors; analysis of alliances and/or joint ventures entered into by competitors; the competitor's future plans and strategies for specific markets, or product lines; and reasons behind changes in the corporate or business unit strategy. BI cannot replace CI; each has its place and each is of the utmost importance for the success of any organisation.

Business intelligence is concerned with information technology solutions for transforming the output from large datasets into intelligence; usually through the integration of sales, marketing, servicing and support operations. It covers such activities as customer relationship management, enterprise resource planning and ecommerce using data mining techniques. Those involved in business intelligence tend to regard it as one aspect of knowledge management. Systems based on business intelligence software were formerly known as executive information systems (Prior, 2009). BI is a collective term for data analysis, reporting and querying tools that provide meaningful information to decision-makers. Since BI tools are more appropriate for analysing information, it follows that CI could make best use of BI analysis tools during the analysis and production phase of the CI cycle (Kruger, 2003).

What to call competitive intelligence is one of the enduring controversies in the field (Fleisher & Blenkhorn, 2001). For instance, Frates and Sharp (2005) prefer, and use, the term 'Business Intelligence' (BI) to 'Competitive Intelligence' (CI) in their study for two principal reasons. Firstly, BI reflects a broader strategic orientation and use for information than does the narrower definition of CI. Secondly, CI is too frequently limited to competitor intelligence, which focuses on identifying, monitoring and understanding specific current competitors. According to Štefániková and Masárová (2014), business intelligence is a field of activity that is superior to all intelligence processes in the business segment. Monitored, collected, processed and analysed data on the business environment as a whole are to be found, not only data about customers, markets and competitors. According to the authors, this explanation implies the subordinate relationships of CI to business intelligence.

Contrary to the description given by Frates and Sharp (2005), since this study focuses on the strategic use of CI for SDM and since CI is broad and rather encompasses BI, the term 'Competitive Intelligence' is found to be used suitably for the study. However, since both terms share almost all features and processes and since the study believes that BI is the subset of CI, BI literature is also explored and used to enrich this study.

With regard to the concept *competitive intelligence*, "it would seem that there is no commonly accepted term for referring to internal and external intelligence required for business decision-making. Market (or marketing) intelligence, competitive intelligence, business intelligence and other terms are all used at various times to describe more or less the same concept" (Venter & Tustin 2009: 89). There are also instances where BI can be used to replace CI in the context of a specific study. For instance, Venter and Tustin (2009) identify several characteristics of BI, in the context of their study (*the availability and use of competitive and business intelligence in South African business organisations*). The following characteristics of BI could emerge from the BI definitions explored by them: BI refers to both internal and external information; it relates to a process of adding value to information: gathering, analysis and dissemination are all value-adding activities in the information cycle; the technologies used in the process of gathering, analysing and disseminating information are an integral part of the underlying processes; and the goal of BI is to support management decision-making.

3.2.1.4 CI versus knowledge management (KM)

It is better to see the relationship between KM and BI first. While many argue that KM and BI are closely related or even the same thing, this bond has not been clearly realised in practice. In reality, BI has developed around the use of the organisation's structured internal sources, while KM has become associated with the management of largely unstructured external intelligence (Venter & Tustin, 2009). This view suggests a bond between CI and KM. However, when examining the theory to understand how marketing decision-makers are supported by information, the lack of convergence in theory is striking. Terms like marketing information systems, marketing decision support systems, CI, marketing intelligence and business intelligence are often used to describe similar concepts, suggesting that there is a need for greater convergence in this field of study (Venter, 2009). Integration of BI and KM would be of great value to marketing decision-makers, since most marketing decisions depend on both internal and external data, structured and unstructured (Venter & Tustin, 2009).

CI can also be seen as distinct from, but related to, KM. KM is concerned with rendering implicit knowledge into explicit knowledge and then storing it. KM is always looking

backwards to what has already happened. CI is always looking forward to help managers make decisions to improve their future competitiveness. The challenge with KM is to avoid being overwhelmed by irrelevant knowledge. For most organisations, knowledge is a means to an end, not an end in itself (Hall & Bensoussan, 2007).

CI is closely related to both KM and the strategy development process of a company or organisation (Fouche, 2006). CI, then, is a subset of KM that incorporates the external knowledge of the marketplace and competitors, while the larger world of KM deals with an organisation's knowledge pool as a whole (Williams, 2002).

Both KM and CI systems are designed to enhance the information resources of an enterprise, but often target different information types and sources. KM and CI are distinct by being both complementary and synergistic. At their core, both fields are concerned with gaining competitive advantage from better applications of information or knowledge. Thus, CI can be defined, also, as knowledge and foreknowledge about the external operating environment. The ultimate goal of each intelligence process is to facilitate decision-making that leads to action (Ghannay & Mamlouk, 2012). According to Chawinga and Chipeta (2017), the definitions given for KM are different and are arguably contextual. KM and CI have similarities, differences and many benefits to offer regardless of the size and industry of a particular organisation. KM and CI are regarded as the two important strategies or practices through which organisations could foster insight in order to ease the complexities of SDM.

Bartes (2014) argues that it is important to have a new concept of Competitive Intelligence (CI) because the currently existing concept of CI is inadequate to support the SDM of top management. Applying process methods (analysis, synthesis, comparison and deduction), Bartes conceptualised CI in a new way. The author's concept of CI is the following:

> *…a) CI as a forecast of the future, b) emphasis of directing CI to the area of SM, c) CI is viewed as a system application discipline, d) the information is viewed in connection with the analyst's person, e) CI works on the principle of a government intelligence service, f) two-level activity of CI, g) in the final report of CI there must be a proposal for the hypothesis realised by the competitor, h) CI is understood as an engineering activity, i) emphasis on the application of legality and ethics in the activity of CI"* (Bartes, 2014: 1234). *... "The new CI concept adds competitive advantage evaluation in the system of CI saying, "…CI must be able not only to obtain information relevant to the strategic company decisions but by analysing and evaluating it properly it has to be able to add value to it through which the top management of the company will be able to attain the genuine competitive advantage over competitors in the market*. (Bartes, 2014: 1236)

3.2.1.5 The concept ‘big data’

Another recently recognised concept and practice that is related to BI/CI is ‘big data’. In recent years, big data has been an area of interest among innovative organisations (Danielsen & Framnes, 2017). Enterprises begin to utilise a new information technology (Rajnoha, Štefko, Merková & Dobrovič, 2016). Recently, the big data era has quietly descended on many communities, from governments and e-commerce to health organisations (Brinkmann, 2015).

Manyika, Chui, Brown, Bughin, Dobbs, Roxburgh and Byers (2011) remark that the term ‘big data’ derives its name from the fact that the datasets are large enough that typical database systems are unable to capture, save and analyse these datasets. Brinkmann (2015: 38) defines the term as follows: “Big data is defined as large volumes of data from different data sources that can be identified and analysed with the help of BI technologies and tools.”

Varis (2017) describes big data and data fusion as concepts often used to handle large volumes of data. Similarly, Marjamäki (2017) describes big data in terms of their volume, velocity and variety of data (three Vs). Big data analytics means more knowledge from more data sources and is by many prophesied to be a contributing source of big change in how organisations receive their intelligence (Danielsen & Framnes, 2017). Therefore, “the high volume, velocity and variety of big data play critical roles in informing and enhancing the quality of strategic decisions which should not be underestimated” (Intezari & Gressel, 2017: 74).

The concept of big data is mainly discussed in BI literature associated as an element of BI. Especially in the eyes of practitioners, big data can be synonymous to business intelligence (Nykänen, 2015). According to Marjamäki (2017), modern BI is generally defined as an umbrella term, which combines data warehousing, strategic aspects, visualisation and analytics methods with other information providing layers to support managerial or business decision-making. “BI in this context is virtually a synonym for competitive intelligence, capability and competitive advantage because they both support the decision-making processes” (Brinkmann, 2015: 241). On the other hand, regarding the significance of this concepts, Reinmoeller and Ansari (2015), even claim that the big data movement offers attractive opportunities for leaving behind the old tainted skin of competitive intelligence. Though the authors, admit that the core value proposition of CI is hard to resist, more information shall be linked to a competitive advantage (i.e., big data). Reinmoeller and Ansari (2015: 29) further claim the following: “… treating big data as if lying on the same trajectory

of important innovations may retrospectively legitimise CI and allow it to assume yet another new and equally opaque identity –that of even more encompassing capture and use of data."

Big data generates findings and insights from data and therefore provide a framework for business advantages (Brinkmann, 2015). Strategic decisions or decisions regarding unforeseen and unique decision circumstances may require unstructured processes (Intezari & Gressel, 2017: 78). Big data has the promise to extend this by bringing up more information regarding the problem and to further reflect the complexity of the world, meaning also that even more data in unstructured format will be used for supporting decision making (Marjamäki, 2017).

Today, big data management has become imperative and requires the existence and use of specific advanced tools for multidimensional analysis, performance equipment and qualified personal for interpreting the results (Pugna & Boldeanu, 2013). Thus, "organisations need to make sure that their KM systems are (re-)designed in such a way that they support the seamless integration of knowledge and big data…Advanced KM systems allow for the integration of human knowledge and insight with big data and facilitate the incorporation of big data and knowledge into strategic decisions" (Intezari & Gressel, 2017: 74).

To conclude, CI is different from BI, KM, market research and other similar concepts and programmes. Although the distinctions can be fine, the differences are in perspective and scope. KM is generally focused on internal knowledge. MR focuses more on customers, not competitors. BI is broader terms that can include aspects of competition that can refer to similar ideas as in KM but can also refer to non-competitive issues. CI is much more focused and defined (Barnes & Deans, 2007).

CI focuses more on the external environment of the organisation than Business Intelligence and Knowledge management. CI draws on a wider variety of sources, from a wider range of stakeholders and seeks not just to answer existing questions but also to raise new ones and to guide action, than market research (Wang & Borges, 2013).

Different from knowledge management and other information management tools, CI provides focus to the information management activity in companies, attempts to make sense of available information and interprets information to make it actionable for use in SDM (Muller, 2003).

Competitive intelligence is a systematic and ethical programme for gathering, analysing and managing any combination of data, information and knowledge concerning the business

environment in which a company operates that, when acted upon, will confer a significant competitive advantage or enable sound decisions to be made. Its primary role is strategic early warning (Prior, 2009). Competitive intelligence is the result of a company's efforts to gather and analyse information about its industry, business environment, competitors, competitive products/services and other stakeholders such as suppliers, subsidiaries, partners and the company itself. The information-gathering and analysis process can help a company develop, implement, shape and/or revise its strategy; or identify competitive gaps.

Competitive intelligence adopts a predictive approach to scoping future risks that seeks to provide direction to decision-makers on the implications of new and emerging technologies and their prospective markets. CI is action-oriented and the expected outcome is more effective organisational development and competitive strategies (Calof et al., 2015). The outcome, CI, is "smart" information which is best characterised as 'actionable'. If CI cannot be acted on by managers it is of little value. Actionable implies that the CI assists a manager in shaping and deciding. The intelligence brings together and adds value to relevant information in such a way that the decision-maker can use it to determine the alternatives and what the likely consequences are and can therefore act (Hall & Bensoussan, 2007; Farrell, 2007).

To conclude, CI is inter- or multi-disciplinary. Although its use was rooted in early strategic management theories and competitive information gathering practice (such as environmental scanning, corporate radar and marketing research), CI has been given special attention for strategic purposes recently. Despite its recent recognition, particularly in academia, the discipline has not reached it potential in serving the SDM of firms operating in this dynamic and complex environment.

3.2.2 What is CI—process, outcome/product and/or function?

The term 'competitive intelligence' implies multiple things. Some view CI as a process and others as an outcome or product.

CI can be seen both as a process and as an outcome/product from that process. The *outcome* is usually a report, or "smart information", which helps decision- makers arrive at a decision and which in turn helps them compete more effectively. The product can be information on the competitors in the market and it is used as the basis for specific action. The *process* is one of how that outcome is arrived at (Hall & Bensoussan, 2007). The process is the systematic acquisition, analysis, synthesis, dissemination and evaluation of information for decision-making. Since CI is a systematic approach and an output that reflects all external

areas of concern and contributes to the sustainability of the company, it can thus also be described as an output of a process (Fouche, 2006).

CI is often described as a cycle. As a process, CI involves four phases or major activities: (1) planning; (2) collection; (3) analysis; and (4) dissemination (Talaoui & Rabetino (2017; Nasri, 2011). For the purpose of their study made in South Africa, Strauss and Du Toit (2010) define CI as an ongoing, systematic evaluation of the external environment for opportunities, threats and developments that could have an impact on the organisation and influence reactive decision-making. A similar definition is given by Sjöblom (2015: i): "CI is a term which refers to gathering, analysing and applying competitive information that is publically, ethically and legally available, into decision-making to gain significant competitive advantages."

As defined by most scholars, therefore, CI appears in all aspects of the business as one seamless, continuous activity not relegated to only one area, division, or unit. Similarly, Campos (2006) views intelligence as a process that moves throughout the organisation, touching every facet of everything the company does. In this perspective, CI begins with scattered bits of raw, basic data. This raw material is then organised by CI practitioners and becomes information. Information becomes intelligence when it is placed into a format useful to a decision-maker's unique or critical intelligence needs. Intelligence is therefore information that is analysed, interpreted and infused with developed implications. However, it is also a refined product that meets a decision-maker's unique needs for understanding a competitive aspect of the internal and/or external environment (Bernhardt, 1994). Farrell (2007: 15) explains this as intelligence is the product of an input process that begins with the collection of data, which is organised and generate information.

Another way to understand CI is to view it as an organisational function. Effective CI activities range in scope between the broader area of business intelligence (BI) and the narrower competitor analysis. The functionalities of CIs are not necessarily the services that they offer. This could be attributed to human actions and interaction with the organisational structure, as well as with the technology (Iyamu & Moloi, 2013). CI practices can be characterised in universities by organisation of the function and processes of the intelligence cycle (Garcia-Alsina, Cobarsí-Morales & Ortoll, 2016).

This study is about the use of CI for SDM and examines the CI function in an Ethiopian conglomerate. As seen in Chapter 2, the analysis was done by identifying the activities, function, products, organisation, sharing and challenges of CI in the SDM of the case.

3.3 Placing CI in context

Scholars have not agreed on a single acceptable definition of CI (Søilen, 2015; Du Toit, 2015; Pellissier & Nenzhelele, 2013; Taib et al., 2008). As a growing discipline (Tahmasebifard, 2018; Samat et al., 2018; Freyn, 2017; Johri & Aggarwal, 2016; Gračanin, Kalac & Jovanović, 2015; Søilen, 2015; Du Toit, 2015; Sewdass & Du Toit, 2014; Mansor & Selangor, 2008; Farrell, 2007), a multitude of definitions exist for what can be described as CI (Taib et al., 2008). Nevertheless, almost all recent scholars define the term as the process that involves activities from collection to use of pertinent information (can be strategic or tactical, from internal and external sources) in a systematic way, that will largely affect or benefit the long-term survival of the company. On the other hand, CI is commonly used interchangeably with BI (business intelligence) for study or contextual purposes. For example, Strauss and Du Toit (2010: 304) contextualised the term CI as: "… an ongoing, systematic evaluation of the external environment for opportunities, threats and developments that could have an impact on the organisation and influence reactive decision-making." In their study, Venter and Tustin (2009) contextualised BI as it refers to both internal and external information, which uses almost similar process steps as CI in gathering, analysing and disseminating all value-adding activities in the information cycle to support management decision-making (Venter & Tustin, 2009).

Fleisher and Bensoussan (2003) also define CI as a systematic and ongoing process for gathering and analysing information to derive actionable insights about competitors, the competitive environment and trends in order to further the organisation's business goals.

After an extensive literature review, Pellissier and Nenzhelele (2013) finally proposed the following universal CI definition.

> *A process or practice that produces and disseminates actionable intelligence by planning, ethically and legally collecting, processing and analysing information from and about the internal and external or competitive environment in order to help decision-makers in decision-making and to provide a competitive advantage to the enterprise.* (Pellissier & Nenzhelele, 2013)

According to the authors, this universal definition of CI would ensure that CI stakeholders focus on implementing CI.

For the purpose of this study (mainly on the field work), CI can be understood and interchangeably used with competitive information. However, CI is better used not only to denote a high-level of competitive information gathering, processing and usage but also it is a growing discipline that encompasses many closely related concepts such as competitive

environment information, environmental scanning, competitive market information, strategic information, marketing/market intelligence, industry intelligence, business intelligence, technology intelligence, competition intelligence, competitor intelligence, customer/consumer intelligence and many other earlier terms.

This study adapted the meaning of the concept (CI) as given by Strategic and Competitive Intelligence Professionals (SCIP):

the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence (external and internal) regarding the implications of the business environment, competitors and the organisation itself for SDM purpose and competitiveness (SCIP, 2017).

3.4 Strategic decision-making (SDM) and strategic intelligence

Since the purpose of this study is to link competitive intelligence with SDM and to magnify the value of CI for SDM, it is important to provide background on strategy and strategic decision-making.

3.4.1 Strategic decision-making (SDM)

Decision-making is simply about the choice from available alternatives. A decision-maker has several alternatives when making a decision where the choice involves a comparison between these alternatives and an evaluation of their respective outcomes (Shafie, Muhammad & Ridzwan, 2017). Decision-making process is a generic process based on choosing between two or more actions or options in order to achieve a determined goal. It is a complex process that involves collecting valuable information and their selection and evaluation based on some criteria (Lindborg, 2018). While Shafie et al. (2017) see decision-making as the thinking process involved in choosing the most logical choice from the available options, Marti and Cabrita (2012: 170) say, "Good decisions are based on well-formulated strategies."

According to Janczak (2005), the three terms, SDM, strategic planning or simply strategy, are all created as equivalent terms for a generic organisational phenomenon. Whereas, the terms 'strategic' and 'tactical' are more appropriate when used describing a plan or a decision (Hasan, Eckert & Earl, 2011). More specifically, Hasan, Eckert and Earl explain that a strategic plan or a decision would be concerned with the 'what and the why' looking at the big picture.

> *'Strategic' is a word used today to describe almost every decision and/or action taken, when in reality there is a clear mix of the no less valuable, tactical decision-making taking place. "Strategic decisions typically: address at least a medium-term time horizon, at best long-term (time); occur infrequently or emerge from a formalised planning cycle (frequency); require significant input from key people (effort); require significant information input from key functions (effort); require substantial resources to formulate and implement (effort); affect the long-term direction of the organisation (consequences); affect many, if not all, of the organisation's activities (consequences); affect competitive dynamics (impact); involve major change to the firm's activities (impact); and become the over-arching blue-print for subsequent decisions (impact).* (Fleisher & Bensoussan, 2015: 5)

Almost closer definitions and explanations are provided for the terms strategic decision (SD) and SDM (SDM). SDs are long term, highly unstructured, complex and inherently risky and have a great impact on the future of the organisation and (Shafie et al., 2017). Stokman, Assen, Knoop and Oosten (2000) note that SDs address complex and ambiguous issues such as penetrating an occupied market or entering a new market, responding to a competitive attack and developing core capabilities, technologies and products that involve large amounts (i.e., commitment) of organisational resources. According to Winkler (2016), strategic managerial decisions are typically 'messier,' in other words, they occur in a more complex environment, are difficult or expensive to reverse and the outcomes are, to a greater degree, contingent on other individuals' or organisations' behaviour.

Lembinen (2018) explains that strategic decisions require a thorough process and cannot be produced on the spot. SDs are decisions that impact on the future of the organisation (Winkler, 2016; Lembinen, 2018). Hasan et al. (2011: 5) developed a decision framework setting for both SDs and tactical decisions. The criteria for SDs are: goals of the business, vision, patterns, trends, priorities, mission, context of the situation, long-term decisions and top management involvement. The tactical decision criteria involve how to achieve the strategic goals (i.e., tactics are used to implement strategies), mid-term decisions, mid-level management involved and context of the situation. In both decisions, context of the situation is a factor. On the other hand, according to Shivakumar (2014), whether a decision is strategic or non-strategic depends on how a decision ranks along two dimensions: its influence on the degree of commitment and its influence on the scope of the firm. SDs will set the tone and tempo of managerial decision-making for every individual and unit throughout the entire organisation. It is highly complex and involves a host of dynamic variables where the SDs are the means by which perennially scarce resources are rationally committed to fulfil managerial expectations for success (Shafie et al., 2017). Whereas, tactical decisions are the link between operational and SDs ensuring that resources are available to perform the operational tasks, which are situated in the strategic context (Birnik, 2007). SDs are more complex than

operational decisions and often include multiple inputs and variables (Schultheis, 2016). Examples of these types of decisions would involve determining what business the firm is in or what business the firm wishes to be in, as well as defining its long-term goals and objectives. In contrast to SDs, operational decisions are internally focused and absorb much of the organisation's time and effort, as they are decisions made about the organisation's daily functioning (Janczak, 2005).

On the other hand, decisions can also be classified as 'structured' and 'unstructured'. However, there is no clear-cut border between the two processes and it is unlikely that an organisation would use only one type of decision-making. An organisation may have structured processes and predefined procedures to make SDs based on structured data and unstructured data (Shepherd & Rudd, 2014). However, generally, the strategy selection is a non-programmed decision because it is a non-routine and unstructured decision often done in a different environment than similar earlier decisions (Rupčić & Jelenc, 2003). Thus, SDs or decisions regarding unforeseen and unique decision circumstances may require unstructured processes (Intezari & Gressel, 2017: 77-78).

To conclude, according to Shepherd and Rudd (2014), the nature of strategic decisions can be unstructured, non-routine, uncertain and pervasive. The emerging 'big data' concept that is mentioned under "CI and Related Concepts" (see 3.2.1) includes structured data, semi-structured and unstructured data. Therefore, in relation to this new concept, which is associated with BI/CI concepts, it requires today's executives to be cognisant of the types of data they need to deal with. To remain competitive, business executives need to adopt the new technologies and techniques emerging due to big data. Accordingly, Intezari and Gressel (2017: 81) note: "the incorporation of big data into strategic decisions requires a reliable facilitated collaboration between those who are responsible for formulating the organisation's strategies (i.e., managers and strategy analysts) and those who deal with data analytics (i.e., data analysts). This cooperation is vital, as it ensures the alignment between big data analysis and the organisation's strategic direction."

3.4.2 Connection between strategic/tactical decisions and strategic/tactical intelligence

The previous discussion was an attempt to explain the terms SDs and tactical decision and their connection. This section discusses the differences between them and the integration of strategic intelligence and tactical intelligence.

Distinctions between strategic intelligence (SI) and tactical intelligences: Some authors discuss CI and the intelligence product classifying them into operational, tactical and SI.

According to these authors, there are some distinctions between CI and SI, CI and tactical intelligence and CI and market intelligence, which have basically internal focuses (Wang and Borges, 2013). On the other hand, some authors claim that it is useless to level CI into operational, tactical and SI since an intelligence product can be used to support operational, tactical and/or strategic decision-making. They say, it is the purpose of the intelligence which makes intelligence operational, tactical or strategic. Of course, there are many instances when intelligence product can be used for both tactical and strategic decision-making.

CI is primarily a strategic management tool (Ghannay & Mamlouk, 2015 & 2012; Strauss & Du Toit, 2010; Saayman, Pienaar, De Pelsmacker, Viviers, Cuyvers, Muller & Jegers, 2008; Strauss & Du Toit, 2010; Odendaal, 2004). Thus, CI or SI focuses on the longer term, looking at issues affecting a company's competitiveness over the course of a couple of years. According to Seitovirta (2011), SI is a practice that aims to assist decision-making through providing information on the business environment. In a nutshell, it covers the gathering, compiling, analysis and dissemination of information that is relevant to SDM. This study also shares this view of CI because, as also defined by Society of Strategic and Competitive Intelligence Professionals, CI is strategic by its nature. A strategy without intelligence is not a strategy—it is guessing (CBIA, 2009).

SI represents CI provided in support of SDM (SCIP, 2017; Govoreanu et al., 2010). This means that providing the highest levels of management information on the competitive, economic and political environment in which companies operate now and in which they will operate in the future. This type of intelligence generally supports the senior management for the overall strategy. The most common applications are in the development of strategic plans, capital investments, political risk assessment, mergers, acquisitions, joint ventures, corporate plans, R&D planning (Govoreanu et al., 2010). SI is therefore all the information an organisation needs for its micro- and macro-environments to enable it to have a holistic intellectual capacity of all its present processes, anticipate and manage change for the future, develop competitive strategies and improve profitability (Boikanyo, 2016). Similarly, Ding (2009) says that SI focuses on the longer term, looking at issues affecting a company's competitiveness over the course of a couple of years. However, the actual time horizon for SI ultimately depends on the industry and how quickly it is changing.

Tactical intelligence is usually a shorter term, (winning battles or skirmishes), compared to SI (winning the war) (Hall & Bensoussan, 2007). Tactical intelligence comes from the day-to-day operation of an organisation. Operational level employees see trends, new technology and have a personal contact with suppliers and customers. Tactical information affects tactical

decisions, useful for mid-level management, context dependent, affects many important issues (Hasan et al., 2011). Meanwhile, strategic information directly affects SDs, useful for top management, context dependent, affects long-term company goals, vision and significantly impacts cost, innovation, employee consequence issues among others. For instance, strategic market information is used mostly by top managers in SDM and impacts the firm's long-term behaviour. On the contrary, tactical market information is often collected and interpreted by lower level managers and employees. However, what makes information strategic and tactical importance may be debatable. Therefore, anything strategic and tactical is more importantly context dependent. To give another example, a basic SD about production is whether or not to produce in-house or to outsource production. In production operations, competitive advantage can come from proprietary skills and tools in product design, production, or delivery. Therefore, a SD to vertically integrate (up or down) or to outsource in the industrial value chain requires a SD about a competitive advantage and return on investment. A competitive advantage is lost in outsourcing but a return on investment may be temporarily increased (Betz. 2001: 441-424). In short, information directly affecting a strategic/tactical decision is potentially strategic/tactical in nature (Hasan et al., 2011: 1-2).

***Linkage between strategic and tactical intelligence*:** CI can be seen at functional management levels, SBUs, or at corporate or group levels. Therefore, "strategic and tactical decisions can result in strategic and tactical information exchange respectively" (Hasan et al., 2011: 5). The development of an overall information management strategy supporting SDM requires a link to business objectives and to business activities in addition to the technical solutions (Järvinen, 2014). Information gathered at a tactical-level of the operation must flow upward to be incorporated into the strategic level of the organisation and be examined for future strategic decisions. Thus, it is an assumption that, in terms of their relative importance, strategic and tactical information would follow the same hierarchy as strategic and tactical decisions.

SI is often overemphasised to the detriment of tactical intelligence or vice versa. Strategic decisions must flow downward and have support at the tactical level. The two types of intelligence rely on each other and must be linked. SI looks at how the organisation can change and respond to changes in the industry and environment. There should be a link between these two types of intelligence because they feed into and augment each other.

Best practice companies realise the trade-off between the two types of intelligence and work to keep them in balance (Madden, 2001). Thus, not only shall strategic decisions but also

tactical and operational decisions be supported by and aligned with CI. This brings together strategic, tactical and operational intelligence.

3.5 Competitive intelligence and strategy alignment

The existence and use of intelligence can also be seen in strategy contexts or through SDM theoretical lenses. It could be connected to the strategy theory debates, the debates on CI may imply why, when, what and how CI is used for SDM. Related to this fact, Talaoui and Rabetino (2017: 95) say the following: "Despite the significant number of publications rooted in the SM and marketing fields, the body of knowledge on CI is still in an embryonic stage. It seems that throughout the last two decades, scholars have been preoccupied with deciphering whether or not companies are incorporating CI in their business activities."

Though CI-strategy (specifically CI-SDM) linkage is not clearly discussed and presented as model, it is possible to learn variations at CI and strategy point of connection (i.e., whether strategy is a prerequisite to CI or the reverse (i.e., whether CI dictates strategy or strategy determines CI collection).

3.5.1 Strategy is precursor to competitive intelligence

Most of the literature naturally consider strategy as already dictating the CI collection and usage in organisations (Talaoui & Rabetino, 2017; Strauss & Du Toit, 2010; De Rozario, 2009; Bose, 2008; Campos, 2006; Rogers & Bamford, 2001). Generally, there is little disagreement that intelligence gathering is an important precursor to strategy formulation (Wright, Pickton & Callow, 2002).

Campos (2006) explains strategy as the quest to produce strategic projects through a search process as one of its distinguishing characteristics. The strategic search must first look in those areas previously defined by the strategic projects and then filter out those possibilities that are not strategic, namely in the strategic projects. Thus, CI is a vital component of a company's strategic planning and management process (Bose, 2008). CI can be used successfully as a strategic management tool to enhance competitiveness (Strauss & Du Toit, 2010) and for competitive edge (Bose, 2008), particularly when it is used in big companies (Calof & Wright, 2008). For example, Karami (2008) believes that environmental scanning is widely viewed as the first step in the process linking strategy and environment. According to Rogers and Bamford (2001) firms whose strategic planning processes properly supply the information requirements of the firm's strategy content will enhance their performance. If the management fails to adjust with a continuous flow of new intelligence, they will be forced to

react in a way that makes it difficult to compete. Therefore, in order to survive in the competitive environment, it is necessary to make continuous CI collection on the strategy content, which are also called KITs.

Strategy itself matters in the case of environmental scanning, competitive information gathering and usage for strategic decision making. Besides, KITs shall be defined based on the firm's or unit's strategic orientation. Rogers and Bamford's (2001) study shows that the information planning/scanning function and its relationship for performance largely differs between prospectors, defenders and analysers because of the existence of intelligence functions and variations in the amount of intelligence needs in different strategic orientation of firms. For example, as cited in De Rozario (2009), in the typology of Meier, O'Toole, Boyne and Walker (2006), CI for search of market opportunities may moderately be correlated with organisations that seek to minimise external impacts (prospectors and defenders).

"Strategic agility becomes a prerequisite of CI; not its result" (Talaoui & Rabetino, 2017: 96). Empirical evidences also show as strategy is a prerequisite to determine a firm's SI. In his ontological perspective doctoral study, De Rozario (2009) puts his ontological guess as strategy is a prerequisite for effective intelligence to exist. In addition to the relationship with its environment, the organisation's overall business strategy may also be related to the sophistication, scope and intensity of its intrusiveness. An organisation that follows a particular strategy such as a product differentiation, cost leadership, or focus strategy (Porter, 1980), or adopt a certain strategic stance such as prospector, analyser, or defender (Miles & Snow, 1978), is likely to adopt a scanning mode that provides the required information and information gathering capabilities to pursue its desired strategy (Choo, 2002).

It is possible to see that the requirement of a predefined organisational strategy and structure to process information into intelligence is mostly noted in CI literature. Intelligence requires appropriate policies, procedures and a formal or informal infrastructure so that employees may contribute effectively to the intelligence system as well as gain the benefits from the intelligence process.

3.5.2 Competitive intelligence alignment with strategy

The fit between a firm's strategic information planning capability and its strategic information requirements are critical if an organisation is wants to align its strategy, structure and environment properly (Rogers & Bamford, 2001). As connected to CI, Koriyow and Karugu (2018: 385) explain strategic information as follows: "Strategic information planning is a

necessary part of competitive intelligence work and it requires that a link is made between critical success factors and operating success factors." CI, as information system, can be taken as a strategic process. "Strategic information system is important to support or change an enterprise's strategy and this system can be taken as a system to manage information and assist in SDM" (Brinkmann, 2015: 65). Strategy creation tends to emerge from the way a company, at all levels, processes information about its environment (Naude, 2010). Regarding the alignment of CI/KM and strategy, in their model, Shujahat, Hussain, Javed, Malik, Thurasamy and Ali (2017) conclude that both knowledge management and CI are helpful in strategy generation, selection and evaluation and any change in important internal and external factors or identification of new ones can lead to change in the business strategy. Rogers and Bamford (2001) say that predecision planners provide information input to decision-makers and such planning activities (scanning and analysis) provide information that can be used in the decision-making process. For example, an incrementalist manager creates a situation where a coherent strategy can emerge based on better and more up-to-date information and deliberate strategies are formulated in an iterative fashion.

Another topic of debate in the context of information management is whether internal information is more valuable than external information, or vice versa (Pirttimäki, 2007). As shown in the upcoming strategy-CI link discussions, this debate has resulted because different strategy and SDM theories are either inner-directed and outer-directed and CI collection for SDM is done accordingly. Compromising this debate, for example, the famous writer of RBV, Barney (2001) indicates, at least the resource value must be determined by models of the competitive environment within which a firm competes and in order to get competitive advantages so that firms need to consider competitive environment factor in addition to factor market models. Here, no one can be against the importance of getting strategic information and insights about shifts of these two markets for the RBV executive's decision making. This is also true in KBV which even considers knowledge and CI as one of the key strategic resources.

To conclude on the two views, the concept of CI, can help modify the constructs (KITs) to collect data from the internal and external sources; revise the assumptions; and customise the CI approach itself for strategic use (i.e., CI guides strategy or strategy guides CI). In both views, however, the BI/CI strategy should be in line with the overall organisation and processes that require information to be managed to reach the corporate goals (Stefanova & Kabakchieva, 2012). Therefore, BI (CI) strategy shall be developed in accordance with strategic business goals (Järvinen, 2014) and the intelligence effort shall be directed around critical success factors for organisational advantage (Fleisher, Wright & Allard, 2008).

According to Rogers and Bamford (2001), either way, the alignment of strategic orientation and information systems increases business performance. To put it another way, CI scanning (process) is a continuous activity that should usually be made in iterative and cumulative manner (Qiu, 2008). In other words, CI can be used either to sustain organisation's strategic orientation or change its established orientation. In the end, regardless of the structural debate, all authors point towards the importance of an intelligence process for strategic decision-making.

The following two sections provide extensive discussion on SDM and CI. The discussions could lead to the discovery of SDM and CI relationships in terms of the contextual domains both share and which would later help to develop the middle-range theories by an interplay made with the empirical findings obtained from the case conglomerate.

3.6 Strategic decision-making in context

In exploring articles from different databases on studies made on the area, it is not a simple task to find a direct link between the growing discipline (CI) in management and information studies and the different earlier and recent strategy (more specifically SDM) theories.

Since it is impossible to discuss all strategy theories in terms of CI (i.e., CI application in each SDM), emphasis is given to discuss the issue selecting and focusing the famous strategy theories which may give opportunities or rooms for critiques. Attempts are also made to position CI in the context of each of the known types of strategy perspectives and orientations.

Since almost all of the grand strategy theories were developed in the past six to seven and more decades, it was mandatory to use references dated back to these decades. Despite this fact, the latest empirical study results on CI and SDM have exhaustively been consulted to make the discussion comprehensive and complete. The detailed discussions on the empirical results are presented in the next chapter (literature chapter).

In 3.7.1, an attempt is also made to show how CI can be linked to SDM in each of the selected strategy theories/orientations and how the contextual issues influence CI usage and SDM.

3.6.1 Overviews to strategic decision-making perspectives

Before showing the relationship each SDM or strategy perspective has with CI, it is good to give highlights on the different perspectives.

A strategy theory is a diverse multidisciplinary academic field with competing schools of thought and there are disagreements about what strategy theory should seek to explain (Haugstad, 1999) and what strategy is all about (Kemp, 2006). A strategy is a relative concept in terms of its definition, scope, concepts, approaches/views (Fouche, 2006; Mintzberg, 1987). A strategy may be good or bad, explicit or implicit, known or unknown to the organisation's decision-makers (Mintzberg, 1987; Hambrick, 1982). It can be influenced by different external environments (forces), internal environments/resources, manager's philosophy, values and aspirations (Hoskisson, Hitt, Wan & Yiu, 1999).

Strategy development is a complex issue which can be determined and influenced by many factors (internal and external). The complexity can be seen from the existence of different strategic orientations, SM debates and the theoretical foundations that view a strategy as content, process, context and situation. Moreover, since each strategy is unique for an industry/SBU or corporation, strategy is contextual, abstract and elusive deposit (Campos, 2006). Literature on SM has used different constructs to discuss strategy. The development of a consistent set of constructs (dimensions of the constructs of environment, structure, context, content and process) allows researchers to compare results across studies and benefit from the richness of the descriptions they provide.

There is no universal agreement on a standardised classification on SDM theories. Singh and Singhal (2015) note that the theories and models underpinning SDM are somewhat eclectic that demand multidisciplinary approach and appear non-differential from decision-making theories. Thus, it is possible to find different SDM and SM approaches that have been classified into different categories and schools. Among those classifications, the following are the major ones worth mentioning.

- Four SDM paradigms—rationality and bounded rationality, politics and power and garbage can (Eisenhardt & Zbaracki, 1992).
- Three models—rational normative, external control and strategic choice models (Hitt & Tyler, 1991).
- Three decision-making dimensions—rationality, politics and intuition (Varis, 2017).
- Three approaches/situations in decision-making—thinking first, seeing first and doing first (Mintzberg & Westley, 2010).
- Two dimensions—rational/emergent and internal resource/competitive environment focus of an organisation (Shujahat et al., 2017).
- Two factors SDM—decision-making intuitively and rationality (Karlsen & Eidene, 2012).

- Five approaches to SDM—classical approach to decision-making; behavioural approach to decision-making; management science approach to decision-making; systems approach to decision-making; and contingency approach to decision-making (Nooraie, 2012).

3.6.1.1 Rational/normative/formal SDM perspective

The rational model argues that SDs should be made with careful planning and analysis. The process is easily understood, appears to be rational, is widely known and most managers are comfortable with it (Ismail and Zhao, 2017). "The normative model of SDM suggests that executives take an active, influencing role by examining the firm's external environment and internal conditions and using the set of objective criteria derived from these analyses to decide on the strategy" (Ahmed, Bwisa, Otieno & Karanja 2014: 37). The normative model of SDM suggests that executives examine the firm's external environment and internal conditions and using the set of objective criteria derived from these analyses, decide on the strategy. According to Hitt and Tayler (1991: 327, 347), the rational processes may dominate the strategy formulation process, but industry and executive characteristics may also affect the decision process). Intelligence activity is the first step in the process of choice or decision-making activity of the rational decision-making perspective (Simon, 1960).

The rational process is seen in many places with minor variances (Ismail & Zhao, 2017). "The rational SDM process originates from a problem solution process. However, it does not reflect the reality of strategic or complex decisions and does not take political and other aspects in account" (Van der Veer, 2009: 22).

3.6.1.2 Incremental or intuition SDM perspective

Intuitive decision-making can be described as an "instinct" or a "gut feeling" These feelings are subconscious, based on individual experiences, expertise, the structure of the task and the social environment (Alam, 2013). According to the incremental model, strategy formulation should be an adaptive or evolutionary process rather than based on formal analysis or planning. While strategy formulation does have patterns, these patterns are realised, as opposed to intended (Mintzberg, 1978). As per the study of Ismail and Zhao (2017), organisations follow an adaptive model where clear goals do not exist; and organisations make decisions in incremental, disjointed steps instead of formal planning and following integrative comprehensiveness. In one strategy-as-practice, empirical results also show that strategising represents a calibration of strategic practices towards strategic outcomes through the activities of complex adaptive practitioners within the more politically inclined

organisation (Williamson, 2013). Jofre (2011), even believes that SD often relies on the perception, knowledge and experience of top managers and therefore is rather a subjective action.

3.6.1.3 Political or power SDM perspective

The power-oriented model refers to the role and power of different people in organisation's SDM (Janczak, 2005; Kownatzki, 2002). The key assumption is that organisations are coalitions of people with competing interests. The central ideas of the political perspective that (1) organisations are composed of people with partially conflicting preferences, (2) SDM is ultimately political in the sense that powerful people get what they want and (3) people engage in political tactics such as coopetition, coalition formation and use of information to enhance their power (Eisenhardt & Zbaracki, 1992). As will be discussed in the later sections of this thesis that link SDM and CI, these realities are also evident in the practice and concepts of CI.

3.6.1.4 Rational and intuition SDM perspectives (altogether)

SDM implies both intuitive and rational processes as they are equally important for a SD maker, but there is not much in the way of the role of intuition in a SDM. In the health care sector, intuition is an important strategy process factor, which top level personnel often exhibit in their strategy decision-making (Singh & Singhal, 2015). Lembinen (2018) also notes that the SDs cannot only be made based on facts and figures but also involve an intuition aspect. A combination of structural and behaviour factors leads to implementation process success (Olson, Slater & Hult, 2005). Strategic choice is positioned between the rational-analytical and the external control model since it assumes that top managers can make decisions regarding the goals, domains, technologies and structures of a firm (Kownatzki, 2002).

SDM is made in a hybrid approach because the process of decision-making requires both rational and intuitive decision-making. Similarly, according to Wally and Baum (1994), both personal and structural issues determine the pace of SDM. Their research provided insights into how executives' cognitive styles and personality characteristics, organisational structures and industry influence the pace of the SDM process. In a real-life situation, most decision-making approaches are often a mix of the two, depending on, for example, the situational context and characteristics of the decision-maker (Alam, 2013).

Different strategy perspectives are discussed in their own terms. The variations may imply that SDM itself is contextual since it can be affected by many factors.

3.6.2 SDM is contextual

Studies on factors affecting the SDM process are either limited or have produced contradictory results (Nooraie, 2012). Although many studies indicate that numerous factors influence decision-making, they still have not been able to guide managers to make the right SDs. There is still a strong need to test the relationship between the SDM process output with contextual factors such as internal, external organisation characteristics and decision specific characteristics (Shafie et al., 2017). Besides, Jarzabkowski, Balogun and Seidl (2007) indicate that micro-contexts of SDM are also in interaction with macro-contexts.

Pettigrew (1987) defines strategy context to combine and consider both strategy content and strategy process. Strategy contexts are the circumstances that influence process and content of strategy (Behnam & Rasche, 2009). It is good to illustrate this taking from decision-making perceptual situations or contexts of highly-skilled football players. The study made by Levi and Jackson (2018) sought to explore highly-skilled soccer players' perceptions of how contextual factors influence their decision-making during matches. The study identified four dynamic contextual themes derived from the data: (a) personal performance, (b) score status, (c) momentum and (d) external/coach instructions. The three static contextual themes were: (a) match importance, (b) personal pressures and (c) preparation.

Similarly, "…The strategy theories, dimensions, perspectives, or models definitely differ substantially in terms of their underlying assumption(s) about the decision context and the characteristics of decision process are usually influenced by different factors. The factors affecting the SDM in particular the different stages and process can be classified into four major categories: decision-specific characteristics; internal organisational characteristics; external environmental characteristics; and management team's characteristics" (Nooraie, 2012: 407). "Theoretical models of SD processes aim at depicting and explaining the process of SDM. Since they are based on varying notions of organisations, their conceptualisation of decision processes can differ significantly" (Kownatzki, 2002: 17). "Organisational decision-making model is relevant in terms of the varying organisational systems and structures installed in the organisation" (Kownatzki, 2002: 37). Therefore, each decision-making model has different implications for the roles and functions managers have (Ahmed et al., 2014). This means that SDM models are contextual by nature and the decision situations they serve.

Many authors make distinction between strategy content (the discussion of the subject matter of strategising) and strategy process (the discussion of strategising itself). Both 'content' and 'process' aspects of strategy can be understood in the context of internal and external environments. "Whatever model or methods SD-makers employ, they had better ensure these models and methods address and accommodate these important contextual issues. It seems safe to say at the very least that yesteryear's simple, neat, orderly, rational model won't work well in very many situations today" (Nickols, 2015: 9).

Different contextual issues or factors that affect SDM are investigated in different empirical studies. Below the common contextual issues are grouped into five major categories: (1) organisation-related contextual issues; (2) industry/environment-related contextual issues; (3) strategy- and decision-specific contextual issues; (3) decision-maker and people-related contextual issues; and (5) national or country-related contextual issues.

The issues are listed according to the contextual significance shown by each researcher, therefore some similar factors can be listed twice or more.

3.6.2.1 Organisation-related contextual issues

Strategies are always developed for a specific context, e.g., a particular business unit and/or an entire set of inter-related business units. This means that corporate as well as business strategies are formulated in contextualised notions that provide meaning for specific organisational settings (Behnam & Rasche, 2009).

The following organisational factors make SDM contextual: structure dimensions (specific organisational settings means a particular business unit and/or an entire set of inter-related business units and complexity, integration, differentiation, formalisation and centralisation) (Behnam & Rasche, 2009; Dess, Newport & Rasheed, 1999); top management support (Lautenbach, Johnston & Adeniran-Ogundipe, 2017); organisation system and culture (Betz, 2001); nature of the organisation, its structure, developmental stage, ownership, size (Westely & Mintzberg, 1989); structures (politics, power, centralisation) (Mador, 2000); organisational size and culture, business scope, centralisation, formalisation, holism, collectivism and the system of consensus (Jun, 2009); firm's stage of development (Greiner, 1998); context in business units of a multi-business company (level of autonomy, formalisation of activities, control resources and social control) (Birkinshaw, Hood & Jonsson, 1998); organisational size, firm's performance, dynamism, hostility (Nooraie, 2012); level of decision-maker (Harrington & Ottenbacher, 2009); and characteristics of the organisation (Sharfman, 1997).

3.6.2.2 Industry/environment-related contextual issues

Today, the industrial landscape and its dynamic environment present challenges to managers. As a matter of fact, every organisation and its component parts are found to be at different stages of development (Greiner, 1998). Any business may be located in context based on whether its industrial context is in a new industry or in a mature industry and whether or not that industry is small or large (Betz, 2001). SDM's contextual issues can also be resulted from the fluid, ambiguous and uncertain nature of today's business environment (Nickols, 2015).

SDM contextual issues which are related to the industry or external environment can be the following: industry (Choudhury, 2016; Fahey, 2007; Hitt & Tayler, 1991); external market influence drives (Lautenbach et al., 2017); competitive boundaries of the business or industrial context of the firm (economy and government) as well as the territories and cultures in the markets to which the business sells (Betz, 2001); competitive context (changes in the needs of the firm's customers and demand growth rate) (Depperu & Gnan, 2006); market culture (Ghannay & Mamlouk, 2015); heterogeneity of the firm in the industry, (Nooraie, 2012); environmental uncertainty, complexity, dynamism and hostility or munificence (Stokman et al., 2000; Dess et al., 1999); fluid, ambiguous and uncertain nature of today's business environment (Nickols, 2015); environment (dynamism, complexity, munificence, velocity) (Mador, 2000); new product entry by a competitor, competitive reaction (Moore, Stablin, Corfman, Dickson, Fltzsimons, Gupta, Lehmann, Mitchell, Urbany and Weitz, 1994); and industrial life cycle and size of industry (Betz, 2001).

3.6.2.3 Strategy- and decision-specific contextual issues

The literature also explains the contextual nature of SDM and is also very specific about the strategy practices and decision situations. One criterion that makes SD is the context of the situation (Hasan et al., 2011). "Organisational decision-making is a social process and the use of the output of BI (as synonymously used by the author to CI) in this social process is dependent on both the time and the particular decision to be made" (Shollo, 2013: 68). Decision specific characteristics are the nature of the decision itself (Nooraie, 2012). Decision-specific characteristics appear to have the most important influence on the SDM process, as decisions with different decision-specific characteristics are handled through different processes.

The situational contexts involve the following: nature of SDs (strategy definition itself) (Nickols 2015); content of the SD (Sharfman, 1997); context of the problem situation (Hasan et al. 2011); problem characteristics (uncertainty, complexity, high risk) (Mador, 2000); prior

decision (Moore et al., 1994); impact of the decision, cost implication, timing of the decision (Shirindza, 2015); decision impact on strategy; radical changes; decision's magnitude of impact; percussiveness of the SD; seriousness of consequences; action uncertainty; overall uncertain nature of SD; information uncertainty; extent of crisis perception; perceived threat of loss; time pressure to make the SD; pressure on the organisation; SD as part of another decision; frequency of occurrence; familiarity with the SD; and 'planned' vs 'ad hoc' decision (Papadakis, Lioukas & Chambers 1998); strategic orientation and perspective (Campos, 2006); decision process (whether it is rational, intuitive and political processes) (Hitt & Tayler, 1991); strategy process, strategic choice, knowledge-based view, dynamic capabilities and organisational learning (Shirindza, 2015); decision urgency, risk level, complexity, dynamism (Harrington & Ottenbacher, 2009). decision importance, decision uncertainty and decision motive (Elbanna & Child, 2007); Elbanna, Thanos & Papadakis, 2014) decision's familiarity, magnitude of impact (Nooraie, 2012); and decision's familiarity; complexity; magnitude of impact; threat/crisis or opportunity; risky decisions; and decision type (Nooraie, 2012).

3.6.2.4 Decision-maker- and people-related contextual issues

"What makes strategy and planning complex is that these cognitive activities are performed within the contexts of groups and organisations. No single mind of any individual in a group or organisation cognates all strategy and planning" (Betz, 2001: 280).

The SDM process takes place also in the context of individual circumstances of the decision-maker (Wallace & Rijamampianina, 2005; Drucker, 1967). On the other hand, SDs are not 'local', made by individuals in different parts of the firm, but 'global', made through an organisation-wide systematic strategic planning process (Ansoff, 1987). SDs are rarely made by a single individual operating in an autocratic mode know all or find out all that needs to be known for every decision of a strategic nature confronting the organisation (Nickols, 2015).

The SDM contextual issues in the personality of the decision-maker and the social interaction within the organisation involve the following: personal (individual) circumstances of the decision-maker (Wallace & Rijamampianina, 2005); decision-maker's degrees of strategic freedom (Bourgeois, 1984); executive characteristics (Hitt & Tayler, 1991); cognitive diversity, cognitive conflict and manager's need for achievement (Nooraie, 2012); managers' knowledge about the current status and probable reactions of their company, competitors, customers and broader public and importance of sensitivity to the decision-making context, attention to the presentation of information and the use of intuition (Moore et al., 1994); boundaries of knowledge in the industry (Betz, 2001); individual circumstances of the

decision-maker (Wallace & Rijamampianina, 2005); experience in decision-making (decision-maker's capacity to choose a course of action for that decision) (Shirindza, 2015: 46); personality/style (group and individual decision-makers authority/power) (Nickols, 2015); social interaction, that is the top team, middle managers (Mador, 2000); role of values and role of consensus, biases; personality/style (Nickols, 2015); internal or external support/opposition (Harrington & Ottenbacher, 2009); the SDM team (Sharfman, 1997); various interests of the stakeholders (Lindborg, 2018); and group cognitive activities (Betz, 2001).

3.6.2.5 National or country-related contextual issues

National context, social and cultural values of countries also influence the decision-making style of managers (Lembinen, 2018; Elbanna et al., 2014; Elbanna & Child, 2004). "While design, planning, positioning, environmental and configuration schools emphasis the planning logic of analysis; entrepreneurial, cognitive, learning, power and cultural schools put emphasis on the planning logic of synthesis. In some cultures, it is easy for organisational planning processes to emphasise analysis while in other cultures it is easy to emphasise synthesis" (Betz, 2001: 230).

Podrug (2011) researched how national culture influences decision-making style among managers from three different countries and found that there is a positive correlation between social and cultural values and decision-making style (Lembinen, 2018). In making SDs, it is necessary to investigate the core aspects of a country's context differences for decision-making autonomy in general, as well as for decision-making autonomy for certain business functions in particular (De Jong, Van Dut, Jindra & Marek, 2015).

The following study was made on the two 'model' countries from which the case company's conglomerate strategies and development practices were consulted. A study conducted by Jun (2009) identified macro and micro factors that affected the SDM and SM practices of Korean and Japanese conglomerates. The macro factors involved national and corporate issues and the micro factors involved issues related to organisational size and culture, business scope, etc. Even in these two Asian countries' conglomerates, there existed differences at both macro and micro levels. Regarding SM, while in the Korean conglomerates, centralisation was inversely associated with overall performance and formalisation was not associated with the speed of job handling decision-making; in the Japanese conglomerates, centralisation had no correlation with overall performance and formalisation was inversely associated with the speed of job handling. Regarding the decision-making process, while in the Korean

conglomerates, top executives are the main body in decision-making, ownership is a major factor influencing decision-making and decision-makers would tend to be individualistic; in the Japanese conglomerates, team leaders and middle managers were the main bodies, corporate culture was a major factor influencing decision-making and decision-makers adopt holism, collectivism and the system of consensus (Jun, 2009).

A study conducted by Choudhury (2016) intended to find out whether the performance of firms varies according to their contextual factors and whether strategies pursued by firms also differed according to their contextual factors. This study also showed an outcome different from the previous empirical study results. In the study, no significant difference was observed in strategies pursued by firms, depending on their contextual factors because of the similarities in the Indian context, irrespective of the contextual factors (in this case, type of ownership). Rather, the overall environment seemed to have more influence on the firm's choice of strategy than on its own characteristics, like whether it was a domestic firm or a foreign owned business.

While the discussions in the next main section connect the SDM contexts to CI application context, the first sub-section (3.7.1) also provides detailed explanations in how CI can be linked to SDM in different strategy theories.

3.7 Competitive intelligence in context

It is a universal fact that usable information is vital for any decision-making. "Both empirical and conceptual research agree on the value of information acquisition and analysis and its use in improving strategic decision-making" (Freyn, 2017: 5). Thus, it is possible to investigate the application of CI in different lenses of strategy theories and case contexts. Since it is not possible to discuss all strategy theories in terms of CI (i.e., CI application in each SDM theory), emphasis on discussing the issue selecting and focusing within the context of the prominent strategy schools, theories and/or strategic orientations. Because little attention has been given to CI by strategy scholars and practitioners, only a couple of literature try to position CI in SDM or SM theories, it is necessary to trace CI and competitive information related issues in the strategic management theories. For this reason, this literature critique contributes to the development of a critical understanding of CI that is less coloured by the different contributors of strategic management scholars, particularly by the earlier scholars and their theories. Related to this fact, Gilad, Gordon and Sudit (1993: 6) make the following remarks: "In the field of Decision Theory where researchers are often concerned with the 'larger picture' of human decision-making, the issue of the availability of *specific*

informational input for a decision is less well researched. Models of bounded rationality and organisational decision-making, while emphasising the important limitations on human and group information processing, do not concern themselves with what information is actually available about the environment and which is actually put to use in reaching a decision."

The review that is presented in 3.7.1 (which is an extension of the previous SDM discussions in 3.6) will certainly clarify the CI-SDM issues in an elaborated and illustrative way.

3.7.1 Competitive intelligence in different strategic orientations

Strategic orientation is, simply, the conceptual classification of patterns of strategic behaviour, based upon a set of key traits, or dimensions (Fulford & Rizzo, 2009). Manu and Sriram (1996: 79) define strategic orientation as, "it refers to how organisations use strategy to adapt and/or change aspects of its environment for a more favourable alignment or how firms strategically position themselves to achieve and sustain competitive advantage." For Gatignon and Xuereb (1997), the term 'strategic orientation' refers to three distinct orientations: customer, competitor and technology (or product).

As strategies or strategic orientation of a firm differs from other firms, so differs its intelligence inputs for SDM. While planning information in its generic form may be viewed as positive, the type of information collected and its use might vary greatly depending upon the strategic orientation of the firm (Rogers & Bamford, 2001).

It is also the objective of this thesis to position CI into selected strategic orientations which are thought to be famous in the SM literature. To clearly understand the role of CI in different strategy theories and its position in firm's strategic orientation, seven widely known strategic orientations (also named as approaches/models) are selected (from the broader strategy theories) here for detailed explanations.

In relation to the multi-perspective strategising approaches, strategic orientation and/or strategies of the case conglomerate and its subsidiaries mentioned in Chapter 2 and explained in Chapter 4 (core competency perspective, technology & innovation, market/industry analysis, coopetition, strategic alliances, benchmarking, resource- & knowledge-based focus), the following grand strategy approaches are selected to be viewed in lens of CI--(1) Porter's Generic Strategy; (2) Miles and Snow Generic Strategy Typology; (3) Resource-based View (RBV); (4) Knowledge-based View (KBV); (5) Dynamic Capability View (DCV); (6) Market Orientation; and (7) Multi-dimensional Orientation. KBV and DCV are theoretical extensions of the RBV.

3.7.1.1 Competitive intelligence in Porter's generic strategy approach

The industrial analysis approach to strategy that is prescribed by Porter (1980) is one of the main topics of discussions on the content aspects of SM theories where profit is explained by the choice of industry and the gaining of market power. Porter's competitive position industrial organisation model is 'outside-in' model which gives analysis of the external environment in order to find the firm's right position in the industry (Prahalad & Hamel, 1994).

CI gained prominence in the 1980s through the work of Michael Porter. Porter's approach to analysing industry and competitors, largely known as the Five Force Model (i.e., intensity of competitive rivalry, threat from new entrants, threat from substitutes, bargaining power of buyers and bargaining power of suppliers), is entirely based on such cross information with great added value. Therefore, the strategic business managers seeking to develop an edge over rival firms often use Porter's model to understand the industry context in which the firm operates better. Coming to the concept of CI, these five categories can be named as industry's key intelligence topics, which, according to Porter, are 'predictable'. This means that by using this model, it is simple to identify all the necessary information about the industry and strategy topics or contents (KITs) that will later enable the firm to decide how to position itself in the industry. In explaining and relating CI with positioning strategy, Johns and Van Doren (2010), for example, put that once the firm understands how its competitive set is positioned in the market place it can combine this information with the needs and wants of the customer and begin to find out where and how the firm can play in the market. Bose (2008) also believes that a thorough understanding of the respective industry is an important input to an organisation when designing its CI programme. However, not only will the organisation need a solid understanding of its industry, it will also need a very detailed understanding of itself.

Betz (2001) also promotes Porter's Five Forces by saying that any strategy for a competitive advantage needs to consider the traditional situation of the five different competitive forces within an industry. Extending on Porter's model, Betz says the following:

> *Information technology alters the traditional five forces model of competition in that all competitive situations are bounded by a knowledge structure of the industry. Change in the knowledge structure alters the competitive situation. In a modern competitive situation model, one must indicate explicitly that the boundary of a business competitive situation is encompassed in a larger boundary of change in industrial-level knowledge. New knowledge can alter competitive situations by providing new strategic business opportunities to those who have the new knowledge at the industrial level and can envision business opportunities in the new knowledge*. Betz (2001: 334)

In later times, Porter's framework has also been criticised for its limited scope of economic forces analysis, three choice of generic strategy (Mintzberg, 1990) and narrow scope of gathering and analysing of the industry information for SDM (Prahalad & Hamel,1994).

> *In today's dynamic market, competitive bases are complex to determine and competitive forces are unpredictable. The forces impacting on the nature of competitive space within industries are several. These forces are changing the sources of advantage of firms and the economics of industries in new and unpredictable ways. Some of these forces are global competition, technological discontinuities, changing customer expectations, environmental concerns, deregulation, structural changes, excess capacity, emergence of trading blocks, less protectionism, mergers and acquisitions.* (Prahalad & Hamel, 1994: 7)

Though Porter's model makes it possible to easily identify intelligence topics and sources and make industry analysis for each business, the model ignores the effects of many dynamic factors that must be incorporated in the strategy analysis to position the firm in the industry. Therefore, not confined to analysing the five industry environment forces (bases of competition) of Porter, to make SD which warrants long-term survival of their organisation, today's managers shall analyse both the internal and external facts surrounding the firm/organisation in the industry. While analysing the resources of their organisation, managers should think from an organisational developmental perspective about the long-term survival, considering the age and size of the organisation, evolutionary and revolutionary stages of the organisation and the industry stage of the organisation. They should foresee the growth stage of their organisation and find activities (such as designing the organisation structure, management style, communication and strategy) to go along the natural growth either in an evolutionary or revolutionary way (Greiner, 1998).

The generic strategy model of Porter has limitations when evaluated from the point of view of 'inner-out' directed strategy models, such as RBV, KBV and DCV, too. The key to designing a successful strategy is the ability to identify, develop and maintain a competitive advantage over rivals. Resource or capability can be a source of sustainable competitive advantage if it can produce profits for the company, in a manner which competitors on the market have difficulty to replicate or mimic (Gračanin et al., 2015).

In relation to the limitations of Porter's model, which are the issues of CI, the famous management institute state the following:

> *Porter's model sometimes draws criticism for neglecting the difficulty of obtaining and maintaining the information required to perform an industry structure analysis. While such an exercise may be time-consuming, it is essential to obtain a detailed database in order to fully understand an organisation's competitive environment. Dismissing the task as too difficult is*

> *tempting, and may lead to inappropriate decision-making." ... "If the nature and intensity of Porter's five forces or the core competencies vary for various segments of an industry, then the structural characteristics of different industry segments need to be examined. This analysis will reveal the competitive advantages or disadvantages of different segments.* (Institute of Management Accountants, 1996a: 19, 20)

However, in later times, Porter (1996) also notes that although external changes can be the problem, the greater threat to strategy often comes from within because a sound strategy can be undermined by a misguided view of competition by organisational failures and, especially, by the desire to grow.

While also discussing the historical development of CI as a discipline, researchers such as Bose (2008), Odendaal (2004), Fleischer and Bensoussan (2003) indicate the work of Michael E. Porter to discuss their topics with reference to his discussions on 'Competitive Strategy' which is about techniques for analysing industries and competitors (Porter, 1980) and 'Competitive Advantage' which is about creating and sustaining superior performance (Porter, 1985). Porter's (1980) Competitive Strategy, still serves as a major reference in the field of CI since it is the first framework in which intelligence could be used for SDM by companies (Odendaal, 2004). In relation to the development of firm competitiveness theory, CI is taken as a much-needed business function. Still, Porter's work primarily provides guidelines on how to process existing intelligence information in useful ways and it tends to covertly assume that intelligence information (and/or the tools required to professionally gather it) already existed (Walle III, 1999).

Bose (2008) promotes Porter's model because it helps analysts to make judgments about an industry. He justifies that an important input for an organisation into the design of its CI programme is a thorough understanding of the respective industry. The organisation needs to map out and understand the forces driving change within its industry. However, he further notes, "not only will the organisation need a solid understanding of its industry, it will also need a very detail understanding of itself" (Bose, 2008: 525).

Fleischer and Bensoussan (2003) also confirm that industry analysis (Porter's Five Forces Model), strategic group analysis, SWOT analysis, financial ratios, and value chain analysis are used as CI analysis tools in practice. While CI tools cannot supply the final judgments with these methods, the tools can help analysts to uncover hidden knowledge in the collected datasets that can be applied to the analytic techniques (Bose, 2008: 519).

To conclude, Michael Porter's Five Force Model can be regarded as a CI tool but with its own intrinsic limitations. In Porter's industrial organisation model, assuming the industry is stable,

the firm focuses on gathering everything about the industry that is necessary using external CI and analysing its capabilities using internal CI in order to make strategic decisions to find the equilibrium or what would enable the firm to find its fit in the industry.

3.7.1.2 Competitive intelligence in Miles and Snow's generic strategy typology

The typology by Miles and Snow (1978) can represent strategy content. From a strategic perspective, the generic conceptualisations devised by Miles and Snow (1978) and Porter (1985, 1980), assume that the classification of business units or organisations according to marketing strategy provides deeper and more specific guidelines for human resource, organisational structure and information requirements (Bednall & Valos, 2005).

Miles and Snow's intent is to examine the firm as an integrated and dynamic whole in their development of a framework of the behaviours employed by firms as they adjust to their environments. Thus, based on their empirical research, Miles and Snow developed an organisational typology portraying the different patterns of adaptive behaviour used by organisations in a given industry. They assert that top management limits the firm's selection of adaptive behaviour which it believes will allow effective direction and control of human resources. Top management is responsible for aligning the organisation with its environment and managing the resulting internal interdependencies (Miles & Snow, 1978). Miles and Snow identified three successful strategy types, which they named prospectors, defenders and analysers. A fourth type, reactors, has a weakly articulated strategy and is considered an inherently unstable type (Rogers & Bamford, 2001). According to Miles and Snow, firms can be categorised in terms of their strategic orientations as either prospectors (risk-seeking decision-makers—outer-directed firms), analysers (balance risks and returns—outer/inner-directed firms), defenders (compete in stable markets—inner directed firms) and reactors (react to environmental pressures defensively—outer-directed firms). According to Cartwright, Boughton and Miller (1995), CI, as an element of environmental scanning, can be used to test Miles and Snow's proposition that environmental scanning has high importance for certain types of firms according to their strategic orientation. An environmental scanning activity, the type of CI employed by an organisation and the characteristics of the CI employed will vary depending upon the strategic orientation of the firm. Their research suggests that the design of the CI function should be directed by the strategic orientation of the firm as defined by the key marketing SD maker. For example, prospectors and analysers firms, which are proactive with their external environment, required a strong positive assessment of CI by key SD makers.

Gallén's (2010) dissertation also analysed strategic orientation using Miles and Snow's organisational typology. The main research question is: does the cognitive style influence the strategy type managers and top management teams prefer? Results showed that sensing-thinking top management teams prefer analyser or defender strategy and intuitive-thinking teams either analyser or prospector strategy. Intuitive managers prefer analyser or prospector strategy to defender strategy. Sensing managers prefer defender or analyser strategy to prospector strategy. This clearly indicates manager's personality in each style largely dictates the collection and use of CI for SDs. In other words, CI promotion and support for SDM is contextual in each firm, which is dictated by manager's cognitive style.

Miles and Snow (1978), themselves, clarify that different strategies have particular information needs and unique implementation requirements (Rogers & Bamford, 2001). Miles and Snow (1978) suggest that prospectors must employ complex and often expensive forms of information coordination in order to manage the complexity of sub-unit interdependence (Rogers & Bamford, 2001). Whether they follow innovation or market orientation, these firms put greater emphasis on collecting and analysing CI from the external competitive environment. As innovators, for example, these firms may put special emphasis on technological intelligence and finding new opportunities from the external environment. Such risk-taking firms are usually led by entrepreneurial leaders who want to foresee opportunities from the market, too. This behaviour in market orientation significantly impacts the frequency and the scope of their scanning behaviours. According to Qiu (2008), managers with a high level of entrepreneurial attitude orientation engage in more proactive scanning for CI than those managers who demonstrate a low level of business motivation. Prospectors tend to be intense environmental scanners and allow plans to coalesce through intense internal and external analysis of information Darling (1996) and Guimaraes (2000), as cited by Liu and Wang (2008), assert that CI is a key asset to show opportunities and problems to enable proactive strategies and improve the company's likelihood of survival.

A company is said to have a competitive advantage even whenever it defends itself against competitive forces found in its external environment (Heppes & Du Toit, 2009). Defensive organisations focus on a product and market domain that is narrow and relatively stable, tending to defend their products, markets and core technology rather than develop new products or markets (Miles & Cameron, 1982). Because they have well-established businesses and seek to protect and nurture these resources, defenders averse risks and invest only in proven long-term prospects (Kemp, 2006). While excluding the business opportunities and other developments external to their competitive environment, analysers attempt to defend themselves by concentrating all their efforts on cost-efficient production. Since they are inner-

directed firms, their strategic orientation drives them to depend largely on collecting internal intelligence/information on KITs, such as cost-reduction, employee performance, system efficiency, availability and the use of scarce resources. Being internally focused firms, internally collected CI seems more useful than externally collected CI for such firms. Besides, compared to the other three strategic orientations, defenders can be identified to put less emphasis on the use of competitive information (Rogers & Bamford, 2001: 207). CI tools, such as scenario analysis, enable managers to formulate robust defensive strategies in times of uncertainty (Trim & Lee, 2008).

Also, as research conducted by Hambrick (1982) using Miles and Snow's typology reveals, despite information being generally equally available to all organisations, the subject organisations differ in their abilities to implement a response or formulate a strategy on account of their inherent distinctive competences. According to the frequency of searches, practices are either proactive (foreseeing problems and detecting opportunities) or reactive (answering concrete information needs or solving unexpected problems or reacting to some environment uncertainty) (Garcia-Alsina et al., 2016). This means that strategic orientation of firms (prospectors, analysers, defenders, reactors) largely determines the inclination of firm's collection and use of CI.

3.7.1.3 Competitive intelligence in resource-based view

According to Bowman (1974), cited by Mahoney and Pandian (1992), 'strategy', in RBV, can be viewed as a 'continuing search for rent' so that a firm selects its strategy to generate rents based upon their resource capabilities. Originated from organisational economics, the RBV is the recent strategy content theory of strategic management that addresses the fundamental question of why firms are different and how firms achieve and sustain competitive advantage (Hoskisson et al., 1999). One definition of strategy by Fulford and Rizzo (2009) is that it is how an organisation orients itself, building a resource base and enacting its behaviour in accordance with how it perceives the environment it is surrounded by. In resource-based theory paradigm, resource heterogeneity entails different resource endowments and firm history, each leading to heterogeneous SDs (Monroe, 2006). This means that any firm has resources or assets (tangible as well as intangible) and capabilities to compete. However competitive advantage is only achieved and sustained when the firm makes a strategic use and management of such assets to create superior value than competitors. In the theory of modern RBV, strategic resources must be valuable, rare, imperfectly imitable and not substitutable (Jofre, 2011).

In RBV and KBV, CI reflects the firm's resources of human and organisation capital, which through the creation and utilisation of knowledge, can be key in SDM and ultimately, achieving advantage in the marketplace. The study conducted by Freyn (2017) also considered organisational factors of the firm as the main determinants of CI and knowledge processing. Formal/process/structure and organisational awareness/culture (including information/knowledge/CI) were regarded as key contextual issues. Earlier studies in RBV and KBV also share the behavioural and political perspectives as related to CI resources. The studies identified three key points of the process of knowledge utilisation. First, the process plays the role of an "informational linkage system within the firm". Second, the process is social due to the amount of "interaction and exchange behaviours". Third, the process is political because of the "power relationships among the individuals and groups who are exposed to the information" (Menon & Varadarajan, 1992). These factors correspondingly support the contextual variables tested in the study by Saayman et al. (2008) - formal infrastructure, internal information, employee involvement, culture and awareness.

Thus, RBV, which largely uses qualitative identification of unique resources is much helped by both internally collected intelligence (ICI) and externally collected intelligence (ECI). While ICI can be used to gather every pertinent intangible information about the distinctive and sustainable competence of the firm, ECI will help much in gathering information, such as from competitors, in an attempt to find special competence that is possessed or not possessed by similar firms and build distinctive competence and find rare resource which will or cannot easily be developed by competitors of the same market. Although it is essential to learn which of competitors' resources cannot be same to firm's resources using ECI, development of 'imitable' unique resources can be largely developed by the help of internally collected CI.

The current views on the relationship between CI and RBV are discussed below. In similar vein, detailed analyses on the relationship between CI and core competency perspective are also provided in Chapter 4 (see 4.5.1, CI and Knowledge in Core Competency Perspective).

CI reflects the firm's resources of human and organisation capital, which through the creation and utilisation of knowledge, can be key in strategic decision making and ultimately, achieving advantage in the marketplace (Freyn, 2017: 9). Similarly, Moniruzzaman, Kurnia, Parkes and Maynard (2015) state that the RBV considers organisations' assets, processes, information, know-how, capabilities, and so forth as resources. Moniruzzaman and his colleagues note that there is an increasing interest in deploying Business Intelligence (BI) in the supply chain management context to improve supply chain agility. The authors draw on RBV and OIPT (organisation information processing theory) and propose a research model

that conceptualises how BI capability enables organisations to reduce task uncertainties through improved decision-making in supply chain management areas, which in turn leads to improved supply chain agility.

The RBV provides an interesting perspective on how organisational resources should be used as a source of knowledge. The CI function aims to create intelligence by combining several activities and resources (Comai, 2016). According to Comai's (2016) observation,

> *…CI managers are an important ingredient in company resources. From an internal perspective the RBV does not depend on the type of industry in which a company operates but rather on the way that CI is managed and how well internal resources are being orchestrated in the organisation. The CI function can be seen as an organised system of specific tangible and intangible assets which contributes to the firm's performance. Information systems are part of the organisation… The CI function can influence decision makers by adopting internal intelligence in a proactive way. In this way CI may be perceived as a resource within the organisation and thus the CI function creates a certain dependency*. (Comai, 2016: 34)

According to Li (2017), the core technical ability directly determines the ability and level of the enterprise to transfer the technical resources to the technological superiority, which is the key of the core technical ability of the enterprise, and which includes the research and development ability and the manufacturing ability. These internal resources are part of the CI function just as the CI function is a resource for the organisation (Comai, 2016). Shortly, CI is a source of competences and capabilities. Comai further argues that "It is possible that there are other moderating factors which control this alignment (i.e., RBV and CI) …In addition, according to the RBV theory, the organisation will directly decide which kind and level of resources should be devoted to the CI function. Thus, the environment will act as a contingency" (Comai, 2016: 130).

According to Comai (2016), there is no direct reference in RBV literature to how internal resources can be used as sources in the scanning activity. However, it can be asserted that the main concept of the theory is based on the use of internal sources as a main advantage to the organisation. Nevertheless, the RBV provides an interesting perspective on how organisational resources should be used as a source of knowledge. CI managers are an important ingredient in company resources. Finally, in a recently made study by Freyn (2017), CI is mentioned as a younger discipline as seen by the limited empirical research available. The inconsistency of its use by practitioners represents a need to develop a clearer understanding of the CI function and how to utilise the CI process effectively. "Theoretically (i.e., RBV, KBV), this discipline can provide several benefits including stronger strategy, improved firm performance and ultimately, a resource for sustainable competitive advantage"

(Freyn, 2017: 10). The conclusion reached by Freyn (2017) on the relationship between CI and RBV is presented as follows:

> *Linking CI with RBV offers the much-needed theoretical foundation for the discipline; in turn, CI may prove to be a mechanism that can provide a VRIO (i.e., value, rareness, imitability, organisation) resource for the firm. KBV, a subset of RBV, becomes more relevant as CI offers both human and organisational resources, while providing a system and culture that aid in the development of knowledge and intelligence"* (Freyn, 2017: 49). *... "there lacks a connection of Cl literature with RBV; this denotes a large gap*. (Freyn, 2017: 20)

Along their critical need for CI, the two strategy concepts that are closely related to CI or knowledge strategiing and derived from the RBV are knowledge-based view (KBV) and dynamic capability view (DCV); and are discussed next.

3.7.1.4 Competitive intelligence in knowledge-based view

The knowledge-based view (KBV) of the firm (Grant, 2006, 1996, 1995) builds upon and extends the resource-based theory for its possible role in creating sustained competitive advantages for firms (Halawi, McCarthy & Aronson, 2006). Freyn (2017) also notes that knowledge-based theory is considered a subset of the RBV.

The KBV of the firm is an extension of the RBV by conceptualising firms as heterogeneous, knowledge-bearing entities. In an epistemological study, Sveiby (2001) states knowledge as a dynamic, personal and distinctly different from data (discrete, unstructured symbols) and information (a medium for explicit communication). CI focuses on a process to turn information (then knowledge) into actionable intelligence—for strategy development process (Fouche, 2006). In knowledge management, synthesis is very important to get utmost benefit from both the explicit and tacit knowledge that give the firm competitive advantage and enhance its competitiveness.

Within the knowledge economy, a key issue is intangibles specifically knowledge which can be explicit or codified knowledge (knowledge that is transmittable in formal, systematic language) and tacit knowledge (a personal quality that is difficult to formalise and communicate). This knowledge shall be managed to help a firm achieve a sustainable competitive advantage. In short, Campos (2008) states that knowledge is needed to utilise knowledge effectively (i.e., strategy lacking knowledge is useless).

As discussed in 3.2.1, knowledge management (which is considered as an element of CI or a concept that comprises CI) is considered to be the key element of competitive advantage in

KBV. CI and knowledge management have an intimate relationship in helping a firm that has any strategic orientation. To illustrate, a knowledge-based company may have a marketing-, customer-, competitor-, technology/product- or resource-oriented strategy. For example, knowledge-based marketing requires a company to master a scale of knowledge that includes the following: the technology in which it competes; its competition; its customers; new sources of technology that can alter its competitive environment; and its own organisation, capabilities, plans and way of doing business (McKenna, 1991). Therefore, continuous external environment scanning/gathering and knowledge sharing (Campos, 2008) about competitors, technology and markets gives the knowledge-based firm unique advantage over any other firm that does not have this belief.

From many explanations and definitions of present time authors (Aboiron, 2019; Chawinga & Chipeta, 2017; Intezari & Gressel, 2017; Shujahat et al., 2017; Chevallier et al., 2016; Comai, 2016; Ghannay & Mamlouk, 2012; Taib, 2008; Trim, 2008; Trim & Lee, 2008; Fouche, 2006; Britt, 2006.), the CI concept is closely related to the knowledge management view, which has recently grown into strategic management theory. Most KBV strategy research studies put emphasis on the use of CI for strategic advantage. This is particularly true for a knowledge-economy company. Peyrot, Childs, Van Doren and Allen, (1998) propose a need to go beyond the broad-based, qualitative environmental scanning approach to market CI and use an analytical knowledge-management approach. Similarly, in his thesis Campos (2006: 27) hypothesised, "… within the context of the Knowledge Economy (KE) the simplicity of the SWOT analysis results are insufficient to formulate sound, flexible and reliable business unit level strategies …" Confirming his hypothesis, Campos concludes that the output from the SWOT framework analysis is often either trivial or so broad as to be relatively meaningless in the context of making actual strategic decisions. This research output is in line with the concept of CI, which requires a different approach to deal with competitive information in a modern type knowledge-based company. Some authors also align the SM process with the CI/KM process. Shujahat et al. (2017) try to explain the synergic and separate use of knowledge and intelligence, via knowledge management and CI, in each stage of the SM process. In their study approach the authors made a systematic literature review within the time frame of 2000 to 2016, extracted information from reviewed studies and then tried to synthesise and integrate KM and CI in the SM model of Fred David. As put by the authors, Fred David's SM model comprises three stages, namely, strategy formulation, strategy implementation and strategy evaluation. They finally proposed a SM model with a lens of knowledge management and CI. However, more empirical studies shall be made on whether to align the CI process with the strategy process linearly.

Today, for a resource-oriented firm, CIPs have made irreplaceable contributions in identifying and cultivating intangible resources that will further be used by companies based on knowledge economy. In other words, CI can be used to systematically gather, accumulate, analyse and use both tacit and explicit knowledge for a firm's competitive advantage. Since the process of CI is necessary in creating, developing, sharing knowledge as value, a knowledge-economy company cannot overlook the importance of establishing an efficient CI process to get the utmost benefit from it. However, as Ghannay and Mamlouck (2012) argue, there is rarely a similarity between successful CI processes. Some general success factors and guidelines can, however, be mentioned. CI lacks a system architecture due to differing structures and cultures in organisations. Good organisation culture is one advantage of a firm that promotes KBV. "Organisation culture is one among the factors affecting CI practice as it can be either a hindrance or an enabler to successful CI implementation. Because of its importance and implications for individual and organisations, a great deal of attention has been given to the OC and related studies" (Ghannay & Mamlouck, 2015: 35). Empirically based research is lacking to support these concepts; testing the constructs of the CIP and contextual factors will help to fill this gap in research. CI requires a stronger theoretical foundation in developing and testing effective firm dynamics (Freyn, 2017). To conclude from Freyn (2017), both the RBV and KBV will initially be discussed to serve as the foundational theory supporting the value of CI as a resource for the firm.

3.7.1.5 Competitive intelligence in dynamic capability view

An extension of the RBV is the Dynamic Capabilities View (DCV), is pioneered by Teece, Pisano and Shuen (1997). Because resources are context based, their values depend on the characteristics of the given environment and are also relatively stickier than their environment, resource changes and adaptations often lag behind environmental changes. Newbert (2007) argues that a firm's organising context and its dynamic capabilities, rather than its static resources, are essential for understanding competitive positions and superior profitability. Firms with this view consider dynamic capabilities as being the ability to deploy and redeploy their resources in response to a changing environment (Hall & Lundberg, 2010). With the help of intelligence, firms must adapt, integrate and reconfigure their resources and competencies continuously in response to changing market conditions. If they were to lag behind, environmental changes will make them lose their resource advantage. By continually bringing readily available information about what is going on the external environment, CI clearly enhances the decision-making of relatively outer-directed firms in the domain of RBV. The main reason for the use of externally oriented intelligence collection is that it is the

dynamic capability rather than the resources themselves that help the firm to gain sustainable competitive advantage.

Knowledge creation and the sharing aspect of DCV create a relationship between the managers' ability to analyse situations and the dynamic nature of their competitive environments. Because this ability in itself is a dynamic capability for such firms, intelligence is, clearly, taken as the vital input to gather competitive data and to present carefully interpreted and understandable information for quick decision-making (Walsh, 2005) and to create the right knowledge within the organisation.

Furthermore, as Kay (2007) notes, the nature of dynamic capabilities is likely to be level-dependent in so far as their role in enabling SDs, which involve links or sets of links that have to be sensitive to the level or levels of the organisations, are concerned. This also raises the issue of where dynamic capabilities such as in SDs, alliancing and product development are to be found (Kay, 2007). Therefore, the need for SI shall be reviewed in terms of the specific intelligence needs to make SDs, either at corporate level or SBU level, and to share resources and intelligence among vertically integrated SBUs of a multi-business firm.

3.7.1.6 Competitive intelligence in market-orientation strategy

The discussion provided in 3.2.1 (CI and Related Concepts) gives background information since MI is a component of CI. Thus, the following discussion should be understood in this context.

According to Xu (1999), an organisation's strategic management process should be informed by the marketing perceptive. If strategic management provides the purposive framework that unifies organisational activity, effective marketing provides the externally oriented vision which illuminates that strategy. Marketing intelligence serves as a bridge between internal and external environments, which enables managers to develop informed and rational decisions on markets, competitors and strategy (Nadareishvili, 2018). "With competition becoming more intense and complex, the market-orientation perspectives dictate that enterprises whether large or small have one choice if they are to survive the torrent and turbulent market environment in which they operate to upgrade their internal business activities and to integrate events from the external environment" (Chawinga & Chipeta, 2017: 25).

Chawinga and Chipeta (2017) further note the contribution of knowledge management, even in a market-orientation strategy. They indicate the possibility of knowledge management (KM) and competitive intelligence (CI) to be taken as springboards for competitive advantage

in small and medium enterprises (SMEs). Similarly, Tuan (2014) magnifies the benefits of CI and KM in market-orientation strategy as follows:

> *Competitive intelligence, therefore, mirrors market-oriented force, like Archimedes's force, "pushes" market opportunities to the surface within the organisation's vision. This force creates the human ecological balance or harmony between its competitive advantage and co-players' lives in the marketplace rather than weakening the symbiosis in the value chain of other market players. Such a strong and sophisticated force is built from the intellectual capital of the organisation which should be the exponential function of multiple intelligences of multiple members rather than the sum of individuals' knowledge. Knowledge sharing creates not merely such a knowledge exponential function, but also the sharing of values of responsibility as a special form of knowledge, which increases the sensibility and accountability for the external positioning of the organisation as well as other stakeholders.* (Tuan, 2014: 276)

In the area of market orientation, researchers such as Berthon and Hulbert (1999) agree that market-oriented strategy should successfully apply the marketing concept. A case study conducted by Jamil (2013) reaffirmed the theoretical findings to improve MI concept definition through its (CI) organisational process.

> *The convergence of strategic results of both processes–CI for strategic decision, such as those in planning and executing strategies and MI for strategic marketing decisions– also allows to understand how they can be complementary and interrelated, reiterating that market intelligence has a more practical, applicative, "to the market" objective as it is designed to support a connection between organisational strategy formulation and answers provided by strategic marketing decisions*. (Jamil, 2013: 465)

In market-orientation strategy, marketing intelligence, being the main component of CI, contributes significantly, almost playing the role of CI. Marketing intelligence appears to be of increasing relevance and importance to companies because of its capability to provide the essential underpinnings for the crucial output of strategic management (Tan Tsu Wee, 2001). According to Shin, Park and Ingram (2012), the focus of market orientation is mainly on the use and flow of information. The factors that constitute a market-orientation structure include intelligence generation, intelligence dissemination and intelligence responsiveness.

CI may also be used at any point in the strategy process to provide depth information during formulation of grand strategy or breadth in considering elements of the strategy. For example, Baker & Sinkula (1999) point out that marketing information process has great strategic role for strategic process of a market-oriented firm. Concerning the need for market information, Asikhia (2006) explains a market-orientation strategy as connecting the degree in which the business unit obtains and uses information from customers, develops a strategy to meet their needs and implements that strategy by being responsive to customers' needs and wants. Similarly, the level of market orientation in a business unit is the degree to which the business

unit obtains and uses information from customers, develops a strategy that will meet customer needs and implements that strategy by being responsive to customer needs and wants (Hult, Cravens & Sheth, 2001). Because such firms are outer-directed firms, they are said to gain competitive advantage whenever they reach an edge over their rivals or competitive forces that are found in the external environment (Heppes & Du Toit, 2009). In short, CI failures have devastating effects in marketplaces (Maungwa & Fourie, 2018).

The behaviour of managers influences the degree of environmental scanning and use for strategy formulation and competitive advantage. Perceived uncertainty positively impacts the frequency and the scope of managerial scanning behaviours and the scanning of multiple market sectors enhances organisational competitive advantage. For example, according to Kemp (2006), entrepreneurial attitude orientation and market orientation significantly impact managerial scanning for CI in knowledge-intensive enterprises. Some managers may focus on making partial-oriented (customer- and/or competitor-oriented) CI to support their SD. Other managers or corporations may depend on the whole and available source of CI (both from their organisation and outside) to find suitable strategies for their business unit or to develop whole range corporate strategies (Qiu, 2008).

Market orientation, supported by CI/MI, is also necessary when launching a new product. In a study conducted by Comai (2016), market-oriented companies showed to prioritise scanning for competitive intelligence between marketing intelligence (MI) and new product development. There is also a positive relationship between intelligence and the speed and success of developing a new product (Qiu, 2008). When preparing for a launch of a new product, CI can be used in other ways. CI can, for example, be used to decide how to position the product and to learn about the key elements in the product that customers would like to have. In marketing, CI can help to track the production of new products or services such as those to be produced in a new plant still under construction, for example. These are all possible with a good culture of knowledge sharing among the different units and managers of a firm, such as marketplace information sharing between the marketing department and the production department. In applying market orientation, shared culture of the strategic orientation is emphasised. Not only managers but also employees should adopt market-orientation as a culture (Akgu¨n et al., 2007). Venter and Tustin (2009) also explain the relationship between CI (which is termed ‘business intelligence’) and organisation culture by stating that true market orientation requires more than rhetoric and the mere existence of information but a culture that is supportive of customer focus and a learning organisation that shares information and learning across the organisation. Thus, it is wise to allow everybody in an organisation to contribute to the intelligence activity because this will help management to

be alert and responsive to intelligence inputs and outputs. For example, in an attempt to practice market-focused management, managers should involve all levels of the organisation to have a mind-set which invades the entire organisation in the drive to become market focused. In market-focused leadership style, companies can continuously and quickly reinvent themselves to meet new market needs (Gouillart & Sturdivant, 1994) so that a thoroughly customer-oriented management will keep the industry growing even after the obvious opportunities have been exhausted (Levitt, 2004).

3.7.1.7 Competitive intelligence in multidimensional strategic orientation

Customer orientation emphasises the sufficient understanding of target customers' changing preferences and places the highest priority on creating superior value for customers continuously; competitor orientation focuses on understanding competitors' strengths and weaknesses and monitoring their activities; technology orientation considers that consumers prefer technologically superior products and that firms should keep a close watch on technological changes and heavily invest in resources to catch up with state-of-the-art technologies (Zhou & Li, 2010; Voss & Voss, 2000; Gatignon & Xuereb, 1997). According to Voss and Voss (2000), the three distinct orientations together can make multi-dimensional constructs that allow the firm to capture, understand and manage environmental forces acting on it. For a multi-orientation firm, the three constructs can be taken as the key intelligence topics (KITs) or strategy contents for data collection and analysis using the same sources.

In multi-dimensional strategic orientation, market environmental factors such as market size, market share, brand loyalty, competitors, concentration of the industry, barriers to entry, market trends should be selectively identified (Xu, 1999). Therefore, multi-dimensional strategic orientation requires CI from many dimensions (or sources). Qiu (2008) explains that because opportunities or threats can arise from many different market sectors, securing information across several market sectors provides managers the competitive arena and keeps them informed of customer demand and latent buying desires, technological advances, economic situations and rivals' competitive actions such as new product introductions and pricing campaigns. Moreover, in gathering CI or MI, CIPs or market researchers need to thoroughly understand both the demand uncertainty and competitive intensity from the dynamic market—market dynamics (Zhou & Li, 2010). These two dimensions of market dynamics reflect the influence of customers and competitors of the market (Voss & Voss, 2000).

On the other hand, as Rogers & Bamford (2001) state, although companies can make MI on customers, competitors, products, technology and other market variables for the purpose of executing multi-dimensional marketing strategic orientation, collection of information in all of these dimensions may not help them tailor competitive strategies (strategies that give the best market advantage). Market scanning or intelligence should be made based on the specific strategic orientation of the firm (e.g. customer-orientation). Therefore, based on the 'selective scanning' notion of the market (Campos, 2006), a market-oriented firm should make marketing intelligence (and/or CI) primarily based on the defined KITs. This shall be made because decision-making gets more and more complex with increases in size and market share, companies need to highly depend on rigorous market information (MI) about customer or competitive analysis for the purpose of strategic focus (Lackman, Saban & Lanasa, 2000). Similarly, Wiklund and Shepherd (2003) argue that market and technological knowledge, taken together, represent important knowledge-based resources applicable to a firm's ability to discover and exploit opportunities.

To conclude, in whatever strategy approach, firm's strategic orientation, the role of CI (which can be named, explained and practised in different ways and forms), cannot be underestimated. One fact about the SM, strategy and/or SDM theories is that almost all later theories or practices can be found in at least embryonic form in the writings of the 1960s (Rumelt, Schendel & Teece, 1991). For instance, the recent theory resource-based view incorporates the insights of the early seminal contributions to strategic management in order to explain how firms generate rents—economic organisation theory (Mahoney & Pandian, 1992). From these sayings there is no doubt to find the root of CI in early strategic scanning theories and behaviours of firms, too.

Both grand strategy theories and the specific theories (the resource based and industry attractiveness, or Porter Model) emphasise the need for managers to have good CI. In the resource-based perspective, a core competency cannot be developed in a vacuum.

Nevertheless, the different strategic models and approaches have not provided clearly and uniformly applied CI model for SDM. This can be taken either as limitation of the approaches or the CI system is very contextual to apply in all situations and by all firms which may have different strategic orientations.

Though CI is useful for each strategic orientation, each strategic orientation may use it differently to determine KITs (strategy contents), scope of environmental scanning and type of intelligence to be gathered for strategic purposes. In other words, strategic orientation of a

firm influences the overall competitive information gathering, processing and the tools it uses to make CI analysis. Therefore, in support of the reasons of 'selective scanning' and defining KITs, therefore, firms pursuing different strategies should have different planning system designs to support the information needs for strategic decision making. In relation to this, Comai (2016: 35) states the following: "Strategy theories and perspectives may describe how decision-makers and the CI group behave within the organisation, in order to produce the CI function, as well as how the established CI function can have different repercussions within the organisation."

The literature review that is presented in 3.8 will certainly clarify the above fact in a broader way**.**

3.7.2 Competitive intelligence is contextual

As closely related to the contextual issues discussed for SDM (3.6.2), there are contextual factors that influence CI initiatives (recognition) collection, organisation, usage and implementation. The theoretical and empirical literature review presented in this sub-section whether the identified contextual factors for SDM hold true for CI too.

It is better to begin with the concept of context provided by two authors.

> *There may be a bigger difference between one person's actions in two different situations than between the actions of two people in the same situation"* Logman, (2008: 508). *"When discussing about the information analysis methods such kind of phrases kept being heard from the participants: "it really depends ..."; "it varies a lot..."; "given the task of..." and "... we have to consider about specific context". Information lives in context. So does the information analysis. It is closely bounded by its contextual factors such as a specific information task - to answer an ad hoc request, to produce a CI product and so forth.* (Jin, 2008: 223)

Although there are no conclusive studies about which factors influence CI practices, size, sector of activity, individual factors, organisational factors, organisational culture, self-perception of organisations with regard to their environment, may affect or set contexts for CI application in different businesses. For example, the perception determines how organisations organise and apply the CI process, how they analyse information about the environment and adapt the information to their environment (Garcia-Alsina et al., 2016).

The SDM-CI linkage issues discussed in CI lens in 3.7.1 have also covered both the strategy context and CI context issues directly or indirectly. However, in this section, CI contextual issues obtained only from empirical research are presented.

Different contextual issues or factors that affect CI application are investigated in different empirical studies. The CI contextual issues can be seen from personal, micro and macro angles and levels. The empirical studies were also made in different countries, business sectors, specific industries and different groups (decision-makers, CI users and CIPs). Below is a list of the common contextual issues divided into five major categories: (1) organisation-related contextual issues; (2) industry/environment-related contextual issues; (3) strategy-, decision- and CI-specific contextual issues; (3) individual person-related contextual issues (decision-makers, managers and intelligence personnel); and (5) national or country-related contextual issues. They are listed according to the contextual significance shown by each researcher. Due to this, a couple of similar factors can be listed twice or more.

3.7.2.1 Organisation-related contextual issues

Empirical studies also confirm that each firm has its own behaviour (personality) and culture. For example, Jun (2009) identifies the two basic features of Korean corporate culture, namely dynamic collectivism and the family and military adoption system (roots in the family and military). Knowledge sharing culture is contingent on the contextual factors such as ethical degree of organisational culture and leadership (Tuan, 2013). A model developed by Freyn (2017) highlights the need for understanding the contextual variables of the firm that affect sharing and dissemination of knowledge. Contextual variables that were determined to explain CI and the knowledge sharing context included four constructs: formal infrastructure, employee involvement, internal information and awareness and culture. Even different contextual factors can be mentioned in some industries. For example, a research conducted by Persson and Sjöö (2017) on higher education institutions on BI impacts on SDM, only three components were identified to be in greater need of improvement than the rest contextual factors identified by empirical studies made in different businesses: management and leadership commitment, culture around the use of information and analytics and requisite resources. Thus, the CI system shall be designed within specific business operational and overall organisational contexts (Adidam, 2006).

Organisation-related contextual factors, which determine CI collection, organisation and application, are many. These include: corporate, business unit, even functional unit precedents internal environment contexts (Bose, 2008; Kemp, 2006); the size of an organisation (economic and human resources) (Garcia-Alsina et al., 2016); company's internal organisation and corporate culture (Sykes, 2011), organisational culture e.g. clan, ad hocracy, which is *organisational philosophy/style characterised by adaptive, creative, integrative behavior* (*term explained here by the researcher*), type of innovation (e.g. incremental versus

radical), age of organisations and type of organisational control (e.g. central versus informal) (Akgu¨n et al., 2007); company's internal organisation and corporate culture (Sykes, 2011; Venter & Tustin, 2009); decision-maker position (Venter & Tustin, 2009); organisation structure and inter-functional activities (Voss & Voss, 2000); culture of competitiveness or market culture (Ghannay & Mamlouk, 2015; Muller, 2003; Cruywagen, 2002), CI infrastructure, organisational structure (i.e., size, corporate structure and placement of CI function); formal and informal communication (Jin, 2008); open or closed type of knowledge sharing culture (Jin, 2008), knowledge sharing context affected by formal infrastructure, employee involvement, internal information and awareness and culture (Freyn, 2017); management and leadership commitment, culture around use of information and analytics and requisite resources (Persson & Sjöö, 2017), degree of knowledge acquisition and sharing organisational culture and leadership (Tuan, 2013); organisation behaviour, analytical and knowledge sharing culture (Jun, 2009; Cho and Yoon, 2001), cultural awareness and organisational support for CI function (Nasri, 2011); complexity of the organisation (Lackman et al., 2000; Bernhardt, 1994) and size of the firm (Hoskisson et al,, 1999; Bernhardt, 1994), size, subdivisions' market, competitive pressures and priorities (Jaworski, Macinnis & Kohli, 2002); information infrastructures, procedures, technological resources, information systems, rooms, information services, bibliographic collections, dossiers and organisational culture (CI processes through work structures adopted by the employees, communication patterns, culture of improvement and learning and informational culture, that contributes to sense-making and to adapt the organisation to the environment; and finally, the self-perception of organisations with regard to their environment and the pressure felt to obtain information) (Garcia-Alsina et al., 2016).

3.7.2.2 Industry/environment-related contextual issues

An important input for an organisation when designing its CI programme is a thorough understanding of the relevant industry. The organisation needs to map out and understand the forces driving the change within its industry. Not only will the organisation need a solid understanding of its industry, it will also need a very detailed understanding of itself (Bose, 2008). For example, competitor intelligence is most often used by strategic planning operations or by operating managers within strategic business units (SBUs) (McGonagle & Vella, 2012). Similarly, specific customer contexts may be used as a competitive advantage. Strategic flexibility is decomposing a customer context and then making adjacency moves from some sub-contexts to a new broader context. It is about "zooming in" and "zooming out" to new directions. Logman (2008) confirms that understanding today's marketing environment requires contextual intelligence and flexibility.

In the context-based view of the firm, Porter's externally oriented view or outside-in perspective takes the context as the starting point when determining a strategy (Kemp, 2006). In multi-business firms, the external contextual issues that determine CI collection and usage are discussed separately for the SBUs/subdivisions and the corporations. While some studies are made on divisions, others are made on the number of organisations found either in the same industries or different industries/business sectors. In all cases, the following issues are identified: industry/external environment contexts (Bose, 2008; Kemp, 2006), environmental conditions (Akgu¨n et al., 2007), the sector of activity where an organisation operates and the frequency of changes in the local environment (Garcia-Alsina et al., 2016); industry/sector or functional areas (Venter & Tustin, 2009); environmental uncertainty (Hough & White, 2004; McGonagle & Vella, 2012) and environmental turbulence relative with time and industry (Mintzberg, 1993); and effects of environmental change such as customers, competition, economic, technology, social/cultural, political/legal and geo-physical factors (Allen & Helms, 2006; Hough & White, 2004).

3.7.2.3 Strategy-, decision- and CI-specific contextual issues

In 3.7.1, a detailed discussion is given on how the strategic orientation or strategy context of the firm determines the CI products and usage, which of course is explained in the different strategy or SDM theories and schools. Strategic context is the surrounding environment of a system—both internal and external environment, which also determines the CI context—internal CI collection and external CI collection for SDM (Kemp, 2006).

Literature which explains factors influencing CI practice also identifies specific strategy-, decision- and CI-specific situations as contextual factors that affect CI application in companies. The strategic intent of management determines the amount and topics of strategic information gathering. As Trim (2004) notes, understanding of the strategic intent of a company will help CIPs (competitive intelligence professionals) to contribute to the strategy process enabling management to further develop the organisation's capabilities and secure additional resources. In short, strategic orientation of a firm clearly determines the types of the CI it collects and uses for the decision-making.

Since information requirements for different business decisions are different so is the information that should be looked for to make such decisions. Intelligence is said to be relevant when it impacts management's decisions in the realms of strategy and operations. CI activities should be performed by identifying critical issues and decisions the executive team should be addressing first. Therefore, specifically, firms must address the change in the

context of key success factors involved in defining KITs, creating competitive advantage, develop strategies that satisfy those factors and resources required to undertake competitive strategies (Walsh, 2005). CI needs must be contextualised against organisational operations and strategies. Moreover, the appropriate standards and procedures must be tailored according to the context in which intelligence needs to be collected (Maungwa & Fourie, 2018: 382-384). Besides, since no CI tool can be uniformly used for all types of strategic orientations/approaches, units of analysis and strategy situations/contexts, its application is contextual too. A study conducted by Bose (2008) recommends the contextual use of CI for each industry or firm. The managers of CI programmes require a context for understanding which tools and techniques are better suited to their specific types of problems; and help them develop and evaluate a usable set of tools and best practices to apply to their industry. The methods and procedures to produce CI products are also highly context dependent. Different industries, organisations, or projects may lead to significantly different methodologies (Jin, 2008).

The CI contextual issues which are determined by strategy and decision situation are: decisions within the contexts of strategy (Fahey, 2007; Campos, 2006; Kemp, 2006); strategic intent (Trim, 2004) and strategic orientations (Hough & White, 2004); underlying strategy assumption (Protiviti Risk and Business Consulting, 2011), organisational operation and strategies (Maungwa & Fourie, 2018), company's or manager's decision-making style (Garcia-Alsina et al.,, 2016), decision-specific situation (decision time, decision as political and social process) (Shollo, 2013).

BI (as synonymously used by the author to CI) use is supplemented, substituted, interpreted, negotiated, manipulated and reframed continuously according to contextual factors and characteristics of the situation, the decision-makers and the specific BI output itself (Shollo, 2013). The first key step to implement a successful CI programme is the establishment of the CI context itself (Institute of Management Accountants, 1996a). CI needs to be contextualised against the organisational operation and strategies (Maungwa & Fourie, 2018). CIP's understanding of company's strategies and policies will provide a deeper context to make future intelligence efforts more valuable (Roche & Blaine, 2015). Issues related to CI-related situational contexts may involve the following: the CI context itself (Institute of Management Accountants, 1996a); CI needs contextualised against the organisational operation and strategies (Maungwa & Fourie, 2018); CI-related specific decision-related problems and CI techniques (Helms & Nixon, 2010; Jin, 2008; Fleischer & Bensoussan, 2003); strategic situations Chevallier et al., 2016) and CI needs during such situations such as negotiations such as coopetition phenomenon (intensity of co-opetition) and strategic

alliances (Gnyawali & Park, 2009); CI's immediate goals, priorities and availabilities to a specific decision problem (Jin, 2008); company's capabilities to develop CI (Calof, 1998); and CI budget allocation (Comai, 2016).

3.7.2.4 Individual person-related contextual issues

Personal contextual issues which may be related to individuals who can be managers (mainly top management), decision-makers (CI users), intelligence personnel and employees. For example, according to Kemp (2006), entrepreneurial attitude orientation and market orientation significantly impact managerial scanning for CI in knowledge-intensive enterprises. Some managers may focus on collecting partial-oriented (customer- and/or competitor-oriented) CI to support their SD. Other managers or corporations may depend on the whole and available source of CI (both from their organisation and outside) to reach suitable strategies for their business unit or to develop whole range corporate strategies (Qiu, 2008). CI professionals are also highly context dependent and concept-driven and circumscribed by three broad categories of constraints: organisational, situational and personal competencies (Jin, 2008).

The contextual issues which are identified in this group involve the following: managers' experiential awareness of CI-related issues (Martin, 2009); managers' scanning behaviour (Hambrick, 1982); leaders' entrepreneurial attitude orientation and market orientation (Tuan, 2015, Qiu, 2008; Kemp, 2006); leaders'/managers' support to CI (Freyn, 2017; Jin, 2008); strategic CI attitude of managers (Liu & Wang, 2008; Maungwa & Fourie, 2018); and how organisations detect, disseminate and interpret information through predisposition of employees to develop activities related to information, value given by employees to information about the environment, or exposure of organisation members to contexts rich in information by participating in professional events or in social networks (Garcia-Alsina et al., 2016).

3.7.2.5 National or country-related contextual issues

Country context difference is a multidimensional construct that can be measured in various dimensions including culture, language and political systems (Håkanson & Ambos, 2011). The result of a comparative study made on corporations in three regions (China, Japan and the West) by Fleisher and Wright (2009) reveals that CI practice and effectiveness are influenced by the culture, history and institutional culture in the countries in which the practising firms are situated.

Countries have followed different strategies in how they created, acquired, adapted, disseminated or used knowledge for their development (Tejinder & Jackson, 2010). Since CI, as a management practice, is subject to various environmental forces including institutional environments each country is likely to have unique facets of CI (Kim & Kim, 2004). In Korea for example, early CI practices were mainly shaped by environmental forces such as political/legal, economic, industry, technological and cultural forces and that original shaping forces changed over time to be more technological, economic and service orientated in nature. Thus, it is possible to say that these different forces have influenced the practice of CI in each country.

CI has different growth stages in different countries (Du Toit, 2013; Xie & Jin, 2011; Govoreanu et al., 2010; Fleisher & Wright, 2009; Viviers, Saayman & Muller, 2005; Kim & Kim, 2004; Fleischer and Bensoussan, 2003; Wright et al., 2002). CI market in the developed countries is much more matured than in the emerging countries (Adidam, Gajre & Kejriwal, 2009). CI management is a well-established function in organisations in developed countries, because managers realise that if they do not monitor the actions and activities of their competitors, their strategic plans will fail (Du Toit, 2013; Strauss & Du Toit, 2010).

The studies also indicate that the CI practice and growth are found at different maturity levels and have been influenced by many country-specific factors while national culture is the main one. Due to this fact, most of a country-specific CI studies finally note as their studies are 'country-specific' so that results should be validated by similar studies made in other countries and contexts. The 'country-related context' influence shall also be investigated in studying specific CI topics, too. Regarding country-specific contextual issues such as culture, Adidam et al. (2009) note, it is imprudence to expect the same results. The positive relationship between CI and firm performance is empirically tested in the Western developed markets context. This is also true for Indian firms. However, Tao and Prescott (2000) point out the need for testing the link in emerging markets due to the high level of uncertainty involved and differing cultural contexts.

The following country-specific contextual issues (national CI-related culture and other macro-level factors) determine the collection, sharing and application of CI at a firm level too: countries' culture, history and institutional culture of practising firms (Fleisher & Wright, 2009); countries' nature of the economy and competitive position, country's location, institutional environments, supportive regulatory environment (Calof, 1998); global competition forces, government support, national culture open or closed (secretive societies) (Muller, 2007a; Kim & Kim 2004); national core culture and information culture (Adidam et

al., 2009), availability of professionals (information processing capability) (Winkler, 2016); awareness and growth of the CI discipline (Gračanin et al., 2015) and national level of CI practice (Calof, 2017; Sewdass & Du Toit, 2014; Yap, Rashid & Sapuan, 2013; Wright, 2011; Jin, 2008; Bensoussan, 2005; Sewlal, 2004; BSCAL, 1996) and availability of highly trained personnel in CI field (Taib et al., 2008); orientations of business policy and strategy and in public policies (Franco, Magrinho & Silva, 2011); and lastly *country's strategic priorities (as evidenced in the case conglomerate's strategy contexts, which is a public enterprise).*

To summarise, it is possible to observe that almost all of the above contextual factors that determine CI collection, usage and application dictate the SDM of organisations. Regarding the above facts, Fleisher and Blenkhorn (2001) note that one difficulty with transferring best practices in CI is that the best practice for one company may not become a best practice in another company. The best practice for one company could be a CI operation or activity such as competitor assessment, primary-source collection or war games, that is performed by a specific user/applier in a community of similar users that produces superior results (Herring, 2015).

3.8 Contexts of SDM and competitive intelligence (conclusion)

The realities, its close relevance with almost all strategic management theories/approaches and its growing nature, confine CI to use a number of strategic analysis models for their own purpose. However, marriage between CI and ICT (information communication technology) is a good example to say this discipline is in a position to grow a stage where it will significantly help strategy. More importantly, from the existing theories and empirically made study results, it is possible to learn that there is a direct link between CI and SDM so that any firm which has specific strategic orientation can employ CI to improve its SDM and gain competitive advantages.

At a discipline level, the existence of different strategy perspectives and orientations will be both opportunities and challenges for CI. This is to say that, at this time of its development and existence of fragmented concepts, it is impossible to give conclusions (theory to the discipline) the way CI is positioned in each strategy theory or to find own contexts and frameworks for the discussion of the discipline. From the available literature, however, one can justify the functions of CI for any firm or strategy theory, its need for integration and alignment with strategy; and the need to be recognised by management similar to that for strategy. The concept of CI enables researchers to deal with the challenges and contribution of CI and information management in the context of strategic management. Furthermore, the

failure to find such constructs for strategy research and the availability of different strategy approaches, therefore, implies the necessity of making unique and tailor-made studies in order to find the right fit of CI in a firm's strategy approaches and views. Related to this fact, Du Toit (2015; 16) says the following: "Competitive intelligence is favoured at the expense of strategic management as a subject field and has evolved over the years as a result of the need for enterprises to scan the complex external environment."

The above facts or situations will shed light on the development of the two theories in conjunction, like the attempt made by this study to extend a theory that links CI and SDM in terms of the contextual issues both theories/disciplines share.

At this point of the study (theoretical and literature review), it is possible to conclude that the CI contextual issues can be seen from personal, micro and macro angles and levels. The contextual issues identified by the empirical studies can be grouped into the following categories: (1) organisation-related contextual issues; (2) industry/environment-related contextual issues; (3) strategy-, decision- and CI-specific contextual issues; (3) individual person-related contextual issues (decision-makers, managers and intelligence personnel); and (5) national or country-related contextual issues. Almost all of the identified contextual factors that determine CI collection, usage and application also influence SDM of organisations. Since CI application and SDM are almost affected by similar contextual factors, it is possible to say that, in terms of the contextual factors, CI application and SDM are two faces of the same coin. *(These facts from literature have given ground to the researcher to develop an extendable middle-range theory which however must be synthesised with the empirical findings to find whether there will exist convergence between the literature-theoretical discussions and empirical results).*

As linked to the conceptual framework shown at the end of this chapter (see Figure 3.2), it is necessary to discuss issues of CI formality and location in a multi-business companies which comprised many SBUs/subsidiaries. As per the theoretical/conceptual discussions and empirical study results (see Chapter 4 for detailed empirical investigation), finding the right position in the formal structure of a multi-business corporation (like the case conglomerate) and aligning CI with SDM will ultimately improve strategy formation and implementation. This will also help subsidiaries of a multi-business corporation, which are usually semi-autonomous, to improve their SDM through CI coordination and sharing.

3.9 SDM levels at multi-business companies

Customarily, strategy development can be made at corporate-level, business unit-level and functional-level. Although each of them has a different focus, they must be internally consistent and fit together in a mutually supportive manner which forms an integrated hierarchy of strategy.

3.9.1 Levels of strategy in big corporations

Managers today need to reconsider the type, amount and frequency of tracking competitive information, rethink the unit of analysis for competitiveness and whether to make analysing of competitiveness of their products, product line, business unit, cluster of business units within a firm, the diversified firm, inter-corporate competition, cluster of firms including suppliers, collaborators, home governments or may be all of them (Prahalad & Hamel, 1994). In large and complex organisations, strategy formulation has different levels of focus and scope with respect to function and structure. In general, there are three levels of strategy formulation are highly integrated and interdependent: (i) Corporate level, (ii) Business level and (iii) Functional level. In relation to this thesis, the first two are discussed next.

3.9.1.1 Corporate level strategy

At the highest level of function and structure, corporate strategies regard broad decisions about the scope, direction and position of the organisation in the long-term (Jofre, 2011). "Corporate strategy specifies how to compete as an organisation including the choice of markets in which to compete and the level of collaboration across the organisation. SBU strategy specifies the resources and capabilities required to compete in that SBU's own specific market" (Reynolds, Thorogood & Philip, 2010: 4). The important question in corporate strategy is, whether the company should participate in one activity (one industry) or many activities (many industries) along the industry value chain. In general, this level of strategy formulation defines the organisational growth objectives and the actions to achieve them. In addition, it also regards the portfolio of different line of business and its degree of diversification and integration within the portfolio. Common examples of this type of strategies are strategic alliances, mergers and acquisitions: generic growth strategies to strengthen, concentrate, or diversify a business portfolio. Vertical and horizontal integration are the result of these generic strategies.

In this aspect of strategy, the corporation or conglomerate is concerned with broad decisions about the total organisation's scope and direction. This is the "big picture" view of the

organisation and may include decision in which product or service markets to compete and the geographic boundaries of the organisations' operations.

The role of the corporation then is to manage its business units and products so that each is competitive so that each contributes to corporate purposes. For multi-divisional organisations or enterprises, how capital, staffing and other resources are allocated is usually established at the corporate level. Additionally, because market definition is usually the domain of corporate-level strategy, the responsibility for diversification, or the addition of new products or services to the existing offerings also mostly comes within the responsibility of corporate-level strategy. Also, whether to compete head on with other companies or to selectively establish cooperative partnering arrangement, or 'strategic alliances' is a decision for corporate-level strategy while requiring ongoing input from business unit or divisional level managers. In short, corporate level strategy is fundamentally concerned with the selection of businesses in which the company should compete and with the development and coordination of that portfolio of businesses.

3.9.1.2 Business unit level strategy

SDs are made at both the corporate and business unit levels (Grant, 2006). A business strategy usually occurs at the business unit or product level and it emphasises improvement of the competitive position of corporation's products or services in the specific industry or marketing segment served by that business unit.

Jofre, (2011) says that the formulation of strategies at the business level broadly focuses on competition. At this level, the main objective is to develop and sustain competitiveness in all the lines of business the organisation has decided to participate). In short, competitive strategy is defined as those strategies employed to determine how the firm will compete in its markets aiming to secure sustainable competitive advantage. Examples of competitive strategies include discovery of new market opportunities and the development of new products and services to satisfy customer demand. The most influential competitive strategy typologies include those of Mines and Snow's (1978) reactor, prospector, analyser and defender model and Porter's (1980) generic competitive strategies. However, competitive strategy translates corporate strategy into that of the SBU (Monroe, 2006).

According to the *portfolio perspective*, each 'strategic business unit' (SBU) must develop a specific strategy according to their goals and be highly responsive to the competitive dynamics of their specific business. The corporate centre has the liberty to interfere: select a

portfolio of business, keep tight financial control, allocate and redirect available capital (Hirt et al., 2013).

At the business unit level, the strategic issues are less about the coordination of operating units and more about developing and sustaining a competitive advantage for the goods and services that are produced. Business-level strategies deal with major business units or divisions of the corporate portfolio. Business-level strategies are similar to corporate-strategies in that they focus on overall performance. As distinct from corporate-level strategy, however, they focus on just one instead of a range of businesses. The corporate level strategy of a multi-division operation is like a strategy for managing an investment portfolio.

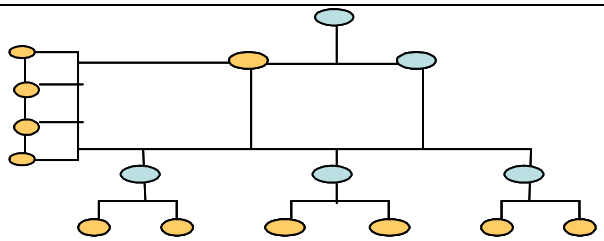
Industry structure can result from firm decisions (including corporate strategy) and competitive interaction, raising entry barriers, through such strategies as extending market power beyond SBU or single industries and cross-subsidiary businesses (Monroe, 2006). In multi-business companies (including conglomerates), multiple-space analysis of a business portfolio allows businesses in a company's diversification portfolio to be compared not only along dimensions of market position but also along dimensions of industrial context (Betz, 2001). However, competitive strategy translates corporate strategy into that of the SBU (Monroe, 2006). Therefore, each portfolio business shall formulate a strategic enterprise model of its business in each particular industrial context. Moreover, multi-business corporations should create a collaborative corporate context with decentralised decision-making and high-powered business-level incentives (Knoll, 2008). Cross-business synergies are the value that is created by the sum of the businesses together relative to what it would be separately.

3.9.2 SBU's autonomy on SDM and strategy alignment

Strategic business units (SBUs) are distinct and semi-autonomous units within a larger corporation (Fouche, 2006). Generally, SBUs are responsible individually for developing, manufacturing and marketing their own product or group of products. In the context of a multi-business firm, a business (SBU) usually is an organisational entity which is to some degree self-contained but not freestanding (Knoll, 2008). In multi-business or conglomerate structure, there is an inevitable tension in any business unit between serving the corporate level strategy needs of the corporation and serving the business level strategy needs of the business unit. Corporations often try to manage these dual responsibilities through a structural mechanism known as the "M-form" (i.e., multi-divisional organisation structure). This is where the units operate "semi-autonomously" (Gaba & Joseph, 2013). They are free to

operate business level strategies but only within the mandates determined by the corporation. In some instances, subsidiaries that evolve over time and through their own actions and initiatives have the potential to modify the power structures of their corporation and influence strategy from below (O'Brien, Scott & Gibbons, 2011).

The following explanation by Todeva (2007: 1-2) clarifies the main distinction between M-form and U-form (unitary form of organising). Similar to the structure of the case conglomerate of this study (Appendix 3: Existing structure of the conglomerate), the subunits in the M-form comprise complementary tasks, while the U-form contains subunits that comprise similar tasks. Both types are based on unitary command.



(Source: Todeva 2007: 1)

Figure 3.1 The multi-divisional form of organisation (M-form) under unitary control

The structure of the M-form has been described also with the concepts of heterarchy and intra-firm network. "The M-form of organising has been invented in the context of the General Motors corporation in the US to encompass: central control and ownership; vertical integration of the production; formal internal coordination through vertical and horizontal linkages between decentralised divisions; corporate head office function and specialized staff concentrated in departments and sub-units" (Todeva 2007: 1).

In multi-business corporations, autonomy is classified into two types: SDM autonomy and operational decision-making autonomy. Strategic autonomy is related to policy decisions on issues of long-term significance such as R&D, product developments and marketing; operational autonomy is related to operational processes including production, sales, distribution and human resource management (Raziq, 2015; Raziq, Borini & Perry, 2012). With regard to the role SBU executives play in SDM, Kruger (2010: 19) notes the following: "an SBU level executive wields a lot of authority within the SBU and also works in coordination with other SBUs. The role of SBU level executive is very important to SM since each product market segment has a unique strategy. These executives are profit centre heads

or divisional heads and are considered the chief executives of a defined business unit for the purpose of SM."

The subsidiary is a unique context to study management processes relating to strategy (O'Brien et al., 2011). At the business unit, part of the business's planning scenario is the industrial context of the firm (economy and government) as well as the territories and cultures in the markets to which the business sells (Betz, 2001). A study conducted by Golden on Corporate-SBU relationship found that relations between corporate and SBU management moderate the strategy-performance relationship. Thus, the degree of centralisation characterising the corporate-SBU relationship, a design parameter subject to managerial discretion, could either facilitate or impede the SBU's ability to operate in its local product-market environments. Thus, generally, SBU managers should not be constrained in their efforts to control those particular activities most central to their market level strategies (Golden, 1992: 155-156).

Extending Gavetti's (2005) research, Rajeev, Mithas and Kankanhalli (2014) made a study on the impact of business analytics on business units SDs. Gavetti's (2005) literature described how existing organisational structures influence the cognitions and decisions of business unit managers. Specifically, he argued that the cognitions of business unit managers are likely to be more constrained in contexts where corporate management exerts strong control over the strategies of business units and where business units share economies of scale and scope with other business units. The authors confirmed that organisational assets and resources are typically governed by formal or informal structures and managers will typically need to negotiate across organisational boundaries to access assets they need to implement their strategies. "There will necessarily be heterogeneity in those capabilities within and between organisations and also between decisions and contexts" (Rajeev et al., 2014: 438).

Aligning SBU and corporate strategies: Managing multiple SBUs requires that the corporate strategy and individual SBU strategies generate and capture synergies across business units (Gavetti, 2005). In relation to strategy making, a closely related study, in terms of the similarity to the case conglomerate's company structure to this study was made by (Gibbert, 2003) using an embedded single-case study at Siemens, which intended to craft strategy imaginatively. 'Crafting strategy imaginatively study', was concerned in the formal processes that lead to the formulation of a strategy that was to be implemented on corporate and business unit level. A central challenge in coordinating value chain activities was how and where information, technology and knowledge from disparate locations were integrated and reflected in organisational processes.

Although the level of participation differs, both corporate headquarter and SBU shall closely work in developing both corporate and business level strategies. The nature of a business unit's relationship to headquarters can have as much effect on its performance as its competitive position and the industry's environment (Hamermesh & White, 1984). Therefore, there is a need to establish formal strategic agreements between firm-level management and business-level management. In addition, the integration of information system also requires attention to the quality and timing of information (Betz, 2001). To coordinate corporate-level and business-level strategy processes, top management needs to understand the nature of the businesses in each of their operating units and share common standards and priorities about product innovation and quality, customer service and employee participation. In relation to this motive for coordination, Harrigan (1994) explains that because successful vertical integration strategies require the cooperation of several SBUs, the formulation of such strategies is the province of the chief executive officer (CEO). Effective vertical integration strategies need to reflect both business unit and corporate level strategy requirements.

Obviously, it is a must to coordinate strategy between corporate-level and business unit levels (Betz, 2001). Therefore, a successful multi-business organisation must generate and capture synergies across their SBUs (Reynolds & Yetton, 2015).

3.9.3 CI Unit of analysis for an SBU

It is clear that in order to collect the right competitive intelligence, strategists shall first define the unit of analysis. "The traditional strategy primary makes strategic analysis at the business unit. However, competition, in many industries, today, even extends beyond inter-corporate competition. Competition and, therefore, strategy must be understood at not just the business level, but at the level of corporations and at the level of coalitions or clusters of firms" (Prahalad & Hamel, 1994:10). A study conducted by Fahey (2007) showed that at a more general level, intelligence professionals can generate what they judge to be the key general business assumptions that should guide management thinking. These intelligence products or strategy input can be gathered and prepared for different multiple levels: corporate, business unit and specific product sectors.

On the other hand, many corporations operate in multiple industries, such as a few diversified (but still integrated) subsidiaries or industries of the case conglomerate (e.g., the plastics industry, the automotive industry and the Hi-Tech industry). In this case, business level strategy concerns individual business strategies in individual markets. Within each industry are specific business units of the corporation which have unique strategies equipped to

compete with that particular industry's customers and rivals. Because of these unique strategies, it may be necessary for these business units to operate with a certain degree of independence.

Therefore, an important input to an organisation into the design of its CI programme is a thorough understanding of the respective industry (Bose, 2008). Besides, the unit of analysis and type of intelligence or key intelligence topics are different to make the right intelligence gathering, analysis, interpretation, dissemination and decision-making by different people in the organisation and at different management levels for operational, tactical or strategic decision-making. As stated by Fahey (2007), at a more general level, intelligence professionals can generate what they judge to be the key general business assumptions that should guide management thinking. As strategy inputs, general assumptions can be prepared at multiple levels: corporate, business unit and specific product sectors.

3.10 Formality and location of CI in a multi-business corporation

CI is increasingly being considered as an important, mandatory component of each organisation's overall strategy and functioning (Kruger, 2003) and SI can be considered an undeniably powerful source of competitive advantage for organisations of all sizes (Kruger, 2010; Farrell, 2007). However, for many organisations CI is a relatively small function, funded and supported in varying degrees by other departments throughout the organisation (Fehringer, Hohhof & Johnson, 2006). CI enables senior managers in companies of all sizes to make informed decisions about everything from marketing, R&D and investing tactics to long-term business strategies (Berner, 2001). Thus, the purpose of a formal BI (CI) system is to shift the emphasis from reliance on short-term tactical intelligence, to better use of SI in the decision-making process (Campos, 2006). For example, complex and conglomerate holding companies should adopt formal risk management systems proportionate to their risk level.

3.10.1 Need for a formal CI programme/system

Strauss and Du Toit (2010:304-305) add to what Gilad (1989) stresses about the role of organised CI in corporate strategy, namely that organised CI shall be an activity coordinated across the entire organisation keeping under surveillance whatever parts of the environment the organisation decides to monitor in order to bring about a systematic collection and analysis of CI to serve the CI needs of the organisation as a whole.

On study made on organisational strategy and CI practices in Malaysian public listed companies, Yap and his colleagues concluded that as competition in the global market

intensifies and the pace of technological change accelerates, managers should initiate and organise CI activities in their organisation. Systematic acquisition of intelligence about the technology and economic sectors enables managers to better understand the business situation and enhance the quality of SDM concerning technology adoption and market expansion. Business organisations may wish to design and implement a CI system which is capable of systematically capturing intelligence from internal and external environments (Yap et al., 2012).

Organisations should set up a formal CI unit to systematically organise the CI function (Yap & Rashid, 2011) since organisations need to be aware of their competitors' behaviour (Nikolaos & Evangelia, 2012). Organisations who have succeeded to implement an effective formal and structured CI process focusing on critical issues, will have a competitive advantage over their rivals (Havenga & Botha, 2003).

A formalised intelligence function within any enterprise should be a critical tool in the decision-making process (Begg, 2007; Berner, 2001). The formalisation of a CI system increases the probability of informed decision-making, as managers usually have easy access to this organisational function and can use its input to make quality decisions. However, not all intelligence but organised CI has a role in corporate strategy (Colakoglu, 2011). Related to this, in a recently made study on the topic CI and performance of commercial banks in Nairobi/Kenya, Wafula (2017: 3) notes the following: "Failure to collect, analyse and act upon competitive information in an organised fashion can lead to the failure of the firm itself. Whatever strategic framework the firm chooses to embrace for the management of its business, no one element remains more fundamental to competitive strategy than competitive intelligence."

3.10.2 Need for a dedicated CI unit

"CI is a comparatively new management discipline" (Johri & Aggarwal, 2016: 43) and as it is discussed in Chapter 4, CI is mostly practised and implemented in large companies (Gračanin et al., 2015; Jaharuddin, 2014; Fleisher & Wright, 2009; Sewdass, 2009; SCIP, 2008).

Different authors have different opinions about whether the CI activity is functional or integrated and done by everybody or every unit in the organisation. CI can be located in many different parts of the business, but often operates either as a separate competitive intelligence or business intelligence department, or as part of marketing or market research (Fehringer et al., 2006).

Some firms, typically larger companies, maintain a formal internal CI division which often goes by a name related to but different than—" competitive intelligence." These divisions either stand alone or as part of another department such as marketing, business development, or strategic planning (Sykes, 2011). There is a definite overlap between CI and a variety of other business functions such as marketing/communications, traditional R&D, financial analysis and industry consulting (Bose, 2008). "In many large companies the CI unit is placed in the strategic planning office which reports directly to the top management. This makes the most sense if the CI unit's main job is to support strategic planning and, in most companies, this is the case. In other companies you may find a CI unit in each business division, attached to a Senior VP or President" (Johri & Aggarwal, 2016: 68). However, to get utmost benefit from CI products for SDM, CI units should be located independently (Comai, 2016; Johri & Aggarwal, 2016; Nenzhelele, 2012; Sawka, 2009; Saayman et al., 2008).

3.10.2.1 A dedicated CI unit

Effective CI presupposes the existence of a dedicated CI unit which ideally has a central location supported by decentralised function-specific entities throughout the company (Behnke & Slayton, 1998). Most companies have specific departments dedicated to the gathering and analysis of new trends and technologies in commercial and marketing intelligence and (Rouach, 2004).

The more subsidiaries a conglomerate has, the more CI it requires. Firms which operate in several Strategic Business Units (SBU) are likely to need a CI function (Comai, 2004) for each SBU and the CI activities of these SBUs should be coordinated by a central CI Unit at the HQ. By using CI, for example, a conglomerate can find out alternative activities, select suitable activities and customise them to integrate its SBUs activity to create more value or reduce differentiation costs of different product lines.

3.10.2.2 CI embedded in other functional departments

On the contrary, it is not necessary to have a functional unit because CI is a process that should appear in all aspects of the business as one seamless, continuous activity not relegated to one area, division, or unit. In this sense, managers must view intelligence as a process that moves throughout the organisation, touching every facet of everything the company does (Campos, 2006).

3.11 Conceptual framework of the study

A conceptual framework grounds the study in the relevant knowledge bases that lay the foundation for the importance of the problem statement and research questions. Whereas a theoretical framework is used when investigating a specific theory, a conceptual framework is made up of theoretical and empirical work relevant to the manuscript's purpose, where the purpose is not to further investigate a specific theory (Rocco & Plakhotnik, 2009). On the other hand, a conceptual framework is the researcher's understanding of how the research problem will best be explored, the specific direction the research will have to take, and the relationship between the different variables in the study (Grant & Osanloo, 2014: 16-17). In research studies such as this one, the theoretical and conceptual frameworks explain the path of a research and ground them firmly in theoretical constructs. They assist in stimulating research while ensuring the extension of knowledge by providing both direction and impetus to the research inquiry (Adom, Hussein & Agyem, 2018).

The concepts and issues derived from the theoretical discussions and literature review contribute to the development of a provisional conceptual framework. Therefore, the generally accepted theoretical foundations on the value of CI for decision-making in general and the recent recognition given to the CI function in SDM in particular have given the ground to the researcher to develop this framework. Besides, a number of empirical studies on the extant literature tried to show the enabling/inhibiting factors which influence CI application, formality, structuring and implementation of CI in the context of different organisations and strategic orientations. On the other hand, investigation of literature on factors affecting SDM are many and varied which indicate that SDM is contextual. Therefore, there is a possibility to show the ways of structuring CI in a multi-business company (conglomerate) so that the CI system and efforts shall be designed and aligned to enhance SDM.

Concerning the frame of reference, no specific theory has been referred to in this study as CI is a growing discipline and the use of information for decision-making is a universal truth. "Both empirical and conceptual research agree on the value of information acquisition and analysis and its use in improving strategic decision-making" (Freyn, 2017: 5).

Despite the existence of debates and controversies on strategy theories and their influences on CI (or vice versa), it is possible to find a position to CI in each strategy theory and/or practice. Thus, CI needs to be aligned and linked to strategy in order to improve SDM of a company that operates in this dynamic and complex environment.

In order to assess and magnify the strategic role of CI for strategic decision making, the conceptual framework shown in Figure 3.2 is developed so that it guides the case study. In developing the conceptual framework, the following considerations were also taken into account so that a comprehensive assessment shall be made in order to suggest CI programme implementation strategy to the case corporation.

1. CI best practices which are consulted from publications and conference presentation from famous global CI sources, societies and associations; and from actually tested CI practices from similar corporations and multi-national companies.
2. Proof of tested theories that can be merged with best practices, thus allowing the study to make conceptual and practical analyses on the context and strategies of the case corporation so that a CI programme implementation strategy framework would reveal itself for conglomerate's real business (pragmatic) use in the end of the study.

In relation to the explanation given at the beginning of the section (i.e., relationship between conceptual framework, theoretical and literature review), the following chapter, also presents detailed discussions on the above two issues. The theoretical framework and the literature are intrinsically linked (Grant & Osanloo, 2014).

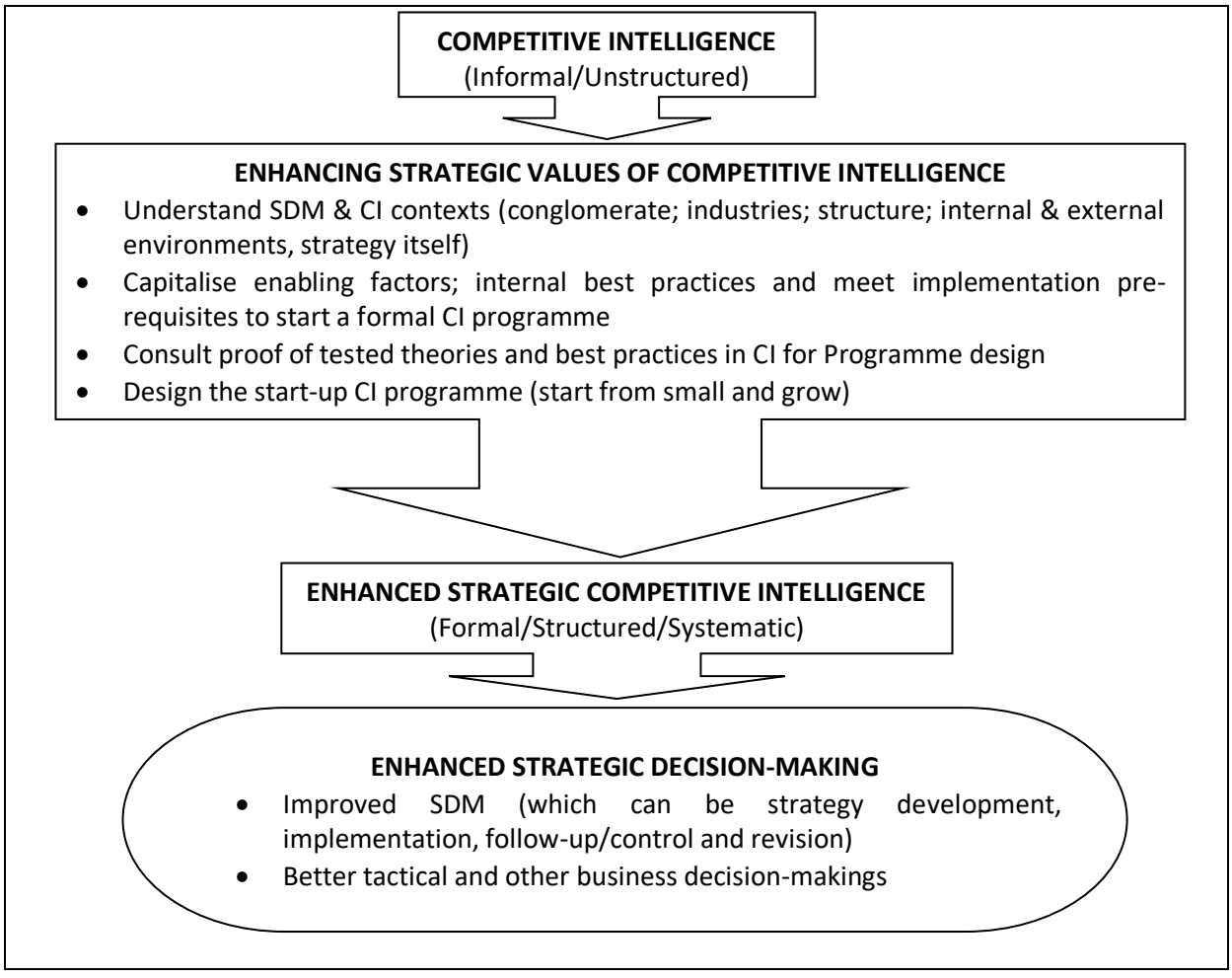


Figure 3.2 Conceptual Framework of the Study

3.12 Chapter conclusion

Because of its stage of growth, its long origin of use (e.g. in scanning and marketing research), its suitability of use for different purposes (e.g. scholarly research) and the direct/indirect relationships it has with different disciplines (strategy theories/concepts/practices, information science, BI, knowledge management, ICT, research methods, etc.), controversies start from the definition of the term 'competitive intelligence'. Debates on both the dimensions of strategy and the approaches of finding a right place for CI in different strategy problems/approaches can be mentioned as challenges that would enable scholars (including the student) to explore issues for further clarity.

Although its use was rooted in early strategic management theories and competitive information gathering concepts/practices (such as environmental scanning, corporate radar, marketing research, etc.), competitive intelligence (CI) has been given special attention for strategic purposes recently. Because of its recent recognition, particularly by academia, the discipline has not reached what it is supposed to reach and serve the SDM of firms operating in this dynamic and complex environment. Only recently a couple of CI tools and CI system models are being developed to enable CI to give the utmost benefits to decision-makers, particularly those in large companies (Gračanin et al., 2015; Jaharuddin, 2014; Fleisher & Wright, 2009; Sewdass, 2009; SCIP, 2008; Du Toit & Muller, 2004; Behnke & Slayton, 1998).

The term 'competitive intelligence' implies multiple things or elements. Some view CI as a process and others as an outcome or product. Some explain it as both process and product. CI can also be discussed as one function of an organisation. The concept CI is multi- or inter-disciplinary. CI has some overlapping characteristics with some other fields in business such as knowledge management, business intelligence, market intelligence and marketing research. CI is not just data or information. CI is action-oriented which is readily available for decision-making. CI is a growing discipline. Today, CI is primarily considered as a strategic tool to make strategic decisions. CI is 'strategic' by its nature. Thus, CI is the essence of strategic business analysis.

CI is appropriate to both small and large companies which include multinational companies, large nationals and small businesses. Thus, establishment of a formal CI unit or system is critical for today's businesses.

Companies should integrate a corporate, SBUs and functional strategies and plan. Similarly, not only strategic decisions but tactical and operational decisions shall be supported by and aligned with CI.

"Competitive intelligence as subject field deals with relativistic, complex and dynamic social constructs that influence a variety of contexts" (Du Toit, 2015: 19). The detailed discussions made on CI-SDM linkages in the lens of CI and the attempt made to find common contextual issues which affect CI application and SDM could lead the research in the development of two middle-range theories. *Since CI application and SDM are almost affected by similar contextual factors, it is possible to say, in terms of the contextual factors, CI application and SDM are two faces of the same coin. (These facts have given ground to the research to develop an extendable middle-range theory, which however may be synthesised with the empirical findings to find whether there will exist convergence between the literature-theoretical discussions and empirical results). Thus, the middle-range theory extension depends upon the empirical findings that will be obtained from the case study (in Chapter 6).*

The next chapter (literature chapter) starts by providing evidences in the global CI practices. Following, the role of CI as specifically related to the strategies of the case conglomerate are provided. The chapter also gives discussions on the best practices of CI from empirically made studies and best practices of famous multi-national companies.

Chapter Four

CI Application in SDM Situations and its Organisation in Multi-Business Corporations

4.1 Introduction

The literature review of the study is largely dictated by the context and phenomenon of the study, which are provided in detail in a separate chapter (Chapter 2: Case background and study context).

The literature is organised following a 'funnel' structure. The exploration of literature begins from global CI practices. The discussions are made on the status and experience of CI usage from industrialised (Western) countries, Asian ('model') countries and Africa, respectively. The literature tried to find CI-specific evidences from 'model' countries and their conglomerates (i.e., Korean Chaebols, Japanese Keiretsu and Chinese multinational companies) on how CI have helped the industrialisation of these countries, through their conglomerates.

Next, the chapter presents the strategic roles of CI as linked to the strategic orientation and strategic priorities of the case company. Since the strategies of the conglomerate are derived from the Growth and Transformation Plan (GTP) strategic priorities of the country, no specific CI-strategy (specifically CI-SDM) typology is used to frame the discussion and the study as a whole. Besides, the chapter also attempts to indicate how the case conglomerate can leverage from its military staff's intelligence expertise by transferring this skill for business use (CI).

In 4.6, an attempt is made to show how CI could be positioned in a conglomerate which comprises many SBUs. An attempt is also made to show the alternative structures (for CI) in large corporations which have many subsidiaries and/or SBUs.

Most discussions in 4.7 are painstakingly selected as best practices and issues found relevant and suitable for this study. The best practices discussions are presented on ways of starting up and implementing a formal CI programme in a 'CI novice' company.

Theories merged with best practices, thus allowed the study to make conceptual and practical analysis on the context and strategies of the conglomerate so that a start-up CI programme implementation strategy can be suggested for conglomerate's real business use in the end of the study.

4.2 CI—the global experience

In exploring literature and as can be learned from the discussions provided in this section and chapter, most books and empirical research were written in a western context and business realities. However, since CI, as a management practice, is subject to various environmental forces, including institutional environments, each country is likely to have unique facets of CI (Kim & Kim, 2004). Despite this fact, studying the CI practices in other countries provides valuable insight into the challenges that might be encountered. More importantly, lessons could be learnt that would benefit local companies and industries.

In this section, effort is made to explore the status of CI in different countries—industrialised (western) countries, Asian ('model') countries and African countries.

4.2.1 CI in western (industrialised countries)

The importance of CI has long been recognised mainly in western corporations. A survey evidence, dating back to 1959 (by Taylor) tended to show a pattern of increasing use of CI, but a persistent inability of managers to get the full potential from CI activity (Hall & Bensoussan, 2007). Sykes (2011) notes, CI has been around as long as business itself. In 1985 the pioneer advocator on CI, Leonard Fuld wrote the book 'Competitor Intelligence: How to Get It, How to Use It' (Fuld,1985). CI existed before this book, as Fuld declared, under a different name or no name at all.

In 2004 study, over half of the European respondents who involved in the research of Badr, Wright and Pickton (2004), called CI activities as *'Competitive Intelligence'*. The main implication of this is that these firms recognise the importance of CI and as such, are more likely to value its contribution. "In respect of the main reasons why European CI managers undertook CI activities, the most common reason was that it helped the strategic planning process" (Badr et al., 2004: 4).

Some countries, including France, Japan, Sweden and the USA, were more advanced in adopting and using CI but that they also needed a process of development, starting informally and becoming more sophisticated over time (Odendaal, 2004). In these countries, CI has earned its rightful place as an acknowledged business discipline and has become a major source of achieving competitive advantage (Muller, 2007a; Viviers et al., 2005). CI management is a well-established function in organisations in developed countries, because managers realise that if they do not monitor the actions and activities of their competitors, their strategic plans will fail (Du Toit, 2013; Strauss & Du Toit, 2010). However, CI is

generally still thought to be the domain of large companies and is seen as requiring considerable financial and human resource investment (Wright et al., 2002). Despite this fact, though originally used by large organisations such as Motorola and Kellogg, CI now appears in companies of all sizes across all business realms (Sykes, 2011).

4.2.2 CI in Asian 'model' countries

It is necessary to assess CI practices in 'model' conglomerates from 'model' countries which are from Korea, Japan and China. Large conglomerates of these countries (mainly Chaebols of Korea) were taken as model companies to the case company.

Meanwhile, the discussions on the CI practices in the 'model' conglomerates (and countries) may provide good learning opportunities to the case conglomerate.

4.2.2.1 CI in Korea and the Chaebols

Formal CI function exists more in large Korean firms than in their smaller counter parts. Leading Chaebol groups (big family conglomerates) in Korea started building formal CI programmes in the early 1980s and have continuously improved their CI practices ever since (Kim & Kim, 2004: 10). To solve environmental uncertainty due to enhanced globalisation and competition, many Korean companies, especially Chaebol groups, have adopted some type of process for environmental understanding and uncertainty reduction. Although they do not necessarily call this process CI, many Korean companies have made efforts to collect, analyse, disseminate and utilise information on external environments (e.g., competitors, customers, technologies, governments, economies, etc.) for improved decision-making and implementation of strategy (Kim & Kim, 2004).

Intelligence needs in Korea were different at different times. Environmental forces such as political/legal, economic, industry, technological and cultural forces and public intelligence such as military and national intelligence have been the main drivers of CI in Korea. As these forces changed over the years, CI needs and practices in Korean companies have evolved. More specifically, Korean companies' CI needs have become more diverse with the passage of time. In earlier years, CI needs were limited more or less to political/legal arenas, but in more recent years, they have been expanded into economic, industry, technological and other arenas. Similarly, the key driving forces for CI have also changed over the years (Kim & Kim, 2004).

Korean companies generally regard CI as something secretive and their CI programme as something whose identity is too confidential to reveal to the public. In addition, Korean firms practising CI in the 1980s relied heavily on personal, human sources for undisclosed information with limited use of information technologies and had a fairly low ethical standard.

In addition to what has been stated so far, Korea Economic Newspaper (2003) wrote that CI practices have become more sophisticated over the years. In the current era, economic, industry and technological forces have become relatively more critical than political forces for Korean firms to deal with as government-business ties break down and the reforming government projects greater transparency. Information and telecommunication technologies have been integrated into the CI process fairly extensively in Korea.

Korean Chaebols (conglomerates): As can be understood from the above discussion, it is impossible to see the growth and status of CI in Korea separating the Chaebols of Korea since these giant conglomerates are the basis of the Korean economy and have been the only companies to practise CI for a long time in Korea. In relation to the 'Chaebol' fact and the unique CI culture in Korea, a discussion is given on the unique facets of the Korean CI. Although Asian firms are generally lagging behind Western companies in formalising their CI activities, South Korean firms have been known to create some advanced CI capabilities (Institute of Management Accountants, 2016). With the help of leading Chaebols' CI practices and CI infrastructure, an increasing number of Korean companies have had their CI programmes installed for effective decision-making and actions (Yu, 2000).

Yoon (1988) wrote that formal CI emerged at both the subsidiary and group levels of leading Chaebol groups in Korea in the 1980s. These subsidiaries collected information on moderately broad topic areas, including domestic suppliers, foreign export markets, regulations, politics, economic trends through human and other sources. They became important sources of information for many group companies in Korea at that time. Korean companies instilled the intelligence mind-set and culture in their organisations, adopted on-line information systems and built intelligence report systems to improve their CI programmes.

In the early 2000s, CI in leading group companies in Korea had increasingly become more sophisticated with a network of group and subsidiary CI units. These companies now have broad CI needs, covering both domestic and global environments. Regarding information advantages of the Chaebols, Yu (2000) reveals that Chaebols with its highly integrated

relationship can facilitate the exchange of information among industries with vertical firms.

The Koreans working for Chaebols (i.e., large conglomerates) have followed an approach "Copy first, get critical market share at all costs, innovate after" (SCIP Asia, 2015). This is quite practised in the case conglomerate.

4.2.2.2 CI in Japan and the Keiretsu

The Japanese desire to gather, analyse, report and share information has been one of the driving forces of Japan's economic success over the last 60 (update by the researcher) years (Bensoussan, 2005). The word "Joho" in Japanese has a dual meaning–information and intelligence (Bensoussan, 2005; BSCAL, 1996). Japanese managers at all levels are expected to gather, disseminate and utilise the latest information available through the company grapevine and from industry-wide conferences and trade shows, zaibatsu groups or clubs and business, professional and technical societies. As Korth (2006) mentions, intelligence professionals like Jan Herring and Herbert Meyer have noted that information and intelligence gathering is endemic to Japanese culture.

Potter (1996) believes Japan was the first industrialised country that made "information" a fundamental lever of its development. Similarly, Rouach and Santi (2001) confirm as Japan was early endowed with a grasp of the importance of CI. In Japan, information is a commodity with an intrinsic worth (BSCAL, 1996). Japanese businesses have a strong interest in CI (Sugasawa, 2004). Japanese business strategists have always used CI in their development of strategic thinking, pursuing regular intelligence gathering and exhibiting a willingness to remain patient until they have superior intelligence (Ng & Yip, 2004; Penga, Leea & Tanb, 2001).

Japanese Keirestu (conglomerates): A *Keiretsu* is a Japanese conglomerate like a *Chaebol* in Korea. The most common Japanese meaning is something close to the English verbs "link", "affiliate with" or "connect to" (Jun, 2009). A keiretsu is a group of individual companies united by the exchange and sharing among them of personnel, money, goods and of course, information (BSCAL, 1996). In more practical terms, the *keiretsu* is a set of interlocking horizontal and vertical relationships among Japanese suppliers and manufacturers (Markets and Economics Division, 1999). At the heart of each keiretsu is a trading company or sogo shosha. The combination of all these four concepts (*keiretsus, kaisha, net-batsu* and *bushido*) provides all that a firm needs to best leverage CI and use it to support SDM and innovation (Fleisher & Wright, 2009; Ng & Yip, 2004).

Most Japanese firms are part of a larger group called the Keiretsu, a family of mainly noncompeting companies whose various business functions cover banking, insurance, manufacturing, transportation and sales and trading (BSCAL, 1996). The six major horizontal keiretsu in Japan are: Mitsubishi Group, Mitsui Group, Sumitomo Group, Fuyo Group, Daiichi Kanggyo Bank (DKB) Group and Sanwa Bank. As Fleisher and Wright (2009) state, all of these firms are noted for the application of CI practices and principles to their marketplace competitiveness. Fleisher and Wright (2009) further state that some of the larger companies such as Mitsubishi Corporation and Nomura Securities, have established more comprehensive intelligence' activities in the form of think tanks, whose primary purpose is to study the total business environment in which the companies operate. These think tanks also sell their services to other companies, in addition to producing intelligence for themselves and, sometimes, for the Japanese government.

Some of the best CI divisions are located at companies like Canon, NEC, Toshiba and Toyota. Some corporations are so large and have such complex CI needs that they have established separate research institutes or think tanks that employ hundreds of people for the sole purpose of collecting, analysing and distributing information. Mitsubishi, Daiwa and Nomura are examples of companies that have done so. In addition, these think tanks often act as consultancies for other companies. For example, Mitsui Corporation's motto is “Information is the lifeblood of the company” (BSCAL, 1996).

In Japan, there is always a sense that information has value. The Japanese culture considers group conformity, consensus and group success as major drivers (Bensoussan, 2005). The Japanese energy that drives the information gathering, the diligence with which information is communicated and shared in a timely fashion, the universal commitment to acquire and accumulate knowledge and the strategic use of information to create new businesses, enter new markets and strengthen existing positions–these are the defining traits of intelligent organisations which have learned to effectively collect, organise, analyse and use information to beget competitive advantage (Korth, 2006).

All the companies in a kerietsu share information with one another (BSCAL, 1996). Intelligence gathered by the various members is traditionally shared with the trading company for broader use by all; the member bank often provides some of the more valuable intelligence. Generally, most of the large Japanese companies have been actively conducting research on their domestic, regional and international markets and thorough competitive landscape reviews are undertaken before any major corporate decisions are made in Asia (SCIP, 2008).

4.2.2.3 CI in China and the multinationals

China has long practised what Westerners call economic intelligence (Wright, 2011; Fleisher & Wright, 2009). Intelligence is not a new word in China; military and political intelligence activities have existed in China for over a thousand years. Historical records point towards commercial intelligence collection activities happening even earlier. Hall, Xu and Tzu (1990, 1998, cited in Wright 2011) mention the earliest origin of intelligence and CI in the Chinese culture, trade and military: China is home to Sun Tzu, arguably the world's first acknowledged intelligence expert. Among the many quotes taken from his translated text, Tzu made the case for intelligence as a key element of warfare when he wrote, "know the enemy and know yourself; in a hundred battles you will never be in peril" China's first intelligence advocate was military theorist Sun Tzu who, in his sixth century B.C. classic The Art of War (Tzu, 2009, the latest English translated edition) emphasised the importance of gathering timely and accurate intelligence in order to win battles. Quoting from Sun Tzu, Johri and Aggarwal (2016: 26) implied CI as follows: "Chinese military strategist, Sun Tzu, emphasised the need for CI saying '[now the reason the enlightened prince and the wise general conquer the enemy whenever they move, and their achievements surpass those of ordinary men, is foreknowledge']" Johri and Aggarwal (2016: 26).

The concept of CI was introduced in China in the mid-1980s and since then CI practices have received wide attention and support (Tao & Prescott, 2000). The main reason for this attention is "Qingbao" (Chinese for information/intelligence) analysis has long been one of the major practices of Chinese organisations. Qingbao analysis involves employing modern information technologies and scientific methods to collect, select, analyse and synthesise relevant data, to fulfil the decision support demands of specific clients (Adidam et al., 2009).

The growth in Chinese CI was rapid in the 1990s (Changhuo, Qingjiu, Luhong & Shan, 1998) and this has continued into the new millennium. The Chinese try to get the more possible information on what is done in various countries and to take the best of it (Wright, 2011).

Along with the emergence of the market economy, CI has now become a major focus of Chinese information consulting organisations and enterprises; it is playing a more and more important role in the national economy and enterprise development (Changhuo et al, 1998). CI and competitive technical intelligence are primary concerns to China CI (Tao & Prescott, 2000).

In emerging markets, such as China, the conglomerates tend to deepen their participation in one industry in the early stages and spread in different industries during the late stages of growth and maturity. In the maturity stage conglomerates will establish high-tech companies and R&D centres, based on their accumulated knowledge (Kurtović et al., 2013: 113,115). China spends heavily on R&D to improve its capacity to rapidly absorb and adopt foreign technologies that can advance civilian and defence technology and IP development. The most robust Chinese corporate intelligence units are likely located in R&D centres overseas (often called "listening posts"), where the company can most effectively collect intelligence from its competitors. In some instances, R&D activity has included integrating foreign technology with local systems or making foreign technology compatible with Chinese technical standards in the form of knowledge transfer (systems and standards integration capabilities) (Slate, 2009).

Starting from the earliest times of silk trade, China performs 'industrial espionage'. This does demonstrate how long there have been efforts to scan the environment for information that will provide organisations or countries with a competitive advantage (Wright 2011: 1-2). Though Chinese companies are 'welcome copiers' from foreign operating companies, in recent times, China has a policy to develop its own domestic technology standards in areas like 3G/4G for mobile technology. The new policy of indigenous innovation promotes Chinese companies reach the necessary level of innovation to compete internationally (Grimes & Sun, 2014).

Generally, multi-national companies (MNCs) or conglomerates in Asia are aided by CI in much exceeding way than their western counterparts. In Singapore, Shanghai and Hong Kong, Asia Pacific MNC headquarters are now very keen users of CI. Few strategic decisions are made without a check on competition (SCIP Asia, 2015).

Finally, it is essential for managers to understand CI in global markets in order to compete and cooperate with their counterparts worldwide (Tao & Prescott, 2000). The study made by Yap and his colleagues (Yap et al., 2012) aimed to examine the current state of competitive intelligence practices in Malaysian public listed companies. Of the 123 surveyed firms, more than half of the companies had established a formal CI unit in their organisation. A positive correlation exists between perceived environmental uncertainty and competitive intelligence practices, specifically in terms of intelligence acquisition and strategic use. According to the study made on Indian firms by Adidam and his colleagues in 2012, the level of CI activities in Indian firms was at a moderate level, thereby suggesting an opportunity for using and implementing more sophisticated CI techniques (Adidam, Banerjee & Shukla, 2012). The

study revealed that those firms that exhibited higher levels of CI activities indeed achieved better financial performance.

Summary CI in Asia: Early CI practices were mainly shaped by environmental forces such as political/legal, economic, industry, technological and cultural forces and that original shaping forces changed over time to be more technological, economic and service orientated in nature.

The practice of CI in Asia and in particular in China and Japan, has come a long way in a short time. This is due mostly to a lengthy head start and the ready adoption of CI and related practices and principles to its growing economy after World War II (Mortet & Nadi, 2013). There are many factors of Asian culture and history that portend well for the continued growth of CI in China and Japan (Wright, 2011).

It is impossible to see the growth and status of CI in Korea, Japan and China separating the giant conglomerates since they are the basis of these economies and have been the only companies to practise CI for a long time. The *Chaebol* in Korea and the *Keiretsu* in Japan have a significant contribution in industrialising these nations. Information or CI is the lifeblood of these conglomerates and can be considered as one of the major factors in industrialisation and promoting technology transfer. Similarly, multi-national companies in China are aided by CI and espionage as well.

4.2.3 CI in Africa

Only a few studies focus on CI in Africa. Nevertheless, a number of studies were made on the issue of CI in South Africa. As may be related to this fact, CI is found at better stage in South Africa than any other African countries. A good number of studies are conducted unique to the South African CI and in making comparisons between developed and emerging countries such as Brazil. Most of the South African research published since 2000 focused on the South African CI environment and practices in various contexts (Venter & Tustin, 2009).

Generally, the practice of CI in South Africa is fairly recent (Adidam et al., 2009). Although CI in SA emerged from the business sector, overall, its use in these businesses was still in its infancy in early 2000s. By 2001, CI in South Africa was slowly emerging and taking tentative steps in claiming its rightful place as a recognised management tool (Calof & Viviers, 2001).

Similarly, De Pelsmacker, Muller, Viviers, Saayman, Cuyvers and Jegers (2005) note that companies that formally practice CI are growing in number and CI is especially

strong in the banking sector, information technology sector and also among the larger and former utilities such as the telecommunication and electric supply sectors. According to the study by Viviers, Saayman, Muller and Calof (2002), South African companies focused on more than just competitors, the plans and intentions of key competitors, key allies and partners such as suppliers, distributors, investors and collaborators.

Research by De Pelsmacker et al. (2005) shows that a few of the largest companies in South Africa have adopted CI in a comprehensive manner, including designing and setting up structures and appointing a dedicated CI staff. Research by Du Toit (2003) shows that only 26% of manufacturing organisations had CI units, but that 76% of the organisations had a CI system. An interesting observation about the CI practices of South African companies is that the more companies rely on exports and interaction with the international market, the more they are inclined to adopt CI and the greater their understanding of the role and benefits of CI as a strategic business tool (Du Toit, 2013; Viviers & Muller, 2004). There was widespread recognition of the value of CI to enhance profits (Muller, 2007b).

Study results by Viviers and Muller (2004) identified that South African companies showed a general lack of appropriate processes or structures for CI. General ignorance, misconceptions about CI and perceived cost associated with developing and running a CI capability were a few inhibiting factors to practise CI in SA companies (Viviers & Muller, 2004). CI culture, knowledge and practice were lacking in most organisations (Sewlal, 2004). In relation to CI implementation, after identifying the core reasons for failures of BI initiatives in South Africa, Venter (2005) recommended the following: "what is really needed in order to increase the value of BI projects is an approach for resolving the alignment of what BI projects deliver and the strategic and operational information that the business really would like to have."

Despite the existence of certain problem areas, South African companies reflected relatively high level of overall satisfaction with BI and its various aspects (Venter & Tustin, 2009). However, there were gaps between importance and availability of BI. BI quality was influenced by the fact that decision-makers felt that they often had to process it before it became useful to them and that it was not proactively available, when they needed it and in the required format (Venter & Tustin, 2009). Close results were identified by Conradie and Kruger (2006) on problems related to BI or information quality. Farrell (2007) also concludes that the performance of South African companies would depend on the quality of their intelligence capabilities.

Compared to the studies made in early 2000s, the status of CI was growing as a business process and companies that had established CI units were increasing. It can be generalised that CI is still in many instances seen as a novelty and a very new field in companies (Farrell, 2007). However, the research conducted by Muller in 2007 witnessed that CI was widely being practised in South Africa (Muller, 2007b).

Finally, it is worth mentioning two interesting countries from Africa in which CI was conducted recently—that are Morocco and Zimbabwe. Moroccan companies were involved in implementing CI. However, most of the companies indicated that they did not use CI for decision-making purposes (Sewdass & Du Toit, 2014). Ndlovu and Ncube (2015) made a study on the use of CI for SDM by manufacturing firms in Zimbabwe. In summary, it is evident that CI has grown to become a compelling strategic business management tool. The findings of this study had shown that general senior executives leading companies in Zimbabwe had a good theoretical and practical understanding of the concept of CI. This high level of awareness could have been backed by the fact that most managers were mature, had the required experience at senior management levels and had sound academic and professional qualifications. The authors also concluded as there was a close relationship between the practice of CI and financial performance of the company. Although manufacturing companies in Zimbabwe practised CI, the practice was still at its infancy stage (Ndlovu & Ncube, 2015: 189-190).

Summary to CI in Africa: CI management is a well-established function in enterprises in developed countries, because managers realise that if they do not monitor the actions and activities of their competitors, their strategic plans will fail.

The identification and utilisation of the most important factors of a SI would greatly enhance global corporate decision-making and result in competitive advantage and constant innovation within the South African business environment (Kruger, 2010). If CI is used as a strategic management tool and in strategic decision-making, it can enhance the competitiveness of South African organisations in the global economy (Sewdass & Du Toit, 2014) and, by extension, the innovation capability of South African companies, organisations and institutions and South Africa as a whole (Viviers, 2005) and Africa as a continent. To sum, developing countries could learn lessons from other developing and developed countries (governments and business) by studying how they leverage CI to become effective knowledge economy players in this competitive arena. However, enterprises in developing countries continue to be surprised by undesirable changes in the environment and it appears that the

advances in managing intelligence are as yet largely unknown to these countries (Du Toit, 2003).

Summary (CI—the Global Experience): Global developments have also been uneven in CI. Studies into global CI practices shown that CI evolved over time and that hurdles and challenges that need to be overcome show similarities across countries and practices (Adidam et al., 2009).

The value of CI has been proven in countries such as the USA, France and Japan. Literature showed that some countries, including France, Japan, Sweden and the USA, are more advanced in adopting and using CI but that they also need a process of development, starting informally and becoming more sophisticated over time. Generally, in Asia, large companies have been actively conducting CI on their domestic, regional and international markets and technologies.

Various factors influence the development of CI in countries. These include culture, the nature of the economy, the country's competitive position and aspects such as location and a supportive regulatory environment. One possible reason for the differences in CI development in different countries is that in some countries the government plays an important role as an intelligence provider for businesses. Since CI, as a management practice, is subject to various environmental forces, including institutional environments, each country is likely to have unique facets of CI (Kim & Kim, 2004).

Finally, an interesting observation that can be made after studying the CI practices in various countries is that the role of CI evolves and changes over time. In almost all countries CI development is starting informally and becoming more sophisticated over time. Early CI practices were more likely to be unstructured, with managers relying on their human resource network to provide them with information and insight into relevant developments (Muller, 2007b).

4.3 CI in Ethiopia—the status

The literature in this sub-section only presents the gap (from secondary sources practice) on the issue (CI) under investigation for strategic and tactical decision-making by large Ethiopian companies.

A few practices, rather plans, for the use of marketing intelligence (MI), not CI, seem to be introduced mainly to enhance the competitiveness of agriculture products or to find better

markets for Ethiopian farmers in international and public organisations and programmes like NEPAD (New Partnership for African Development).

In explaining the potential relevance to CAADP (Comprehensive Africa Agriculture Development Programme) pillars of the sector/policy/activity (i.e., promotion of commercialisation of agriculture production and marketing of agriculture and livestock products) in five ranks, NEPAD ranked the need for market intelligence systems the second (priority).

To promote the Grain Marketing System in Ethiopia, the Oxford Policy Management noted the creation of a permanent and public market information system in Ethiopia. To this connection, the document sets the importance of market intelligence in medium and long-term periods. The document recommends public sector investments to enhance private sector performance in terms of government collection and dissemination of market intelligence and information can play a useful role in counteracting asymmetric information in rural markets. Long term market intelligence on the demand and prices for different products and varieties can assist farmers make informed production choices; and leads to the introduction of higher yielding, or higher quality, varieties or products. This magnifies the strategic importance of intelligence in making long-term strategic decision.

A couple of government documents emphasise (in their strategic plans) the use of marketing intelligence to enhance the competitiveness of different sectors, for example tourism, export market promotion for primary agriculture products of the country, investment attractions and trade opportunities in overseas markets mainly following the different preferential rights of the county like AGOA (African Growth and Opportunity Act). The Everything But Arms (EBA) initiative to the US markets under the AGOA is a preferential market access given by the EU to a group of Least Developed Countries (LDCs) (including Ethiopia) to export their products duty free and without quantitative restrictions (FDRE MOFA. 2007).

The government of Ethiopia is also actually practising and getting benefit out of its financial intelligence system in fighting corruption (through Federal Ethics and Anti-Corruption Commission) and tax evasion (through Federal Revenues and Customs Authority).

The implementation of a formally recognised marketing intelligence service is provided in a fascinating way in Foreign Trade Promotion Manual for Diplomatic Missions of FDRE's Ministry of Foreign Affairs (FDRE MOFED, 2007). The guide formally outlines what and how Ethiopian diplomatic missions provide marketing research and marketing intelligence

services. These services involve collecting and analysing data; and forecasting current export market conditions, tendencies and future trends.

The Netherlands Development Cooperation (SNV) is also one of the famous NGOs working to support agriculture productivity (marketing) of poor Ethiopian farmers and specialises in value chain analysis (SNV, 2011). This NGO strongly recommends and works towards creating access to marketing intelligence for poor farmers in order to benefit from the value chain.

In exploring the literature review of the study topic in potential subjects (large business enterprises), probably the only two potential case subjects that are formally recognised are the use of competitive and marketing intelligence decision-making. According to the newsletter from Ethiopian Airlines, which is now a member of Star Alliance, the company intends to work with Addis Ababa University on areas of intelligence-based studies.

Ethiopian Commodity Exchange (ECX), which is the first of its kind in Africa and mentioned by many for its innovative facilitation of grain market in recent Ethiopia largely depends on marketing intelligence and marketing information system using the government's ICT network. ECX, a marketplace where buyers and sellers come together to trade, assured of quality, delivery and payment, aggressively disseminates marketing intelligence to all market actors in the grain market industry. This is done by establishing a formal marketing intelligence team embedded in different units following the concept of CI process (from collection to dissemination of marketing information). It was also possible to find one closely related literature to this study in Ethiopia, namely a study by an MBA student at Addis Ababa University. The study entitled "Market Information System in the Ethiopian Commodity Exchange" focused on business intelligence and recommended a model to enhance the marketing intelligence activity of ECX. The proposed Market Information System employed technology based on Interactive Voice Response, which could be accessed via public telephone network so that farmers and traders could interface with the system through the telephone keypad by sending telephone digits (Zegeye, 2007). In a similar study, the International Food Policy Research Institute tried to improve ECX's CI system by taking into consideration the existing best practice mechanisms to collect and triangulate market information data (e.g., price, demand and supply signals by region) available from different sources; to develop a simple, standard display of regional price, supply and demand forecasts; and to identify current best practice information delivery channels and disseminating market information data.

An Enterprise Map of Ethiopia, prepared by Sutton and Kellow (2010), points out two things related to the competitiveness of Ethiopian enterprises. The first one is the presence of, or the ability to create, a well-organised and efficient team of substantial size (of companies) and the second relates to 'market intelligence': knowing what to produce and where to position the firm in relation to the existing distribution networks and how to develop new distribution channels.

Regarding the capability and formality of Ethiopian companies using a marketing intelligence system/practice, the document identifies a couple of companies in Ethiopia. Access Capital group, Ethiopia's first professional investment company, founded by Ermyas Amelga, carries a detailed market intelligence investigation in-house before making any investment. In just a few years it has grown to employ over 700 people in a series of mid-size businesses ranging from soft drinks to plastics, as well as investment banking and real estate (Access Capital, 2011).

Another company, Al-Impex Import Export Enterprise, was established in 1996 by Alula Gebremichael, an Ethiopian national. Professionalism and an organisational system led by a young and dynamic director are seen as the key features of Al-Impex's capability. The firm has an International Market Intelligence Unit, which studies trends in harvest, quantities and prices of commodities (Sutton & Kellow, 2010).

It was possible to find two doctoral studies made on data mining (i.e., a tool for CI/BI analysis), knowledge management and sharing on Commercial Bank of Ethiopia by two doctoral students *(Bekele, R., 2014. Knowledge Management Practices of Commercial Banks in Ethiopia, Doctoral Dissertation, Addis Ababa University; and Desta, T.A., 2014. Enabling Knowledge Sharing in the Workplace: The Case of Commercial Bank of Ethiopia, Doctoral Dissertation, Addis Ababa University Addis Ababa, Ethiopia).* Both authors magnified the importance of knowledge management and knowledge sharing to the Bank, respectively. A similar study was also made by Biazen (2011) on issues of knowledge discovery for effective customer segmentation in the Ethiopian Revenue and Customs Authority.

The study made by Bekele found that the banks did not have full-fledged computerised system for managing knowledge. Majority of the KM practices were not done in a centralised manner. Paper-based communication was used more often to transfer and share knowledge. The study also found that there was no organisational unit dedicated to KM and also no position for knowledge worker in the organisational structure. The result of the study also

showed that most of the employees were willing to share their knowledge openly to other members of the bank, however.

There are also a few academic studies, like those made by MBA and IT students on BI/CI tools, focusing on data mining: *The role of data mining technology in electronic transaction expansion at Dashen Bank S.C.* (by Berhe, 2011); *The application of data mining to support customer relationship management at Ethiopian Airlines* (by Jembere, 2003); and *Knowledge discovery for effective customer segmentation: the case of Ethiopian Revenue and Customs Authority* (by Biazen, 2011).

SCIP's Africa Summit noted African countries with market research challenges. The following two were identified as CI practising challenges in Ethiopia. According to Gulwa (2014), in Ethiopia data are collected by a mix of local and global institutions with different goals and their numbers are seldom the same.

To conclude, CI and MI (marketing intelligence) are given better recognition by public enterprises in Ethiopia. Moreover, all of the available academic literature focused on either knowledge management or data mining and these studies were entirely conducted by IT professionals. None of the studies were made on CI and its strategic value for SDM in Ethiopia. Thus, since all the available studies were made on large companies in the country, it is possible to make intellectual guess that largest companies gather competitive information in a haphazard way using different sources to support their business decision-making. From the desk research on the use of CI for decision-making and enhancing competitiveness of products and services produced by Ethiopian companies, it can be said that the concept of CI is not well understood as its role is replaced mainly by marketing intelligence. It is evident that lack of research made on the topic of this study in Ethiopia warrants investigation of the issue and introduction of a comprehensive CI programme implementation framework for initial use by large Ethiopian companies.

4.4 The role of CI in the SDM process

The discussions on the next section are about the strategic value of CI for selected strategic issues, which are the other aspect of the context of the study. Before looking at the possible key intelligence topics of the case, which are determined from the SDM issues or strategies of the conglomerate, it is better to give an overview on the role of CI in the main phases of the SDM process (i.e., formulation, implementation and revision/control).

4.4.1 The role of CI in strategy formulation

Planning activities such as scanning and analysis provide information that can be utilised in the decision-making process (Rogers & Bamford, 2001). Thus, planning as this informational support mechanism leads to the examination of the ‘‘fit’’ between planning system processes and strategic orientation. Clearly, different strategies have particular information needs and unique implementation requirements (Miles & Snow, 1978). Therefore, firms pursuing different strategies should have different planning system designs to support the information needs of strategic decision-makers. For example, Karami (2008) believes that environmental scanning is widely viewed as the first step in the process linking strategy and environment.

The strategy formulation process is often an information-intensive exercise, in which data about both the firm and its environment are collected, filtered, and interpreted in terms of their implications for the firm's strategic choices (Makadok & Barney, 2001). In the design approach to strategic management and choice, the strategy formulation sub-process is concerned with analyses of the external and internal environment and the choice of strategy at the corporate, business, and functional levels. Thus, strategy formulation is improved through more extensive knowledge of the company itself and its external environment (Miller, 200b:13 in Pirttimäki, 2007). External success factors, internal information on a company’s competencies, strengths, and weaknesses is required not only in strategy creation but also in strategy evaluation, and execution (Mintzberg, Alstrand & Lampel, 1998).

CI is a vital component of a company’s strategic planning and management process (Bose, 2008). CI plays an important role in the corporate management’s preparation to make strategic decisions that would create new conditions to ensure the company’s future prosperity in the unforgiving business environment (Bartes, 2013). Therefore, strategy formulation must be based on highly aggregated, incomplete and uncertain information about classes of alternatives (Campos, 2006: 30-32). However, in the course of both its formulation and implementation, the gathering and interpreting of strategic information is necessary to make it real and feasible.

4.4.2 The role of CI in strategy implementation

Strategic planning is an iterative process, involving a repetitious sequence of strategic developments, strategic planning, plan implementation, and strategic performance measurement, and is never finalised in the sense that internal or external events may cause them to change (Kruger, 2010). Whether and how formulated strategies become operationally effective depends on strategy implementation that is typically regarded as another key activity

within the strategy process (Behnam & Rasche, 2009). With integrated competitive information, a company can make decisions more quickly, reduce uncertainty, and react immediately to changes in strategy implementation (Pirttimäki, 2007).

On the other hand, CI can help test and validate company's assumptions. Voola and O'Cass (2008) say, CI products also explain and justify how effective strategies are developed within a firm, which is effective strategy implementation. CI also fills in gaps, covering areas that the company failed to consider in its assumptions. Thus, one value of SI can be seen through the improvement of the capabilities of managers and workers to learn about potential changes within their business or industry environment without having to redefine intelligence on which previous decisions were based (Kruger, 2010). In some firms CI is expected to address the key assumptions associated with the firm's current strategy. The intent is to clarify what assumptions the firm is actually making, and then challenge and refine them in view of intelligence team's understanding of current and potential marketplace change (Fahey, 2007). For example, when undertaking various data collection exercises and engaging in company-industry monitoring, it is essential that marketing intelligence officers think strategically. This means that marketing intelligence officers work closely with marketing strategists in order to formulate and implement marketing plans and strategies. In other words, marketing staff must be able to 'think outside the box' (Trim & Lee, 2006).

Implementation of any strategy is one of the most vital stages to success and it is not a stage that is carried out and then forgotten. Continual reassessment and feedback are used so that adjustments can be made. In order to offer enhanced support to the strategy, CI must be well integrated into each stage of the process and its contribution well understood (Badr et al., 2004).

4.4.3 The role of CI for strategy control and revision

Strategy control, evaluation and revision can be taken as an element of strategy implementation activity or simply they can be taken as elements of the overall strategy development or design activity. This is because strategy development is nothing without implementation and effective implementation control. Strategic control involves evaluation of the success of the strategic process as an input for future decision making (Kruger, 2010).

In dynamic environment, often, strategies are determined by a company's reaction to events beyond its control rather than by solid market intelligence and strategic planning (Lackman et al., 2000:6). Thus, for organisations with this type of strategic orientation (which may not have formal strategic plans but just strategic visions), the intelligence from the competitive

environment may even let the management to shape its strategy (it can merely be shared vision and informal) and outlining new critical strategic objectives, which are open for future revision. Organisational leaders need to revisit and make decisions about the growth objectives and the fundamental strategies the organisation will use to achieve them (Mitchell, 2009). An incrementalist manager creates a situation where a coherent strategy can emerge based on better, more up-to-date information, and deliberate strategies are formulated in iterative fashion.

One of the effects of CI can be change in the firm's strategy or stimulation changes in the firm's strategic orientation. For example, for a market-oriented firm, though the basic strategic orientation is market, all the CI that will be gathered from the environment on the activities of competitors, customers, consumers, distributors, and so forth will again dictate subsequent strategies of the firm or the SBU or the specific product (if it is the selected unit of analysis). As cited by Fouche (2006), a research conducted by the Corporate Executive Board's Strategy Research Board (2000: 8-10) notes that failure to identifying strategically significant market changes is a cause to misuse gathered information. According to the study, while intelligence groups typically monitor a wide array of indicators, few apply a strategic "filter" to identify events that should trigger or inform strategy efforts. This problem is often the result of insufficient links between monitoring and strategy-creation processes and inadequate tools to analyse trends in the business environment (Fouche, 2006: 21-22).

4.5 Strategic value of CI for selected strategic issues (case's strategy context)

Attempt was made to link competitive intelligence with the selected grand strategy theories/perspectives/orientations (Proter's Five Forces Model, Miles & Snow Grand Strategy typologies, market-orientation, RBV, KBV, DCV and multiple strategy orientations) in Chapter 2. In this section, literature is reviewed focusing on the strategic value of CI as specifically related to the strategies and multiple strategic orientations of the conglomerate during the first and the second growth and transformation plans of the conglomerate. Meanwhile, the purpose of this section is neither to show how each KIT discussed is carried out nor processed in organisations, but to show which of the case conglomerate's strategies and SDM are given considerations in implementing the intended CI application within the conglomerate and its subsidiaries.

Of course, each industry of the case company is serving a different market. Moreover, KITs are many, specific and unique and differ by time and decision needs of each department/unit, company and industry. Thus, the key intelligence needs or key intelligence topics can be

dictated by the existing grand strategies of the case conglomerate and specific intelligence needs of each industry and even department/unit.

Whereas, as its strategies are directly derived from the GTP of the country, there is an obvious reason to support the SDM of the corporation and its industries/SBUs with the help of CI products or with the following major types of KITs—KITs on and for effective core competency development, new product/business development, technology transfer and innovation; benchmarking; partnership, strategic alliance and coopetition; mergers and acquisitions; licensing, negotiation and contracting; value chain integration.

It is necessary to begin the discussion from the core competency perspective of a multi-business integrated corporation or conglomerate.

4.5.1 CI and knowledge in core competency perspective

Strategic decisions address complex and ambiguous issues such as developing core capabilities, technologies and products that involve large amounts of organisational resources and commitment (Stokman et al., 2000). As related to this fact, strategic actions are taken to develop and then use a firm's core competencies to select and implement different strategies including functional-level, business-level and corporate-level and cooperative strategies.

Wilson (2004) notes that SDM is at the heart of strategy. After a strategic analysis of the organisation's environment, internal capabilities and core competencies, and an investigation of technological shifts, managers must select the preferred course of action. Therefore, managers need to examine the data, information and intelligence before them and examine the possible alternatives and choose from them.

Core competency concept is a strategic perspective of the case conglomerate. Therefore, the objective of this sub-section is not to magnify the importance of applying core competency concept in today's corporations but to present the core competence strategies and then highlight the critical role CI plays in developing core competencies in multi-business companies like in the case conglomerate. Moreover, the sub-section attempts to show how this concept is connected to different strategies and strategic orientations which usually exist in any multi-business corporation. Since this concept is the strategic perspective of the case conglomerate, more explanations are provided on the strategic aspects of the concept in this sub-section.

4.5.1.1 Core competency perspective and sources of competency

Core competence, which has been introduced into the literature roughly twenty-five years (now 30 years) ago, is a strategic issue for firms. Its meaning can be summarised as "what a company does best" (Rahimli, 2012: 124). The term 'competence' is meant here to enlarge the concept of resource while building up on a resource-based perspective (Macharia, 2014; Haugstad, 1999). As it will be discussed in this section, RBV, firm behaviour revolves around the concepts of resources and capabilities and how a firm utilises its unique set of resources and capabilities to achieve competitive advantage (Tanaka, 2003). Besides, the RBV lead to a knowledge-based perspective (Kogut, 1997). Faiz (2014) even believes that core competence is a resource-based approach to corporate strategy. According to this author, the terms core competence and core capability are often used interchangeably but a core competence refers to a set of skills or experience in some activity, rather than physical or financial assets.

"Core competency is a unique capability acquired by a firm over a period of time in a form of resource, operations facility, especially skilled manpower, knowhow or delivery of service which gives the firm sustainable competitive advantage in future in quality, design, production or distribution of a product/service or cost of the product and is viewed as a relative value addition by a prospective customer" (Gupta, 2013: 3). According to Yang (2013), core competence is the efficient integration of knowledge, technology, resources, techniques, employee skills and management skills of an organisation. Kak (2004: 12) also defines the term as the process of transforming technical knowledge into useful products and involves knowledge that is non-technical and embedded in the core competence of the organisation. Core competencies are created by superior integration of technological, physical and human resources. They represent distinctive skills as well as intangible, invisible, intellectual assets and cultural capabilities. Lack of integration of these skills was demonstrated in Xerox. Using its core competence in information processing, Xerox developed icons, pull-down menus and the computer mouse, but failed to exploit the marketplace (Institute of Management Accountants, 1996b). "In general, a firm's competence involves the differential skills, complementary assets and routines used to create sustainable competitive advantage" (Tanaka, 2003: 209).

According to Prahalad and Hamel (2006), the three tests that are used to identify a corporation's core competence include its ability to stretch to a wide variety of markets, its significant contribution to end-product or benefits/consumer value, and its superior differentiability from the competitors. Prahalad and Hamel's three tests have implications for strategy. Managers should build their strategies on resources that pass the above tests. In

determining what are valuable resources, firms should consider both external industry conditions and their internal capabilities (Collis & Montgomery, 1990). Furthermore, Prahalad and Hamel's (1997) stress that it is not the absolute level of knowledge a firm possesses that leads to competitive advantage, but the velocity with which it is circulated in the organisation. Additionally, core competencies are a set of skills or resources that was painstakingly developed over a period of time and difficult to replicate (Gupta, 2013). In connection with the above concepts, Lee (1999) warns that the core competence of a company should be distinguished from its capital, infrastructure, competitive advantage, critical success factor, and more. For instance, such capabilities can be classified as the core competence as Toyota's optimal factory management, Walmart's distribution management, and Sony's miniaturisation.

Different authors describe the term 'core competency' as either a strategy, strategic perspective, or strategy tool. Meanwhile, as being originated from RBV and capability theories, most literature on core competency were written in earlier years (Barney, 2001; Hoskisson et al., 1999; Foss & Eriksen, 1995; Mahoney & Pandian, 1992; Prahalad & Hamel, 1990; Bowman, 1974).

Some writers also regard core competency itself as an organisation strategy. Bhamra, Dani and Bhamra (2011) explain that the concept of competence places core competency thinking and core competency strategy squarely within the scope of corporate level strategy where the concern regards the wider business portfolio, markets and geographic locations. According to Gupta (2013), the competence-based strategy is the part of overall strategy that is concerned with integrating technology, know-how (including patents), value and culture in order to create a set of competencies, which unfolds superior value for customer and thereby support product-market strategy of the firm's customers.

Organisational core competencies are crucial dimensions of the corporate strategic management process (Rahimli, 2012). Meanwhile, developing core competency should be a long-term corporate core competence strategy (Voigt, 2008; Prahalad & Hamel, 1994). "Core competence means value for consumer, differentiation of a firm, and entrance to new markets; therefore, organisational strategies should be based and built on core competencies to be winner and successful in business life" (Uysal, 2007: 15). When recommending some critical factors for core competence management, Lee (1999: 18) states the following: "either the core competence should be decided based upon the strategy, or the strategy should be formulated based upon the core competence. Therefore, a company should clarify the relationship between the strategy and core competence."

Possible sources of core competencies: The sources, means and strategic elements which are used to develop core competencies of organisations are also different. Different types of resources including tangible assets, intangible assets and skills have been identified as underlying the distinctive or core competence of a firm (Zahra & George, 2002). The core competency perspective of a corporation can be demonstrated in different types of resources and can be aligned in different strategic orientations.

An organisation's core competence could be in a technology, a product, a process or the way it integrates its technological assets (Khalil, 2000). With regard to technology core competence, the firm' s core competency is represented by the knowledge base, realised through the effective use of internal and external partnerships utilising technology (Kandampully, 2002). Hamel and Prahalad's notion of core competencies are essentially knowledge-based sources of competitive advantage. Hamel and Prahalad (1989) suggest that managers nurture and develop competitive intelligence at every level of the organisation in order to build the firm' s competitive advantage.

According to Chumaidiyah (2011), most core competencies, thus, rely on technological and market interface capabilities, two general categories of competency depending upon which group of capabilities predominates within the competency aggregate—core technical competencies and core marketing competencies. In relation to this, Voigt (2008: 175) states the following: "A successful leverage in the context of a core competence strategy means to diffuse the costs of innovation (like R&D expenditures) to different marketable units."

Effective value chain integration can become a core competence too. Value chain analysis can be used to identify core competencies which are required to accomplish company's desired results (Sewdass, 2009). Furthermore, the core competencies not only have to configure the existing value chains of company but also have to explore new value chains to seek new customers in same business line. It is, of course, possible to export these core competencies in multiple businesses of an enterprise for taking advantage (Gupta, 2013).

Core competencies can even be developed through strategic alliances. Certain core competencies and also certain systems can only be acquired via strategic partnerships. This is particularly true for core competencies that are based on interactions with partners and joint learning processes (Schwaninger & Flaschka, 1995). It is possible for a company to have an intelligent alliance or sourcing strategy if it has not made a choice about where it will build competence leadership (Prahalad & Hamel, 1990).

Firms also need to analyse each of their primary competitors. This analysis should identify competitors' current strategies, strategic intent, strategic mission, capabilities, core competencies and a competitive response profile (Ding, 2009). This information is useful to the focal firm in formulating an appropriate strategic intent and mission. If a firm is trying to determine the core competencies of an organisation, then it needs to understand their competitive advantages in relation to the marketplace (Bose, 2008). If intelligence activities are unable to capture the 'competitive essence' of who the major players will be and where they are likely to dominate, there will be a lack of the utilisation of competitive knowledge in strategic planning (Wang & Guild, 1995).

Core competence strategy perspective in multi-business corporations: The corporation, like a tree, grows from its roots. Core products are nourished by competencies and engender business units whose fruits are end products. Core competencies can come about through the cross-business interactions across a multi-business organisation (Bhamra et al., 2011: 4-5). In short, core competencies would be collective learning across levels, functions, and business units (Gibbert, 2003).

For a multi-business corporation, core competencies arise from the integration of multiple technologies and coordination of diverse production skill. According to Prahalad and Hamel (2006; 1990), a firm must conceive of itself as a portfolio of competencies, instead of a portfolio of strategic business units (SBUs). In relation to Prahalad and Hamel's concepts, Lee (1999: 19) gives the following recommendation: "A company should avoid centring upon the business division. This causes a company to compete among business units and each business unit to focus on its partial optimisation, which erodes on the total optimum of the company which gives negative effects on it, failing to have any synergy effect." Rather, corporate management synergies focus on the vertical relationship between the corporate centre and the businesses (Knoll, 2008). "Many conglomerates establish business units or subsidiaries in a form of any type of *relatedness*, i.e. the different businesses of the conglomerate are actually not really unrelated" (Bruche, 2000: 22). The closer the linkages among businesses, the greater the opportunities for creating value from sharing resources and transferring capabilities, and the greater the need for corporate headquarters to coordinate across businesses (Gupta, 2013).

Also, in today's multi-business enterprise, CI happens at two levels—corporate and business unit. Corporate strategy concerns two different questions: what businesses the corporation should be in and how the corporate office should manage the array of business units (Johri & Aggarwal, 2016; Ding, 2009). And, "competitive strategy is concerned with how to create

competitive advantage in each of the businesses in which a company competes based upon core competencies" (Johri & Aggarwal, 2016: 28). In multi-business companies, core competencies are expertise and areas of knowledge that are shared across business units and result from the incorporation and coordination of small business units' competencies (Syed & Xiaoyan, 2013)

4.5.1.2 Knowledge-based competency

In modern business environment, knowledge is the most important resource (Gračanin et al., 2015). "The new age is characterised by a knowledge based economy and rapid technological changes" (Kilic, Cakmak, Eren & Sakarya, 2016: 74). This means that a strategic perspective, now more than ever, must be constructed with the best available knowledge, not only outside the firm, but more important the knowledge produced in the firm. Put differently, to have a strategy lacking knowledge is useless (Kilic et al., 2016). In fact, organisations are now competing on the basis of core knowledge and core competences (Macharia, 2014). Therefore, those companies that harness, produce, and utilise more intelligently the available knowledge, will gain a sustainable advantage (Campos, 2006).

Management theory also provides a simple conceptual framework for organising knowledge and for providing a blueprint for action to help guide organisations towards their objectives (Raduan, Jegak, Haslinda & Alimin, 2009: 403). For example, the RBV provides an interesting perspective on how organisational resources should be used as a source of knowledge (Comai, 2016). Early writers on core competency also confirm that knowledge is a vital ingredient for firm performance. According to Prahalad and Hamel (1990), the key to an appropriate understanding of competence-based strategy making is that core competencies incorporate a knowledge component. Thurow (2000) also believes that with everything in the competitive equation being equal, knowledge and core competencies are perhaps the only remaining sources of organisational uniqueness in the marketplace. Therefore, in order to create every scrap of new knowledge, and to stay competitive, organisations must make use of well-defined and meticulous business and competitive intelligence-gathering processes so that the new knowledge can be used and managed to gain competitive advantage, in other words to be positioned differently from similar organisations operating in the same market sector (Sheikh, 2008). Aboiron (2019: 19) also says the following: "It seems clear to us that the process of knowledge management is a factor for innovation and creation of sustainable competitive advantages. In a context of uncertainty, companies enhance their trade and core competencies to enable the organisation to implement underlying experiments and the emergence of innovations."

The core competence of an enterprise is the knowledge system accumulated in the long-term business practice, which is with the competitor, the enterprise in the product research and development, the production, the sale, the service and so on, one or many links has the obvious superiority and the difference, and is difficult to be imitated by the competitor (Li, 2017). According to Li, one of the main characteristics of enterprise's core competence is the organic integration of knowledge, skill and management ability (Li, 2017). "The value creation is primarily determined by the tacit/explicit transfer of knowledge between individuals and in the conversion of knowledge from one type to another. Thus, enabling the identification, auditing, and benchmarking of the core competences or core knowledge that are the main sources of sustainable competitive advantages" (Kilic et al., 2016: 71).

4.5.1.3 CI as core competency

Current management approaches to resource-based strategy and core competence thinking require extensive intelligence gathering to ensure that correct assumptions are being made about the environment and competitors' capabilities. Core competence and resource-based strategic approaches rely on measures of firm's competence relative to the competitors, and this comparison is in essence an issue of intelligence (Powell & Bradford, 2000). An assessment made on resource-based view and core competence in Kikkoman Corporation by Norihito Tanaka identified the following:

> *Kikkoman Corporation is the oldest continuous enterprise among the two hundred largest industrial firms in Japan. Kikkoman's unique competitive position stems from its set of abilities which have at different stages contributed to its success. The development of these core competences is the result of organisational knowledge and learning. Continual learning involves the absorption of new information and behaviours and results in recombining of current capabilities.* (Tanaka, 2003: 210)

Wolter (2011) also notes that the CI (in 2011) is beyond that–it is CI for strategic planning and CI as a core competence. Increasingly, the expertise associated with the CI function itself has become a core competency, and a number of companies are building that expertise and offering it as a service. Rodrigues (2002) strongly suggests that an intelligent business (IB) must be put up by means of a strong strategy, built on a technology and competency policy. The strategic purpose of competitive intelligence is to provide support to develop intelligent business in an organisation. An organisation, however, can mind an intelligent business if it only knows and leverages on its core competence. Here, CI should assist the organisation not in just knowing the core competence, but in building an intelligent business that leverages on core competence. To put it differently, "…an Intelligent Business strategy built on core

competence begins with knowledge-based strategies with origins in the business, not in the knowledge itself" (Rodrigues, 2002: 276).

As discussed below, core competencies in CI are also currently viewed as the primary means to enable organisations to respond to their environments (Li, 2017; Yang, Huang & Zou, 2017; Comai, 2016; Rivera, Vidal & Lloveras, 2009; Calvasina, Ramaswamy, Calvasina & Calvasina, 2008).

According to Li (2017), the core competence of the enterprise mainly includes the core technical ability, the insight foresight and the adaptability, the innovation ability and the organisation coordination ability. In explaining CI as one of the core competencies of an organisation, Comai (2016) starts from the term 'intelligence' as it may be seen as the key value that is added to raw data and information which is available in the environment. The way in which this information is gathered, captured, classified, analysed, disseminated and stored in the company makes the intelligence, and therefore the value, especially unique. The parallelism of a CI function, defined as an independent organisation in the firm, helps to understand the various capabilities of an intelligence unit. Comai (2016: 19), in short, says "a CI function can be seen as the architecture of CI capabilities or competences which are able to perform complex activities and create a link between CI, strategy and performance thanks to the individual resources of the firm."

Related to the collection of CI to enhance the innovation ability of enterprises, Li (2017: 358) further notes the following: "If an enterprise wants to improve its core competitiveness, it must pay attention to the collection of information, timely and accurate information can inject new blood into the technological innovation of the enterprise." Li (2017) further justifies that firms do this because CI products and services improve enterprise innovation ability. To conclude from Li (2017), the full use of competitive intelligence can make the enterprise's core competitiveness to the extreme. Therefore, organisations must fully understand the main content and basic characteristics of competitive intelligence and enterprise core competence, and grasp the mechanism of competitive intelligence to improve the core competitiveness of enterprises, so as to make good use of competitive intelligence in which to improve the core competitiveness of enterprises, so that enterprises will be an invincible position in the fierce international and domestic competition. In the end of the article, Li (2017) however indicates that the research of competitive intelligence and enterprise core competence shall be promoted continuously, which has high social and economic value.

Information and communication technology (ICT) for core competency: To begin with old core competence development tools, Rivera et al. (2009) recommend the following older strategy analysis tools as tools to develop core competency using CI:

> *If one is trying to determine the core competencies of an organisation, then SWOT analysis is very appropriate. SWOT analysis is useful when one needs to understand their competitive advantages in relation to the marketplace. However, if the KIT is related to one's industry, then Porter's Five Forces Model may be better. Or perhaps if one needs to understand the position of a competitor, Porter's Four Corners Analysis may be more appropriate. Yet if one looks at evolutionary issues in the marketplace, product life cycle analysis would be appropriate.* (Rivera et al., 2009: 526)

From a strategic point of view, an important step towards the strengthening of the core competencies can be taken with the aid of information system (Schwaninger & Flaschka, 1995). Biloslavo and Zornada (2004: 7-8) note that ICT is so critical for knowledge management success in a multi-business organisation. ICT has made it possible to preserve valuable explicit knowledge for the future and to share a huge amount of information unconstrained by the boundaries of geography and time. For an organisation, this means an opportunity to horizontally and vertically integrate task and data and, in this way, to shorten the length of the transformation of intangible ideas and insights into tangible outputs.

Business Intelligence Competency Centre (BICC) for core competency: Another practice in the core competency aspect of CI and/or BI is BICC. As also shown in Figure 2.1 (Chapter 2), the case conglomerate intends to establish a BICC in its roadmap.

"A BICC is a cross-functional team with defined tasks, roles, responsibilities, and processes for supporting and promoting the effective use of Business Intelligence across the organisation" (Bogza & Zaharie, 2009: 69). Krakauer (2012: 4) also gives a simple definition to the term: "a BICC is a team of people established to promote collaboration and the application of BI standards and best practices across the organisation." As organisation and users speak different language, an interpreter which understands their needs and can make sense of them in terms of the organisation is needed. BICC can play that role (Pugna & Boldeanu, 2013).

The BICC can contribute to understand the culture of the organisation and to leverage it for its best advantage, so that the strategic use of information becomes a core competency for the organisation (Bogza & Zaharie, 2009). With regard to the strategic value of organising BICC centre, Spruijt (2014) notes the following:

> *Today, many businesses are moving BI out of the IT division and are creating BI-centric organisations—business intelligence competency centres (BICCs)—staffed with business and technical personnel. For BI initiatives to be fully in sync with corporate strategies, they need to be managed by personnel with business and analytical skills in addition to technical acumen. By elevating responsibility and sponsorship for these BICCs to C-level management, organisations can increase their competitive advantage by providing the right people in the organisation with the right information at the right time.* (Spruijt, 2014: 2)

BICC has employees from the organisation itself, although some roles can be outsourced. With regard to outsourcing, Gartner (2008), however warns that outsourcing often results in losing the BI core competencies, which are critical intellectual property for any organisation.

Lastly, the BICC, by definition, tries to provide intelligence to the business. As stated by Bogza and Zaharie (2009), a BICC can act as a centre of expertise for Business Intelligence and drive and support its use throughout the organisation. This means that BICC needs to act as a broker that brings together business understanding and technology expertise or IT.

To conclude, though the concept of core competency was widely discussed in the early strategy theories such as RBV, KBV, DCV (those discussed in Chapter 3), different authors also present their view why core competencies are very relevant even today for example in innovation (Maungwa & Fourie, 2018; Li, 2017; Johri & Aggarwal, 2016, Comai, 2016; Faiz, 2014; Kandampully, 2002), technology orientation (Yang et al., 2017; Li, 2017; Johri & Aggarwal, 2016, Comai, 2016; Chumaidiyah, 2011), market orientation (Gatibu & Kilika, 2017; Chumaidiyah, 2011; Slater & Narver, 1995), value chain (Li, 2017; Calof, Arcos & Sewdass, 2018; Johri & Aggarwal, 2016; Nenzhelele, 2015; Sjöblom, 2015; Asgedom, 2013; Gupta, 2013; Rivera et al., 2009; Sewdass, 2009). Resource-based view (Freyn, 2017; Li, 2017; Comai, 2016; Moniruzzaman et al., 2015; Powell & Bradford, 2000) and knowledge-based view (Aboiron, 2019; Kilic et al., 2016; Raduan et al., 2009; Sheikh, 2008; Campos, 2006; Thurow, 2000; Macharia, 2014; Rahimli, 2012; Biloslavo & Zornada, 2004; Prahalad, 2000; Kogut, 1997).

Prahalad and Hamel (2006) note that the core competence is communication, involvement, and a deep commitment to working across organisational boundaries. It involves many levels of people and all functions. Any CI and/or information systems can improve the overall performance of business units of a corporation by promoting synergies and core competencies. Any information system that encourages the sharing of knowledge across business units enhances competency. Such systems might encourage or enhance existing competencies and help employees become aware of new external knowledge; such systems

might also help the business leverage existing competencies to related markets. Thus, SBUs in a vertically integrated conglomerate shall work in synergy. This is possible by promoting CI sharing among the SBUs. Sharing strategic and tactical information effectively within the supply chain is often a key factor in achieving this goal (Hasan et al., 2011).

4.5.2 Value of CI for innovation and technology orientation strategy

As also discussed in 3.7.1, the rationale for an innovation orientation is that technology has the potential to create markets and customers (Maungwa & Fourie, 2018; Johri & Aggarwal, 2016, Comai, 2016, Rogers & Bamford, 2001; Berthon & Hulbert, 1999). Innovation-oriented strategy requires caution and continuous efforts. Therefore, for this strategy to succeed thought and careful analysis of opportunities for innovation are required (Drucker, 1985b). Product innovation can come from firms that apply entrepreneurial (proactive) orientation. Proactive firms are more prone to focus their attention and effort towards opportunities. For such strategy, Ku¨hn (2005), cited in Strauss and Du Toit (2010), proposes CI as an instrument to advance competitiveness and a means to innovation through the use of knowledge. Thus, to use innovation strategy, the manager should start out with an analysis of the industry and particularly the needs and wants of customers (demand). Managers of such firms should depend heavily on technological and customer intelligence for the purpose of introducing innovation that will fit, at least, aggregate customer needs (Drucker, 1985b). Not only firms need to forecast changes in technologies within the structure but also examine the progress in all the technologies within the value chain to determine possible impacts of progress on competition within the chain (Betz, 2001).

Li (2017) confirms that CI enhances innovation capability and CI demand analysis makes the enterprise understand the intelligence demand of the technology innovation. Johri and Aggarwal (2016) also note that a comprehensive CI capability or regime targeting innovation enhances responsiveness to market opportunities. It improves R&D investment decisions and lowers the related research and development project cost and attrition rate, all through the efficient and effective enrichment of information and knowledge towards intelligence. Shortly, “CI accelerates product development and prototyping through rapid collective intelligence exchange” (Johri & Aggarwal, 2016: 26).

In relation to an innovation orientation type of strategy, a field which makes reference to CI and intelligence in general is that of foresight (Calof et al., 2015; Calof, 2008; Calof & Wright, 2008; Fouche, 2006). Conceptually, foresight is designed to identify today’s research and innovation priorities based on the scenarios of the future (Calof & Wright, 2008). In

making strategic foresight (scenario planning), a risky 'entrepreneurial judo' (Drucker, 1985a) type of innovation-orientation should give care to be market-focused and market-driven and should not ignore the role of marketing intelligence for successful innovation. "Foresight is based upon deep insights into knowledge external to the firm, such as industry trends in technology, regulations, demographics, etc." (Hall & Lundberg, 2010: 7). Hence, foresight and CI are highly complementary (Calof et al., 2015). In a recent study made by Calof et al. (2018) on European firms, the authors compared the results of their study to prior corporate foresight studies and found many similarities between CI and foresight concepts and practices, including objectives (supporting decision making and competitive advantage), temporal orientation (how forward looking the projects are), some of the analytical techniques used and in some cases the name of the unit conducting the corporate foresight/competitive intelligence. "This provides support for the notion that corporate foresight and competitive intelligence are related to each other" (Calof et al., 2018: 18).

Technological information has become an increasingly important advantage for technology-based companies facing shorter technology life cycles and a more globally competitive business environment (Mortara, Kerr, Phaal & Probert, 2009). CI helps entrepreneurial oriented innovative companies to constantly watch for opportunities to apply their technical know-how to the creation of customer-satisfying new products; otherwise, most of their new products may go wrong and their sales methods useless (Levitt, 2004). After introducing the new product/innovation, CI also supports competitive strategy by indicating the rate of anticipated technology diffusion of the new product or service into the market and critical assumptions which facilitate or hinder that diffusion (Betz, 2001). Thus, the type of CI collected is influenced by where one stands within the product life cycle (Gatibu & Kilika, 2017). As related to the type of intelligence made at the different stages of the new product life cycle, Gatibu and Kilika (2017) state the following:

> *When new products are under development and not yet marketed, competitive intelligence will focus on the marketplace. Once the product is introduced and placed into the market, competitive intelligence will shift more emphasis on the customer. As the products gains market attention, the emphasis shifts to the competition. The intelligent products deliver a whole new range of capabilities that cannot be found in other products. For example, many of these products are autonomous and reactive or they can co-operate with other products.* (Gatibu & Kilika, 2017: 225)

In applying innovation and product-oriented strategy, managers should not solely concentrate on products and overlook to see their customers. Failure to use technology and customer intelligence for innovation-oriented strategy will ultimately expose the firm to competition that come from what Drucker calls 'creative imitator'. Particularly, the creative imitator (who

adds satisfaction on an already introduced innovation), does not invent a product or service, or demand, rather it does satisfy demand that already exists (Drucker, 1985b). The use of technology, competitor and customer intelligence has great contribution to both the creative imitator (to find the unserved segment or demand of the discontinuous innovation) and the innovator (to satisfy the untapped demand of the continuous product before it is taken over by the imitator or to introduce another discontinuity if the market is already served) (Drucker, 1985b). Thus, when managers or CIPs process product intelligence or marketing research, they should be careful in making relevant interpretations—avoid those pitfalls underlie on error of analysis that may lead to accepting shadow of obsolescence, for example (Levitt, 2004).

A firm forging new ground against innovative competitors might place more effort in scanning the environment than a firm that is entrenched and fundamentally defending its current position (Rogers & Bamford, 2001). Also, in examining the relationship between the number of CI information topics used by small Canadian firms and their innovation performance, Tanev and Bailetti (2008) point out that most firms use CI information during the early stages of the new product's development decision process and keep to their own distinctive resources and capabilities.

CI can help to identify and track existing and potential competitive products. CI (regarding new products) can be acquired from competitors' product catalogues, user forums, commercial blogs and government regulatory websites (Strauss & Du Toit, 2010). More and more high technology firms attempt to acquire knowledge-based resources for new product development (Yang & Elsevier, 2011). Leading companies that are managing portfolios of technology and know-how includes the development of business units that are either exclusively buying and selling technology, or are combined with CI units dedicated to gathering information for their practitioners (Rouach, 2004). A comparative empirical study made by Gračanin et al. (2015) among the Serbian, U.S and Japanese firms identified that, in general, companies in Japan and USA use CI primarily for monitoring and supporting production innovations and development of new technologies. An empirical study made by Calof et al. (2018) on CI practices of European firms also revealed that innovation related intelligence topics (for making R&D decisions and new product development decisions), were frequently mentioned by respondents.

Firms which compete with high technology products are likely to need a CI function (Comai, 2004). Technology-based industries must struggle with a series of issues relative to the new product development process. Industries in which key technologies are established have (1)

sets of standards; (2) wide dissemination of knowledge; and (3) receptive markets for incrementally improved products. New industries, on the other hand, face (1) heavy development costs; (2) a need for highly specialised equipment; (3) unknown product performance outcomes; and (4) high return potential (Gersony, 1996). Thus, *innovation intelligence*, also refers to intelligent approaches for assessment of technologies according to their innovation potential to make maximum profits. Innovation intelligence is about the provision of relevant information on innovations and the evaluation of their impact on the corporation. The goal of innovation intelligence is to identify, qualify and evaluate technologies in order to develop a viable innovation strategy (Golovatchev & Budde, 2010). In explaining CIPs' capacity in bringing innovation and information processing, Li (2017) states that the intelligence personnel through communication with the research and development personnel to communicate the technical innovation process key information problem, to help researchers identify the information needs of the development process, but also to guide the competitive intelligence personnel to carry out the purpose of the collection and analysis of competitive intelligence, research and development departments to obtain information needed for technological innovation. As regard to firm's ability in rebuilding its technical capability, Yang et al. (2017) discuss that the competency dimension of R&D alliance technology competition intelligence cooperation refers to the comprehensive embodiment and reflection of all individual abilities in carrying out competitive intelligence cooperation activities.

Especially in new product development, up-to-date technological knowledge is indispensable (Song, Van der Bij & Weggeman, 2001). Innovation potential of technologies should be evaluated by considering ability for commercialisation and resistance for imitation. For winning innovation intelligence, firstly, commercial potential and imitation potential should be evaluated. Then, the outputs of the evaluation processes should be combined (fused). Therefore, an innovation intelligence process needs determinants and/or indicators of commercialisation potential and imitation potential of corresponding technologies which will be evaluated (Jackson & Sara, 2010).

The new age is characterised by a knowledge based economy and rapid technological changes. In this complex environment, technology intelligence and forecasting the future technologies are important for being proactive against the rapid technological changes and generating new innovations (Kilic et al., 2016). The key element which helps to make sound SDs in innovation-oriented firm is *technology intelligence*. "Technology Intelligence (TI) is a capability used by organisations to support the decision-making process via the collection and delivery of information about new technologies" (Mortara et al., 2009: 116). Technology

intelligence, a subset of CI, is a vital process to sustain the firm`s competitiveness (Kilic et al., 2016). Technological intelligence is a subdivision of CI covering those technical activities that are concerned with translating research findings or other scientific knowledge into devices, materials, products, processes, or services (Prior, 2009). Technology intelligence exerts a significant influence on the ability to innovate and is viewed both as a major source of competitive advantage and of new product innovation. It is important to link technology intelligence to competitive intelligence in sustaining competitiveness. Organisations that can combine customer value innovation with technology intelligence have an increased chance of enjoying sustainable growth and profit (Sande & Ragui, 2018: 291-292). Competitive technology intelligence is usually an ongoing operation, keeping organisations up to date with all the critical factors that affect the business (Mortara & Ford, 2012). Setting up a technology intelligence process aimed at identifying, prioritising and exploiting external high-potential technologies through real options reasoning facilitates open innovation and strategic decision-making, leading to competitive advantage. A well-functioning technology intelligence process, which presents multiple technologies as options on a technology radar, regularly updated and presented to top management, also leads to increased opportunity awareness. According to Li (2017), competitive intelligence system (CIS) is one of enterprise competitive intelligence products, and the construction of CIS is closely related to enterprise technological innovation.

Technology transfer involves the transfer of scientific knowledge towards practical and useful applications; or the process whereby innovations find applications in fields not originally envisaged for them (Prior, 2009). The connection between CI and technology transfer (TT) is deceptively simple: CI provides an insight to questions uncovered from the transfer of technology (Rouach, 2004). What kind of technology should the company transfers and at what moment? What type of partner should the company give the technology to? What country does the company partner with? Without a strong set of reliable information, companies cannot make good decisions, or they risk making decisions with a very high probability of failure (Rouach, 2004).

CI actions (technology intelligence) are essential for companies in order to implement a good technology transfer. With a view to shaping its future and also protecting its present against competitive threat, business intelligence is the key link between major variables of technology like transfer speed, absorption and learning capabilities, as well as relationships with the knowledge partners.

Patent search (patent mapping), reverse engineering, benchmarking and alliances (technology transfer agreements) are tools can be mentioned in technology intelligence for technology-oriented firms. Patent intelligence is defined as the use of information to identify technical capabilities of an organisation and the use of findings to develop a strategy for technical planning (Park, Kim, Choi & Yoon, 2013). Patent CI emphasises the capability to assess the company's internal and external patent landscape (Kirsch, Brown & Charley, 2006). Patents are an important source of technological intelligence that companies can use to gain strategic advantage. The ability to extract relevant information from patent literature is a crucial success factor for anyone involved in technological innovation (Singh, 2006).

Reverse engineering/teardown analysis is also taken as a CI tool for technology-oriented firms (McGonagle & Vella, 2012) and it is a common form of hands-on CI (Strauss & Du Toit, 2010). On this issue Strauss and Du Toit state that reverse engineering is a process of taking an existing product or service, breaking it down into components, parts, sub-assemblies and other products, understanding how to build it and creating a model or representation of how the production process works. CI can be acquired from competitors' product catalogues, user forums, commercial blogs and government regulatory websites. Using reverse engineering/teardown analysis, a firm acquires competitors' products, then dismantles them in an attempt to understand their components, how they were made, what manufacturing processes and equipment were involved and their quality characteristics and cost estimates. Done well, this technique helps organisations understand competitors' products and processes.

Technology-oriented firms usually do technology intelligence to identify potential partner and collaborator (Mortara & Ford, 2012) and enter into the right contract in technology transfer. Open innovation is a strategy by which companies allow a flow of knowledge across their boundaries as they look for ways to enhance their innovation capabilities. For those taking an 'open' approach (like the case conglomerate), technology intelligence can also help to identify potential partners and collaborators. CI as a whole should also help to shape the technology strategy of firms (like the case conglomerate), influencing areas such as development and technology acquisition (Mortara & Ford, 2012).

To sum up, CIPs of an innovation-oriented or a technology-oriented firm shall continuously collect different information about product characteristics such as relative product quality, product advantage/similarity, product's relative cost, innovation-marketing fit, innovation-technology fit and product newness (Voss & Voss, 2000), true customer demand/need, market potential, possible technology entrants and even the possibility of competition from 'creative

imitator'. These can be main categories from which detailed KITs are defined. Besides, in performing a competitive benchmarking effort, CIPs should make technology forecasting to guess what competitors might be able to add in the next model and may supply this intelligence to the product design team

4.5.3 Value of CI for effective benchmarking

Documented literature indicate that CI can be used to enhance the strategic benchmarking process and that some aspects of quality benchmarking are actually impossible without employing CI (Kruger, 2003). Benchmarking and CI can be very beneficial to companies by allowing them to gather enough information from the larger company to learn from their failures as well as their successes. This allows these companies to adopt what works well and avoid what does not, eliminating the chances of serious and expensive mistakes.

External benchmarking: From the external side of the business unit, a focus (through a benchmarking exercise) must be done to those best-in-world competitors, to enhance its internal processes. These is those processes which the business unit wants to improve should be the subject of this analysis (comparison). Once the comparison is performed, the improvement opportunities should arise pointing out what needs to be amended (Campos, 2006). Thus, firms must use competitive intelligence to compare themselves to other organisations, thus enabling them to make more informed decisions (University of Angers, 2009). CI can be used to find out the best performing organisation, competitors and every spectrum of best activities and best practices (including an exemplar from organisation structure of a competitor or another organisation for use) competitive environment, different industries and firms in other markets. In other words, CI helps first to isolate performance gaps in relation to the competition and then the necessary possible decision to compete in the dynamic market.

Benchmarking, competitor benchmarking and organisational learning: Benchmarking is the process of comparing a company's business processes against identified competitors or top performing organisations in order to find areas of improvement (Nikolaos & Evangelia, 2012). Benchmarking involves management identifying the best companies in their industry (or any other industry where similar processes exist) and comparing the results and processes of those studied to one's own results. In addition, benchmarking enables a company to learn how well its rivals perform (Nikolaos & Evangelia, 2012).

One of the major functions of CI is benchmarking that can be gained from best performing competitors. "Benchmarking the competition should be done frequently to understand what

other competitors are offering vs what your company is offering to the market. The service and solution product line-up can be the difference between being number 1 in the market or falling to last place" (Johns & Van Doren, 2010: 561-562). By developing data needed to effectively identify, classify and track competitors and their behaviour, for example, a company can begin to look for points of comparison regarding its strengths and weaknesses versus its competitors (Bose, 2008). A more informal approach to benchmarking is simply to use competitor's product and service. Competitive benchmarking and analysis of competitor's products and services can also yield important information about quality and costs (White, 1998). The challenge for businesses embracing benchmarking revolves around their ability to develop a learning culture that goes beyond the imitation of existing best practice by developing new ideas and processes to improve efficiency and enhance quality, as well as striving to improve upon the practices of competitors (Pemberton, Stonehouse & Yarrow, 2001). However, the enhanced learning and knowledge accrued in the benchmarking process results in improved products, processes and, ultimately, performance (Pemberton et al., 2001).

Benchmarking supply chain: Benchmarking the competition should be done frequently to understand what other competitors are offering vs what a benchmarking company is offering to the market (Johns & Van Doren, 2010: 561-562) and how they are offering using distribution channels. Benchmarking can also help the company identify ways to improve its supply chain and heighten barriers to competitive inroads. Some key metrics to investigate include order-to-delivery cycle times, vendor response time to rush orders and accuracy of delivery information (Wilkins, 2007). Furthermore, by using CI, thus, a conglomerate can find out alternative activities, select suitable activities and customise them to integrate its SBUs activity to create more value or reduce differentiation costs of different product lines and business portfolio.

International benchmarking: International benchmarking is an analytical tool and process for rigorously measuring a company's operations vs. the best-in-class companies from around the world. Insights generated by the benchmarking process allow companies to identify and implement specific actions needed to close the gap between themselves and the best-in-class (Bruder, 1992).

From preliminary investigation, it is possible to learn that the conglomerate too employs benchmarking. For its Automotive Industry, the conglomerate benchmarks and customises process and technology of Toyota from Japan.

Special note on benchmarking in Japanese companies: Of all the countries in the world, Japan is by far the most advanced at benchmarking. In the past, benchmarking was an important part of CI activity in Japanese companies and involved learning, analysing, modifying and adopting the successful strategies of Western companies to narrow the technology gap following World War II (Nakagawa, 1993).

As noted by Fleisher and Wright (2009), CI is a secret activity in Japan and benchmarking was used to narrow the technology gap between the West and Japan during World War II. As also reported by Ikeya and Ishikawa (2001), Japanese companies started to apply the benchmarking concept of learning, analysing, modifying and adopting the practices of other nation-states. Japanese companies have sent numerous missions to study leading business practice in other countries and their leaders believed that the acquisition of information through intelligence work would improve the nation's standing (Fleisher & Wright, 2009; Ikeya & Ishikawa, 2001; Nakagawa, 1993).

Counter intelligence in benchmarking: Because of their benchmarking experience from the American companies and their appreciation of the benefits of the benchmarking process, Japanese companies are particularly reluctant to share valuable benchmarking information. In fact, some companies may set up disinformation campaigns to confuse competitors.

Benchmarking from SBUs (internal benchmarking): Benchmarking can also be employed from within. If a firm is a large conglomerate, for example, it might have numerous divisions. Perhaps one of these subsidiaries is very successful in a particular area; under these circumstances, its performance may provide a useful benchmark by which the performance of other corporate divisions can be judged. If this is true, the organisation can quickly gain access to a wide array of proprietary information as well as the cooperation of those who have developed the effective techniques in question (Walle III, 2001).

Creative approaches to generating new organisational knowledge are dependent upon organisational learning accompanying benchmarking. Clearly, this depends upon benchmarking taking place in an organisational context that promotes learning. In reality, an organisational culture that promotes a shared vision and clear goals encourages creative thinking and sharing of ideas is more conducive to organisational learning. Murphy (2005) put:

> *The involvement of the CI function in benchmarking varies enormously between companies. In Procter and Gamble the director of corporate competitive analysis organises the firm's benchmarking activities aimed at increasing the speed with which new products are brought to market and that P&G internal business processes are nimble and yield good value for what is spent on them. The Motorola intelligence department 'engages in some formal benchmarking for the company. They are not the benchmarkers for the company, but they do very special benchmarking when they have identified a certain target. Other firms create teams drawn from one functional group or made up of staff chosen from several functional areas. Some involve CI people either as part of the team or to help choose which firms the enterprise should benchmark itself against. A number of businesses hire external consultants to conduct a study or contribute to one undertaken by an in-house working party. Whatever approach to benchmarking is adopted, the CI unit should get hold of the results of these studies and sift them for clues as to wider competitive issues than those directly addressed in them.* (Murphy, 2005: 212)

4.5.4 Value of CI for partnership, strategic alliance and coopetition

Joint ventures, corporate alliances, mergers and acquisitions, technology transfers and licensing and even consortia participation between otherwise distinct and separate firms, sometimes even competitors, are the single most important strategic use of business strategy in business today. Alliances may be more useful at the cutting edge of the learning agenda, to access and internationalise technologies and know-how that are embedded, largely tacit, uncodified and thus difficult to access via contractual approaches that do not involve a close collaboration between the partners. For instance, in Malaysian companies, CI to select strategic alliance was rated as second highest in importance. (Yap & Rashid, 2011)

According to Newman and Chaharbaghi (1996), alliances can be classified into the following five types: licensing agreements, research or development agreements, technology transfer or system integration, marketing or distribution agreements and manufacturing.

CI for partnership/alliance selection: Partner intelligence involves monitoring the activities of a company's major suppliers and strategic partners. This keeps the company abreast of any trends that may negatively affect it down the road—and allows it to take action. Informed by the strategic management, strategic alliance can employ the following four partner selection key steps: (1) aligning corporate and strategic alliance objectives; (2) developing appropriate sets of critical success factors against which to evaluate potential alliance activities; (3) mapping potential partner industries, industry-segments and firms; and (4) using a dynamic partner selection analysis tool to evaluate the potential of various targets (Holmberg & Cummings, 2009).

Finding the right partner is one of the most important success factors of a strategic alliance. Any collaboration begins with the need to analyse potential partners, as realising the potential benefits of an alliance will depend on the selection of appropriate partners (Holmberg & Cummings, 2009). The first step in finding a partner with complementary skills is to undertake a thorough search. This is the most important, though often overlooked, aspect to creating a thriving strategic alliance. Most firms spend too little time looking for an appropriate partner. The basis of review should include an examination of skills, technologies and markets. Experience, capabilities and potential for making a real contribution are important criteria for partner selection (Brouthers, Brouthers & Wilkinson, 1995), which are thus, can be taken as KITs for effective strategic alliance agreement. Thus, CI practitioners at the strategic level have a new set of responsibilities for their organisations—helping to leverage the core strengths of the firm in partnership with others to create value for a long-term competitive advantage in the marketplace (and their profits) (Johnson, 2001).

The partner selection analysis should focus on fundamental, strategic and cultural fits. Past performance and participation in previous alliances are good sources for information on cultural beliefs. Personal visits to corporate headquarters and plant sites are also an effective means of measuring cultural wants and desires (sources of intelligence) (Brouthers et al., 1995).

CI during coopetition: Coopetition is an alternative to competition and cooperation. To put it in another way, *coopetition* is about the art to combine competition and cooperation (Kossou, 2009). Thompson (1967, cited in Hoskisson et al., 1999) first introduced the notion of cooperative and competitive strategies and coalition formation, a forerunner of network and strategic alliance strategies. While most firms compete for information, knowledge, technology, markets, customers and for many other resources, many of the same firms may enter into coopetition (i.e., collaborators in consortia and in alliances of various forms) (Prahalad & Hamel, 1994).

There is link between coopetition strategy and CI (Kossou, 2009). CI is one alternative solution among others for effective coopetition strategy because CI empowers the alliance to reach new levels of intelligence. Coopetition fosters inter-and intra-firm information and knowledge sharing. On the occasion of inter-firm cooperation, coopetition intensifies the inter- and intra-organisational sharing of information and knowledge, insomuch that it disrupts the information flows and the decision-making process. CI prevents disruption by acting as a management tool for inter- and intra-organisational sharing (Kossou, 2009).

Regarding CIPs, Trim (2004) mentions that corporate intelligence staff are called upon to advise senior staff throughout the organisation on matters relating to how best to negotiate strategic alliance partnerships with individuals or companies from different countries and cultural backgrounds; and how to lobby effectively various government representatives.

4.5.5 Value of CI for mergers and acquisitions

Companies involved in merger and acquisition deals are up against a fundamental problem when negotiating. Information is asymmetrical, that is unequally divided between buyer and seller. There are two, parallel outcomes. One, the buyer is likely to make an adverse selection. Two, the seller cannot reveal all his information and true value—he has a 'credible signalling problem'. Information asymmetries are endemic to merger and acquisition negotiations. Adverse selection and credible signalling problems are not a sign of failure but, rather, a consequence of the fundamental structure of the negotiation problem. When information asymmetry is especially severe, a joint venture may be a superior mechanism for combining assets (Holmberg & Cummings, 2009).

CI in mergers and acquisitions: When considering a merger or the purchase of a business, a thorough review and verification of all relevant information regarding the other business is a valuable part of the due diligence process (a process element of merger). Traditional M&A activity is focused on two areas of responsibility in most firms: legal and finance to evaluate, negotiate, consummate and integrate such deals. CI can play a crucial role here by providing information on finding potential alternatives in finding companies for mergers and acquisitions (M&As). This might prevent executives from automatically assuming that M&As are the only solutions worth considering. CI can be used to explore the nature of both the business and the market that the acquirer is looking to enter. Trend tracking needs to monitor the impact of not only product changes but also organisational changes such as future mergers and dissolutions (Sewdass & Du Toit, 2014). With regard to CI collection for M&A, according to Johnson (2015), the intelligence process may involve Delphi technique, compilation of CI, traders, sales, marketing and consultants, criteria matching and preliminary analysis on products, financial issue and strategy and auditing and actual visit examination. Candidate criteria, candidate list, company overview (SWOT), company report (checklist) and different support references shall be consulted in the process.

Taken together, the benefits to involving the intelligence team in M&A activities extend to both the firm as well as the intelligence team itself—from reducing costs to the firm and providing for a front-end process and continuous scanning resource, to helping extend the

visibility and importance of intelligence services into high-impact activities with a tangible, value-adding means of realising return-on-investment (Johnson, 2015).

According to Lisle and Bartlam (1999), CI should also be used in the process of merger and acquisition decisions, from initiation through negotiation and integration phases. CI could be used in the pre-acquisition or per-merger planning stage in order to determine and/or improve the chances of success in this transaction (Fleisher & Blenkhorn, 2001). CI can also be used in identifying suitable target companies. As defined by Lisle and Bartlam (1999), CI as a "search and screen process," can be put to use to search for targets that meet very specifically defined criteria.

Arik Johnson (2015) illustrated the role of CI in the M&A process such as setting relationship criteria, identifying targets, evaluating and analysing the acquisitions, making analysis on due diligence and negotiating consummation integration. During negotiation, consummation and integration, intelligence shall be there to assist as the project is passed to M&A specialists by helping with negotiation strategy and support, testing of assumptions and monitoring of directional changes. From the perspective of the intelligence team at this point, the acquisition is considered "complete" and the analyst group can move on to the next project (Johnson, 2015).

Lisle and Bartlam (1999) also contend that that there are subjective intangibles that are often hidden during the diligence that often become huge obstacles during the integration phase. Intelligence is used at the front-end for more than just early due diligence—it can also uncover assumptive starts (as well as surprising revelations) and provide a guide for deeper research later on. This includes financial, marketing, technical, product and production or manufacturing information as well as evaluation of strategic fit and venture benefits (advantages and disadvantages), product/service line, review of product life cycles (PLC) and market share/position as well as other market forces.

At all levels, from pre-acquisition candidate screening to integration of the two enterprises, intelligence is necessary to support the decisions that are usually very non-analytical decision-making process in most acquiring (and acquired) firms. An added advantage to using a CI professional for ranking potential M&A candidate is that possible targets can be approached anonymously" (Fleisher & Blenkhorn, 2001). However, one of the most important priorities for intelligence to be involved are in the evaluation of risks and potential mistakes in executing the deal and a forecast of the likely situation as it might exist in the future.

Practical values of merger, acquisition and divestiture information: As per the study conducted by APQC (2003), CI in many companies played a large role in helping organisations select merger partners. CI's important role in understanding today's industry dynamics and in analysing potential alliance or merger partners was one of the reasons why the function had taken on such an enduring position at BP. That was why the function was linked to executive-level and business-unit-level SD making.

> *The years 1998 through 2000 BP saw diminishing returns from alliances, as organisations in the industry continued to experience pressures to increase rates of return while struggling for physical growth. CI had played important role in understanding industry dynamics and in analysing potential alliance or merger partners is one of the reasons why the function has taken on such an enduring position at BP and also explains why the function is linked to executive-level and business-unit-level strategic decision-making… The CI team at BP for example is involved in every corporate-shaping activity, from mergers and acquisition activity to capturing promised synergies to BP's involvement in climate-change initiatives* (APQC, 2003: 59, 67).

> ***Missed CI function:*** *When the ML Sultan and Natal Technikons merged in 2002, neither party was aware of the working conditions in the other party's ranks, neither were they aware of the disparities that existed in employee ranks, salaries and other employee benefits. Had either of the parties engaged in CI, these issues would have been pre-empted and solutions would have been in place to address them when the merger took place. Instead these issues raised themselves in the media painting a poor public image of the merged institution.* (Sewlal, 2004: 5)

To conclude, CI units or CIPs need to be involved in all the steps in the M&A process including setting of criteria for selection/relationship, scanning, searching and identifying targets, evaluating and analysing, in due diligence and recommending, negotiating consummating and integration of mergers and acquisitions. Thus, those companies which decide on CI and public information should make 'due diligence' carefully because decision at this stage of the M&A process is very risky. Good M&A specialists (CIPs) try to build an understanding of technical capabilities and opportunities, industry trends if they are unfamiliar, customer and supply chains, potential risks on the downside and summary estimates of the costs and benefits of the deal.

4.5.6 Value of CI for successful negotiation, licensing and contracting

Generally, the CI that is collected and the knowledge acquired both on the elements of negotiation, collaboration, networking, competition, cooperation or coopetition is used to gain and maintain competitive advantage (Bose, 2008). Here CI professionals (CIPs) cannot sit comfortably considering this non-competition like agreement between their firm and other competing firms or suppliers. CIPs need to support decision-makers, both before and after

such contractual arrangement. Before, contracts, CIPs may gather terms of negotiations, bargaining power of contracting bodies (including their firm), requirements and advantages of entering into contracts or businesses such as mergers, collaborations or partnerships. In subsequent times in carrying out contracts/business, CIPs should keep their eyes on both parties about performance of their obligations and look for relevant or other points or products for competition/coopetition. For example, a company may have a strong relation with a supplier for a certain product, while for the rest of the products the suppliers must compete strongly (Kemp, 2006).

To conclude from an empirical study, a statistical majority of relationships between distinct firms on mergers and acquisitions, joint ventures, corporate alliances, technology transfers and licensing, consortia participation, coopetition ultimately fail to produce the value once envisioned by their strategists. But by adding their unique appreciation for long-range competitive advantage to the skills of financial and legal priorities, CI practitioners at the strategic level have a new set of responsibilities for their organisations–helping to leverage the core strengths of the firm in partnership with others to create value for shareholders and long-term competitive advantage in the marketplace (Ding, 2009).

4.5.7 Value of CI for value chain strategy

Value chain comprises all the activities an organisation needs to undertake in order to create or add value to its products or services (Prior, 2009). It includes design, production, marketing, delivery and customer support. Alternatively, a value chain consists of a group of enterprises cooperating to progressively add value to a product or suite of products in response to market opportunities (Prior, 2009). Taking a value chain approach into account necessitates understanding of a market system in its totality: the firms that operate within an industry—from input suppliers to end market buyers; the support markets that provide technical, business and financial services to the industry; and the business environment in which the industry operates. According to Gebremedhin (2012), value chains are also the conduits through which finance (revenues, credit and working capital) moves from consumers to producers; technologies are disseminated among producers, traders, processors and transporters; information on customer demand preferences are transmitted from consumers to producers and processors and other service providers.

4.5.7.1 CI for value chain analysis

Value chain analysis (VCA) is used by organisations to develop an understanding of the sources of competitive advantage in a particular industry, as well as to assess their own unique competitive position in providing customer value.

Value chain analysis itself is recommended by many scholars as a tool/technique for developing CI and then making strategic decisions (Li, 2017; Calof et al. (2018); Johri & Aggarwal, 2016; Nenzhelele, 2015; Sjöblom, 2015; Asgedom, 2013; Kruger, 2010; Sewdass, 2009; Rivera et al., 2009; Bose, 2008; Bose, 2008; Fleisher & Bensoussen, 2003; Betz, 2001; Dugal, 1998). For example, the value chain can be a useful CI programme implementation framework for disaggregating a firm into distinct activities in order to identify: factors that determine the costs of performing different activities and their relative importance; why a firm's costs differ from those of its competitors and vice versa; efficiently or inefficiently; how costs in one activity influence costs in another activity; and which activities a firm or its competitors should undertake itself and which activities it should contract out (Institute of Management Accountants, 1996b). Similarly, in a study made on one of the sub-cases of this study, Asgedom (2013) states value chain analysis as it is a continuous process of gathering, evaluating and communicating information for business decision making. "By stimulating strategic thinking, the analysis helps managers to envision the company's future and implement decisions to gain competitive advantage" (Asgedom, 2013: 40).

Vertical strategic alliances can be formed with suppliers or customers in several value chain activities (Bronder & Pritzl, 1992). Firms which are less integrated vertically are likely to need a CI function. Vertical integration represents the level of power in the entire value chain. Integrated companies tend to build a better manageable environment around them and therefore have a better control not only with regard to the process but also with regard to information (Comai, 2004: 406). Fuld (1995) considers that highly integrated firms will control contacts and sources of information on supply and distribution.

Organisations use several CI techniques to help them determine how they are delivering customer value relative to their competitors. Customer value analysis; value chain analysis; and competitive benchmarking are techniques of VCA used by companies. Competitive information from every unit or person of the organisation about the overall operation, resources, company knowledge and competitiveness of the firm or strategic business unit or corporation is taken as a source of intelligence that can enhance the value chain. For example, according to Campos (2006), sharing among SBUs will significantly enhance differentiation

if it involves an activity important to differentiation in which sharing either increases the uniqueness of the activity or reduces the cost of being unique.

Today many businesses share key data also with their suppliers so that their suppliers can anticipate present and future inventory levels and make adjustments, which inevitably help the businesses. Sharing information is key and being able to gather information and sharing appropriate information is where business intelligence is important. Although it was a discontinued activity, there was also a practice of organising idea sharing forum in the case conglomerate with supplier and value chain actors in the earlier years of its establishment.

4.5.7.2 CI for supply chain analysis

The key to strategic supply chain management (SCM) is the information flows associated with inter-organisational communications. As a result, a core issue is the effective management of information, both in the form of information flows that permit fast inter-organisational transactions between supply chain partners and in the form of information accumulated, coded and stored in databases (Peat, 2002).

Supply chain competitive intelligence is the process of applying the discipline and ethics of CI to the operations of a global supply chain (Wilkins, 2007). As applied to the supply chain, CI is the art of acquiring, presenting, analysing and refining knowledge about the competition's supply chains and then reaching actionable conclusions about improving the company's (Wilkins, 2007). Strategic intelligence provides a broader view of CI on the dynamic relationship of supply chain integration for facilitating better business decisions. It reaches beyond an organisation's internal processes and external environment to include supply chain (Jaharuddin, 2014; Jaharuddin, Mohamed & Sambasivan, 2014).

Supply chain intelligence is based on extracting and generating intelligent and meaningful information for decision-makers from the enormous amounts of data generated and captured by supply chain management (SCM) systems. Data collected across the supply chain is analysed and the result from the analysis can be turned into strategic information for the organisation. Strategic information on supply chain networks can be provided to decision-makers in order to strategise and reconfigure supply chain networks (Vaidyanathan & Sabbaghi, 2010).

All parties involved in the supply chain, for example, can be powerful sources of useful CI data. Strategic intelligence solutions turn data into information and knowledge, enabling

companies to develop unique demand, supply, operational and customer insights. This results in improved efficiency and effectiveness in firms. Strategic intelligence enables companies to anticipate customer demand, gain financial insights across the extended supply chain network, improve product quality, optimise supply chain strategies, leverage existing information systems and above all, create value for all who participate in supply chain (Vaidyanathan & Sabbaghi, 2010).

In their study of supply chain integration, Krishnapriya and Baral (2014), identified four constructs that could represent organisational competencies, namely cross-functional information sharing, intra-organisational knowledge sharing, participative culture and learning orientation. Therefore, organisational core competencies should be disseminated to the entire organisation for its competitive advantage, which readily allocates resources to build individual competencies required for achieving successful supply chain performance.

4.6 Positioning CI in the conglomerate structure

In this section, attempt is made how CI is positioned in conglomerate that has many SBUs. Attempt is also made to show the alternative structures (for CI) in large corporations which have many division/subsidiaries/SBUs.

In order to decide on the location of CI in a conglomerate or multi-business company, it is essential to recognise the value of CI for each subsidiary or SBU.

4.6.1 Value of CI for SBU

CI needs to each SBU: Commonly, each business unit operates in different market. Competitive intelligence models recognise that the best place to take ownership of its application is within the business unit. Information and intelligence need to be applied within a specific business context. Thus, each SBU has unique information needs. Furthermore, each business unit has a different operational focus and therefore unique information support needs. The business units therefore also have a responsibility to source, analyse and disseminate information pertaining to their own area. Both internal and external environments of the firm (or strategic business unit) are necessary and deserve competitive information/intelligence analysis in order to find suitable strategies for each firm of different size, type and resource and benefit from the acquired strategic advantage. For instance, research and development business units require technical and patent information, while sales and support business units require competitor and/or market-driven intelligence. This makes decentralising the CI effort a very challenging and resource-intensive undertaking. It often

requires hiring dedicated CI support staff with industry and operational experience to support key business units (Nenzhelele, 2012).

CI and industry context and specific strategies: An important input to an organisation into the design of its CI programme is a thorough understanding of the respective industry. The organisation needs to map out and understand the forces driving change within its industry. Not only will the organisation need a solid understanding of its industry, it will also need a very detailed understanding of itself (Bose, 2008). For example, competitor intelligence is most often used by strategic planning operations or by operating managers within strategic business units (SBUs). It may also be useful to product managers, as well as to those involved with product development, new business development and mergers and acquisitions (McGonagle & Vella, 2012).

CI and SBU's growth stage: Every organisation and its component parts are at different stages of development. At each phase, the need for information and the consideration of strategic assumptions are essential for SDM and analysing strategic issues (Greiner, 1998). More specifically, the product-life cycle also applies in CI which is influenced by where one stands within the product life cycle. When new products are being developed and not yet marketed, CI will focus on the marketplace. Once the product is introduced and placed on the market, CI will shift its emphasis to the customer. As the products gain market attention, the emphasis shifts to the competition (Mugo, Wanjau & Ayodo, 2012).

The industries (or SBUs) of the case conglomerate are also found in different growth stages. This can be easily understood from their origin of formation. While a few are new, the rest have more than three decades of establishment.

4.6.2 Centralisation of CI

4.6.2.1 Centralised CI system

Centralised intelligence systems start with the premise where strategic needs dominate and decisions regarding strategy are made by corporate decision-makers. As a result, these systems tend to stand alone, relying on informational and analytic inputs from throughout the enterprise (Miller 2000). A centralised system reduces redundancy and makes it easier for the data to be assembled and shared since all divisions transmit their information to a single organising unit (Farrell, 2007).

Central control and governance are essential in terms of providing policies, procedures, guidelines and standards for the process (Fouche, 2006). According to Fouche, responsibilities and roles (in sourcing, processing, interpreting and reporting CI) of CI champions in SBUs and the CI Centre should be clearly stated in the Governance and Policy Manual of the Company. Guideline information should cover a wide range of resources, ranging from ethical CI policies to analytical frameworks and methodology, internal points of contact and resources available to assist customers with their respective information needs. These guidelines should be created and disseminated by corporate CI professionals and made available across business units.

4.6.2.2 Decentralised CI system

A decentralised structure is one in which an organisation uses a distributed network to maintain its CI function (Jin, 2008). Decentralised systems tend to consist of multiple intelligence staffs proliferated throughout the enterprise. As cited in Du Toit and Muller (2004: 6), Miller (2000) says that decentralised systems almost exclusively serve tactical intelligence requirements and rarely provide intelligence to senior management. Du Toit and Muller (2004) add that they may or may not be accompanied by a separate, smaller corporate intelligence staff. When such a staff exists, its primary responsibility is usually to coordinate intelligence activity among the other intelligence units (Du Toit & Muller, 2004).

In decentralised organisational structure, CI operates as a fragmented operation, which would be carried out by each functional department within the organisation thus servicing their department's needs exclusively. For example, market research will conduct market studies for the sales and marketing department and the research and development (R&D) department will stay abreast of happenings that affect it (Gilad & Gilad, 1988). Decentralised CI requires a grassroots approach because each SBU may have unique collection and analytical requirements. Collecting and analysing information on behalf of the business units can present a number of challenges which include availability and reliability of data available in the local markets (particularly for emerging markets based-business units); language barriers and data interpretation challenges, particularly when trying to reconcile locally collected data with corporate data and/or strategic assumptions made at the corporate level; scarcity and motivation of resources to assist with the collection and the analysis of intelligence (Williams, 2002).

In the illustration of Gilad and Gilad (1988) 'decentralised approach', the corporate CI unit performs direct CI collection, evaluation, analysis and centralised CI storage for intelligence

that will be received from the different CI collection networks of the divisions The networking and dissemination of CI is made between the central CI unit and network of divisions. Here, the CI unit also plays a CI coordination role. Attending key staff meetings to promote the role of CI in the organisation and defining the key information requirements of business unit professionals are critical to the development of a decentralised CI function in the organisation.

Digital technology enables more and more enterprises to adopt decentralised systems. A huge benefit of this structure, according to Kahaner (1997), is that decentralised systems allow for easier communication information through dependence on interpersonal networking and spontaneous team building (Begg, 2007).

In the end, CI remains a people-focused discipline and the success in implementing a decentralised CI function is directly linked to company's ability to establish credibility and reciprocity with professionals in the business units it is serving (Williams, 2002).

4.6.2.3 Hybrid CI system

Hybrid systems combine attributes of both centralised and decentralised systems.

Best CI practice suggests a central place within the company for the exaction of the CI effort (Farrell, 2007). With regard to competitor intelligence, Fuld (1995) was in the same vein with Farrell. When he said that it is not practical to centralise the competitor information system, but to decentralise the system so that individuals within the company control the flow and largely store the information since company experts are literally everywhere in the company: in the field, the shop floor and the customer service departments. It is therefore essential that the CI manager coordinate the information flow to avoid creating a bottleneck by centralising it.

As cited in Du Toit and Muller (2004: 6), Miller (2000) says that in the hybrid form of CI structuring, intelligence methodologies for the collection and analysis of information are fairly consistent throughout the enterprise and the number and type of intelligence products are equally uniform.

A case study conducted by Fouche (2006) was on a company in the financial sector (in South Africa), which was in the process of implementing a companywide CI programme across a number of business units and support functions. According to Fouche's study, a centralised control and coordination while leveraging from the total (decentralised) capability of the

company allows the company to use a hybrid model. According to this study, this model ensures a focused effort making CI as an integral part of the decision-making process within business; decision-makers' requirements are met; and easier communication with users. Moreover, the hybrid model provides a capability to leverage resources and skills throughout the enterprise; provides a 'face' to the CI function throughout the company; and makes provision for formalised standard procedures and formats (Fouche, 2006: 108-109).

The hybrid model emphasises decentralised conduct of CI but with central control and coordination. The main consideration leading to this model was to maintain the expertise situated within the various support functions and business units but ensure, through central control, an enterprise focus and a capability to leverage all resources and skills within the enterprise (Fouche, 2006: 100-110).

Summary for CI centralisation: Should CI be centralised? Should CI be dispersed throughout the organisation? An additional practical remark concerns the position of the CI function within the organisation. "While some companies have a centralised and corporate-located CI function, other firms have decentralised and SBU-focused systems" (Comai, 2016: 235). Information and intelligence need to be applied within a specific business context; the competitive intelligence models recognise that the best place to take ownership of its application is within the business unit. The business units therefore also have a responsibility to source, analyse and disseminate information pertaining to their own area. If business units are mostly autonomous, with different needs, different products and a different customer base, a decentralised CI function will probably be most appropriate and effective (Prescott & Miller, 2001). On the other hand, "… if most of the strategy, planning and tactics come from corporate headquarters, centralising the CI function is the correct approach. Moreover, the type of business a firm may operate is also related to the type of CI function. For instance, the degree to which a CI programme is centralised will depend on the resources, which can be shared across the business" (Prescott, 2001: 6).

The most likely CI organisation would be a hybrid of centralised and decentralised staff functions (Prescott and Miller, 2001). Regardless of where a company's CI function falls in this spectrum, ensuring the coordination between strategic and tactical intelligence is vital for enduring success (Barnes & Deans, 2007).

Generally, a degree of centralisation is recommended as a CI function could then gain an overall view of the business operations (Prescott, 1999). The ideal structure is a strong empowered centralised structure with function or specific groups more closely aligned to

those functional teams (De Pelsmacker et al., 2005). The conclusion provided for big companies is a decentralised but centrally coordinated CI function, activities and/or structure. Best practices indicate a formal but decentralised structure to have the most advantages (Kruger, 2010; Bose, 2008; Farrell, 2007).

4.6.3 Structuring and integrating CI in a conglomerate

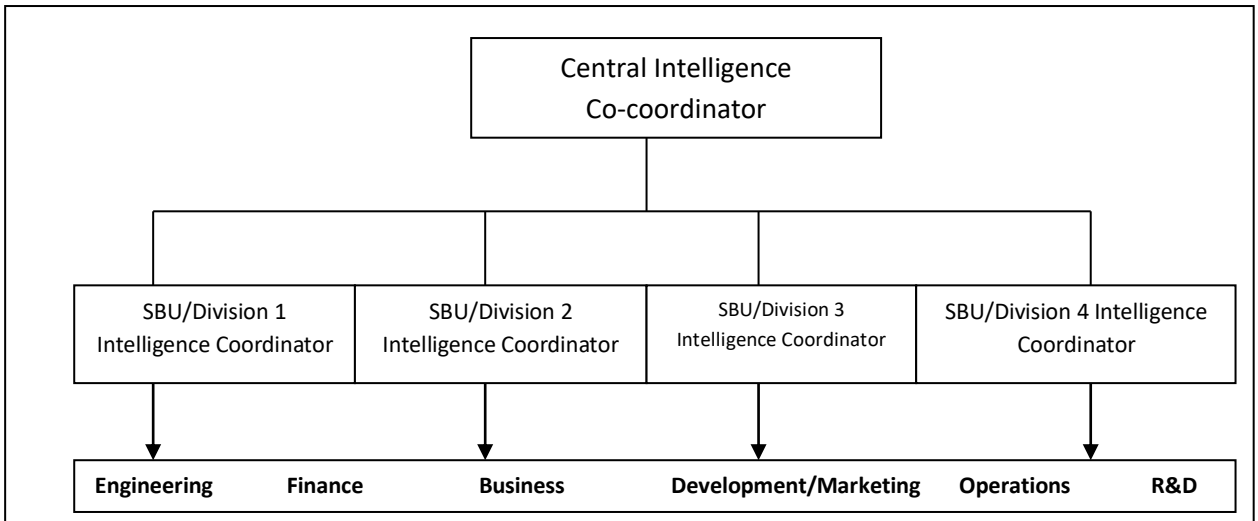
Taking into considerations the nature of the case company (conglomerate), it is necessary to see a few options how different big companies structure their CI activities in their SBUs and headquarter from empirical-practical findings.

4.6.3.1 Centralising and coordinating CI in a company with many SBUs

A central coordinating unit structure: A conglomerate may have many CI units distributed in its each SBU. Similarly, several intelligence units are likely if an enterprise has strong needs for both strategic and tactical intelligence (Du Toit & Muller, 2004).

The CI system must be able to serve senior managers at corporate, business and divisional/regional levels (Farrell, 2007). Thus, there should be a dedicated CI unit as a central coordinating point for receiving competitive information and disseminate intelligence in the organisation (Fouche, 2006: 19-20). This CI structuring model recognises that the best place to take ownership of CI application is within the business unit. The business units therefore also have a responsibility to source, analyse and disseminate information pertaining to their own area. To coordinate this function within the team and to ensure accountability, a CI champion is assigned within each business unit. The responsibilities of such a champion relates to the co-ordination of the CI system within the Business Unit (BU) and the conduct of CI pertaining to the BU (Fouche, 2006).

In applying a central CI coordination unit, the intelligence coordinator has a multi-function role. It may include acting as a catalyst (a change agent) in the development of the organisation-wide intelligence system; coordinating 'network' issues; directing and monitoring the intelligence function; ensuring that the intelligence needs of the CEO and other senior managers are being met; providing centralised resources (e.g. external research and consulting firms); and training of intelligence personnel (Bernhardt, 1994). Figure 4.1 on the next page is a simplified illustration of how the intelligence function in a company, which has many subsidiaries, might be organised.



(Source: Kirk Tyson International, Business Intelligence Seminar, cited in Bernhardt, 1994: No Page)

Figure 4.1 The Competitive Intelligence Function (in a company with many SBUs)

CI group structure: Bohn (1994) identified a CI group structure in one of his case companies. The case company maintained a corporate level CI team with no team dedicated to supporting the CI needs at a Line of Business (LOB) or Business Unit (BU) level. A formal group had existed for one to three years with between one and five CI practitioners, which translated into roughly 0.1% of the employee population. CI representation existed only to the manager level in the corporate hierarchy, servicing the needs of everyone up to and including the manager level with whom they had a 'Reasonable' rapport.

Federation-type of business intelligence organisation in a conglomerate: According to Eckerson (2011), the impact of organisational models (conglomerate, cooperative and centralised) on business intelligence (BI) development showing how two companies (Harley-Davidson and Dell) migrated across this spectrum and its impact on their BI architectures and organisations.

In a cooperative model of Eckerson (2011), the business units sell similar–but distinct– products, business units must work synergistically to optimise sales across an overlapping customer base. In some organisations, like Dell, a shared platform model was used in central BI operations to improve information integrity and consistency and squeeze all redundancies and costs out of the BI pipeline. Here, the corporate BI team manages the entire BI stack and creates tailored reports for each business unit based on requirements.

Since the concern of this study is on conglomerate business type, it is necessary to review the first model.

Conglomerate–shared data centre and BI structure: In a conglomerate model, business units have almost complete autonomy to design and manage their own operations. Consequently, business units also typically own the entire BI stack, including the data sources, which are operational systems unique to the business unit. The business units populate their own data warehouses and marts using their own ETL tools and business rules. They purchase their own BI tools, hire their own BI developers and develop their own reports. The only thing that corporate manages is a data centre that houses business unit machines and delivers economies of scale in data processing.

Typically, most databases and servers that power operational and analytical systems run in a corporate data centre. Federation is the most pervasive BI architectural model, largely because most organisations cycle between centralised and decentralised organisational models. Federation also does the best job of balancing the dual need for enterprise standards and local control. Federation BI structure provides enough uniform data and systems to keep the BI environment from splintering into a thousand pieces, preserving an enterprise view critical to top executives. But it also gives business units enough autonomy to deploy applications they need without delay or IT intervention. Along the way, it minimises BI overhead and redundancy, saving costs through economies of scale. It is essential however to allocate responsibility for various parts of a BI architecture between corporate and business unit teams (Eckerson, 2011).

IT structural alignment: The extant literature implicitly assumes that IT strategy is aligned with a single business strategy at a single point in time. However, multi-business organisations present a particular alignment challenge because business strategies are developed at the corporate level, within individual SBUs and across the corporate investment cycle (Reynolds & Yetton, 2015). "The coordination of corporate and SBU capabilities is equally relevant in the IT domain" (Reynolds et al., 2010: 4). However, the level of centralised or decentralised decision-making is contingent on the corporate strategy. If the corporate strategy emphasises synergies across SBUs, there will be more shared IT capabilities and decisions taken at corporate level (centralised). If the corporate strategy emphasises individual SBU autonomy, there will be more individual SBU IT capabilities and more decisions made within SBUs (decentralised). Research conducted by Järvinen (2014) emphasises the importance of strategic alignment, business orientation and continuous information sharing in reaching consensus in BI development.

In situations where business strategies are different at the corporate and SBU levels, the knowledge of how to achieve and maintain IT alignment is likely to be shared across the

organisation. This is more likely to reflect the fact that corporate units endeavour to build synergies across SBUs in order to minimise IT duplication, increase IT standardisation and achieve economies of scale (Queiroz, Coltman, Tallon, Sharma & Reynolds, 2018).

There shall exist both functional and structural alignment in multi-business companies. In these companies, the rights over IT strategy decisions can be allocated to two different levels in the organisation, with decisions over the organisation's IT platform strategy made at the corporate level and decisions over an SBU's IT application portfolio strategy made within each SBU. "This partitions IT strategies between those providing organisation-wide shared IT services based on the corporate IT platform and those shaping an individual SBU IT application portfolio to compete in its own specific market" (Reynolds & Yetton, 2015: 107). Järvinen (2014) also says the following:

> *In order to get BI strategy, the momentum it needs for it to be adopted across an organisation, the organisation needs to understand how strategic alignment is created and sustained and what are the different viewpoints that should be taken into account in the process. In related vein, changes in business strategy create information needs, which in turn can lead to changes in information management and finally in IT architecture*. (Järvinen, 2014: 21)

A case study conducted by Salminen (2017) on agile development of CI was made on a similar case to this study's case company. The case company selected by Salminen was involved in multiple different business areas some of which are further divided into business units. The company structure was fairly complex, which complicated enterprise wide reporting. It was also common in the company for different business units to use separate IT systems and not built enterprise wide systems. The objective of the study was to develop a business intelligence system for the case company that responds to the requirements of conducting high value creating business analysis.

Salminen (2017) recommended that such complexity could be handled through automation of value-driven business intelligence. Iteration, self-service, in-memory technology and data-blending were identified as the agile methods and technologies that would provide improved time to insight and a dynamic reporting platform would make using the system more pervasive. The platform would also need to be able to support predictive analysis. Implementing these methods and technologies provided significant improvement compared to previous experiences of the case company (Salminen, 2017).

Summary for centralising and coordinating CI in a company with many SBUs: There are many variations on the CI models chosen by companies which have many SBUs. This means, there is no "best practice" in terms of centralised or decentralised functions or the location of

the function. As Farrell (2007) states despite centralisation and decentralisation of the CI activities is an important question to be addressed by any company, a central place within the company must be established for the exaction of the CI effort. Careful thought must be given to where to headquarter the CI unit and how to coordinate subsidiary operations with the headquarter unit. In general, the central organisation will work closely with upper management to identify specific intelligence requirements and translate these needs into tasking and data collection operations that will often be carried out by subsidiary organisations (Roche & Blaine, 2015).

Below are also illustrated inventive CI practices from two famous multinational companies.

> *CI operations at Procter & Gamble and the role business intelligence plays as the company embarks on the biggest change effort in its history, revamping its structures, processes, and culture simultaneously. CI at P&G has developed from routine report generation to an activity embedded in strategy development. Organisationally, CI operations have moved from being both too highly centralised and too highly decentralised, to a "hub & spoke" structure"* (Pepper, 1999: 4).

> *IBM established "virtual" CI teams that assessed their competitor's actions and strategies. The Ideal Virtual Team consisted of the assigned executive, peer executives representing various IBM business units, a small core team of CI professionals and representatives from functional areas such as manufacturing, development, marketing & sales* (Behnke & Slayton, 1998: 5).

4.6.3.2 Integrating and Sharing CI Among SBUs of a Company

As Birnik (2007) explains, SBU integration is about the value creating activities of the corporate headquarters. The more SBUs a company has, the more it will need a coordinated information system capable of coordinating its businesses portfolio. As discussed in Chapter 3 (3.9.2), synergy in aligning corporate and SBUs strategy is important because it provides a competitive advantage for corporations at the corporate strategy level.

Models of structural alignment explain the relationship between corporate and SBU level strategies and how they interact to create value. This is also referred to as vertical alignment (Chakravarthy & Henderson, 2007). Specifically, SBUs in a vertically integrated conglomerate shall work in synergy. This is possible by promoting CI sharing among the SBUs. Sharing strategic and tactical information effectively within the supply chain is often a key factor in achieving this goal (Hasan et al., 2011). In big corporations, organisational structure and culture need to be arranged so that communication occurs across business units. If an organisation is not already communicating cross-functionally it will be more difficult to implement an effective CI programme (Madden, 2001). Thus, in spite of employing their own

CI, SBUs require coordination from head office to align with the group's overall objectives this is because the best results for strategy formulation for business units are derived in companies with a collaborative approach (Sammut-Bonnici & McGee, 2015). In related vein, "…the more SBUs a company has, the more it will need a coordinated information system capable of coordinating its businesses portfolio. The type of business a firm may operate is also related to the type of CI function" (Prescott, 2001:.6).

4.6.3.2.1 CI sharing among SBUs or divisions

Abundant literature indicates that defining the right CI sharing channels and networks among the interconnected subsidiaries or SBUs would result better effectiveness in decision-making and overall parent company performance. However, finding the right degree of CI centralisation or architecture for effective CI gathering, storage and sharing activities between the parent company and its subsidiaries and among the subsidiaries are vital. The degree of centralisation also affects the CI integration in the corporation.

Sharing of information between units of a large firm allows knowledge gained in one business unit to be applied to problems being experienced in another unit. Especially for companies relying heavily on technology, the reduction of R&D costs and the time needed to develop new technology may give larger firms an advantage over smaller, more specialised firms. The more similar the activities are among units, the easier the transfer of information becomes (Lyon & Ferrier, 2002).

Best practices in CI recommend the transfer of knowledge and best practices among divisions of a conglomerate. One means of CI 'actionable' is the ability to share and transfer CI lessons learned and best practices throughout the corporation. Moreover, the CI sharing among the SBUs is also vital for internal benchmarking which allows network of SBUs share best experiences in technology transfer, customer handling, operations and even leadership (Williams, 2002).

It should be noted however, that a subsidiary's capability to transfer knowledge throughout an organisation depends upon its ability to form favourable internal network linkages with other subsidiaries and headquarters as well as its own external network linkages within the local environment (Barner-Rasmussen & Bjoerkman, 2002; Birkenshaw, 2001). Moreover, studies found that the amount of knowledge stock of a focal subsidiary is positively related to the knowledge flows from the subsidiary to all other parts of the organisation (Gupta & Govindarajan, 2000).

Gibbert (2003) presented the advantage of knowledge management and sharing among SBUs in Siemens (SBUs of a conglomerate) in the following way:

> *Siemens is a highly diverse organisation that participates in a wide variety of businesses. The company has certainly been called a conglomerate in its history. For decades, scholars of business and organisations have deliberated over how such collections of relatively independent businesses can get synergies or increased value through collaboration. How can the whole be made greater than the sum of the parts? Firms hesitate to ask individual business units to help each other for fear that they will sub-optimise their own performance. But knowledge management offers a potential solution to this dilemma. If knowledge can be shared easily across business units, then one Siemens business unit can take advantage of the learning and expertise from another* (Davenport, interview, May 31, 2000 empirical study conducted by Gibbert, 2003: 273).

4.6.3.2.2 Role of headquarter in coordinating and sharing CI

Regarding CI integration, Chandler (1991, cited in Martinkenaitė-Pujanauskienė, 2015: 9) says, the strategic imperative for parent firm headquarters (HQ) shall be to promote, coordinate and sustain inter-unit exchanges of unique knowledge assets and capabilities that are embedded locally. Parent firm HQ play an important strategic and political role in facilitating knowledge flows to subsidiaries and newly acquired business units within the company (Martinkenaitė-Pujanauskienė, 2015). Furthermore, according to CI best practice literature, the parent company shall also help business units help themselves. This is possible by defining and publishing detailed guidelines—including processes, information sources and resources—available to all business unit professionals in need of CI. These might be intranet sites, access to corporate libraries or bibliographies or building a central CI database that can be accessed according to business unit interests (Williams, 2002).

Best-practice organisations transfer CI and best practices through such mechanisms as: periodic forums, knowledge fairs, road shows, discussion groups, e-mail and distribution lists, CI champion teams, rotation of staff in and out of CI and using CI databases and intranets (Williams, 2002) and even on CI forum of divisions. Best practice companies leverage company-wide events to create synergy. Industry conferences, sales meetings and trade shows are examples of events can leverage to establish intelligence synergy between corporate and business unit stakeholders. This gives a unique opportunity to share the CI objectives of the entire organisation while leveraging the contacts and knowledge of business unit professionals during a specific event (Nenzhelele, 2012; Sewell, 2007).

4.6.3.3 Integrating CI with other functions

Intelligence functions must be able to interact with other corporate components, for example sales and marketing, planning, top purchasing and manufacturing (Du Toit & Muller, 2004). Corporate intelligence staff, therefore, needs to work closely with marketing staff in order that intelligence activity occurs within a strategic marketing context (Trim, 2004). In other words, the CI function seemed to be more effective when a company emphasised active participation among all personnel in CI process.

CI should be embedded in the whole company (Fouche, 2006). Yap and his colleagues also concluded that the CI system should be integrated with other enterprise-wide information systems in order to achieve long-term benefits from the CI efforts, specifically in enhancing the quality of SDM (Yap et al., 2012). A good example of a CI network or community can be found at Kodak. In the words of the director of CI at Kodak, the Kodak CI community provides "access to others 'in the know' to those who 'need to know'"

> *The Kodak CI network involves business intelligence, technical intelligence and manufacturing intelligence working together as one entity to serve the organisation. Organisationally, each intelligence group reports to different areas and each maintains a separate budget, reporting structure and charter. However, the intelligence groups converge operationally based on projects or issues, depicted at the centre of the chart. Kodak intelligence professionals leverage the CI network of experts from different functions (business, manufacturing, research and development, business units and international and external partners) to locate intelligence information present throughout the corporation*. (Williams, 2002: 3)

The study by Liu and Wang (2008) of firms in England showed that firms that adopt a strategic CI attitude would have the whole company supporting CI activities. For example, "… the staff of the whole firm, both management and operational, should support CI activities coordinated by the CI manager to monitor competitors and identify opportunities and threats in the industry as a continuous long-term mission" (Liu & Wang, 2008: 761).

4.7 Designing and implementing CI (programme) in a corporation

Most discussions in this section are painstakingly selected best practices and issues that are found to be relevant and suitable for this study (including the topic *transferring military intelligence capability into business*).

4.7.1 CI best practices and consideration issues

One interesting observation in CI studies is that most of these studies employed 'best practices' to design the CI Models or CI Implementation Frameworks. More detailed case studies are needed to aid in the development of an intelligence 'best practices' guide to help firms become more aware of accepted and successful practices. For instance, Kruger (2003) made an extensive literature study related to the goals of the study, performed to aid in meeting the goals of this study. The literature study was also used to evaluate best practices for structured CI programmes, as well as to assist in the design of a CI methodology framework.

The aim of secondary research by Naidoo (2003) also highlights global best practices and thereafter, evaluate where South African firms are currently. The purpose of best practice is not to find the perfect solution but to challenge one's existing way of thinking. Examples of best practice companies are identified and presented in the study, which should result in organisations rethinking their CI strategy and possibly encouraging new insights and creative ideas.

Kahaner (1997) warns that despite the use of 'best practices', there are many variations of the CI models that companies choose. For example, there is no 'best practice' in terms of centralised or decentralised functions or the location of the function. This is because companies and industries differ from one another in terms of attitudes, knowledge and values as well as their environments. According to Viviers et al. (2005), a best practice in terms of centralised or decentralised CI units or regarding the subordination of the CI activities does not exist. This absence of a best practice is mainly due to the environmental differences that exist between companies from different industries. However, "…the structuring and the stability of the CI organisation within a company definitely have an influence on the success of the CI process" (Jaworski et al., 2002: 6). It certainly depends on the overall sophistication of the CI process and the ascribed importance of CI within a specific company whether a separate CI unit and/or dedicated CI personnel exists (Roitner, 2008).

Moreover, the difficulty of measuring the economic benefits of CI is another problem of transferring best practices in CI. How should a company determine which best practice will suit them if measurement of CI is illusive? To get CI started there must be some tangible results and definite benefits derived from the intelligence collected, or the CI programme will lose credibility and acceptance in an organisation. Well-defined CI needs, deliverables and

goals will help determine whether the CI product/service provided was actionable and/or useful in making a decision (Madden, 2001).

Since this study also intends to suggest a CI programme implementation strategy framework to the case conglomerate from proof of tested theories and experiences in companies, it is vital to name a few empirically and practically tested CI implementation instances.

For the purpose of this study, as used by Fouche, Kruger and Naidoo, therefore, it is good to see a few BEST PRACTICES in CI from institution studies/forums and company best practices. First, it is essential to understand what is meant by 'best practice' in CI is and who are the authorities in CI best practice.

APQC's best practices in CI: APQC (American Product and Quality Centre) is the leading resource for performance analytics, best practices, process improvement and knowledge management. The organisation's research studies, benchmarking databases and renowned Knowledge Base provide managers with intelligence to transform their organisations. APQC follows a proven, four-phased collaborative benchmarking methodology to uncover best practices, guided by its Benchmarking Code of Conduct to ensure effective and ethical benchmarking.

The American Product and Quality Centre (APQC) defines a best practice as "a practice that has been shown to produce superior results, selected by a systematic process and judged as exemplary, good or successfully demonstrated" (American Product and Quality Centre). Best practices are not the 'best' because they are for everyone. They must be adapted to fit each specific organisation. Several studies, models and speculative theories have evolved around best practices in CI, but a greater understanding of CI is still needed.

SCIP's best practices in CI: The Strategic and Competitive Intelligence Professionals (SCIP) society is a global non-profit membership organisation for everyone involved in creating and managing business knowledge. Its mission is to enhance the success of its members through leadership, education, advocacy and networking. More information about SCIP can be found online at www.scip.org.

Several subject specific articles and various SCIP publications are also referenced as "best practices" For example there have been articles on benchmarking, report writing, CI software and providing CI to business units. But, even one on "Best Practices from Latin America" was found in SCIP`s international conference took a systematic or methodological approach to the topic. Thus, a *best practice* would be a CI operation or activity, for example competitor

assessment, primary-source collection and war games that is performed by a specific user/applier in a community of similar users that produce superior results.

Generally, there is no single 'best practice' that fits all companies in all competitive environments. However, there is common ground for defining structures and approaches that serve many companies well (Madden, 2001).

Below, 15 selected best practices found suitable for this study are listed.

(1) Best practice—Align CI objectives with company`s objectives, structure and culture: There are several key requirements necessary for a best practice CI programme. Of fundamental importance is defining a clear role for CI. CI must have clear objectives and goals (Barnes & Deans, 2007). To function effectively in an enterprise, clear objectives must be determined for the CI function (Du Toit & Muller, 2004).

An appropriate intelligence system must be designed to meet management's needs, keeping in mind that the system must be thoroughly aligned with and fit into the organisational culture and structure. Organisations should ensure that the CI efforts are tied to the firm's goals, strategies, objectives and internal processes (Nasri & Zarai, 2013).

In addition to making CI audit, best practice companies review the existing business operating model and culture within the company, as this would impact on how individuals and entities would interact with each other and with information. This also provides a view off the existing decision-making processes and mechanisms in the company which would constitute the primary clients for the output of any CI programme (Fouche, 2006).

(2) Best practice—Align strategic and tactical CI: Best practice companies realise the trade-off between strategic and tactical intelligence and work to keep them in balance (Madden, 2001). CI roles assigned must be significant and integral to business functions at the tactical and strategic levels where it can positively impact business performance (Barnes & Deans, 2007). To put it another way, CI can be seen at functional management levels, or at corporate or group levels. Tactical intelligence is usually shorter term, (winning battles or skirmishes), compared to SI (winning the war) (Hall & Bensoussan, 2007). Thus, all these intelligence functions and products should be aligned in the organisation.

(3) Best practice—Gain executive support to CI: It is also essential that CI programmes have top management support. A high-ranking champion of CI is essential (Barnes & Deans, 2007). Few CI programmes are initiated proactively. The reason most CI programmes are

started is based on executive identification of underperforming assets (Prescott & Miller, 2001). The need is to maintain and strengthen the executive support that the programme began with (Barnes & Deans, 2007). If the chief executive officer had instigated CI activity, then there could have been a far better chance that it would inform the SDM process (Wright et al., 2002).

CI is a top management function (Kruger, 2010). Top management's concern and attention to CI is a prerequisite for successful CI function (Du Toit & Muller, 2004). For instance, the study conducted by Du Toit in South African countries, all enterprises with CI systems indicated that senior managements were directly involved in the CI function. In these enterprises 87% of top managements accepted the credibility of the data and often used it in their own decision-making (Du Toit, 2003).

For the success of a CI programme, management should first and foremost has to ensure that CI should not be a distinct and isolated function–instead it should have the entire organisation engaged in the effort (Nasri, 2011; Bose, 2008). CEOs or executive management should act as the primary sponsor of the CI function, as well as the structure and be a visible supporter and user of the product (Farrell, 2007). A company committed to CI needs to lay the foundation and build the infrastructure. A user orientation, total corporate commitment beginning with the CEO and effective distribution channels are key elements to the success of any CI function (Fellman & Post, 2008).

(4) Best practice—Involve employee and CI champions: Best practice companies develop ways to make CI a part of everyone's job (Madden, 2001). A common denominator in successful CI programmes is the involvement of all employees in the intelligence function (Barnes & Deans, 2007; Prescott & Miller, 2001). Moreover, every employee must be motivated to become active in the programme (Martinkenaitė-Pujanauskienė, 2015).

The foundation for any intelligence system is a workforce that is motivated to share information and to help the development of the intelligence effort. Raising awareness and providing incentives are a constant process and continue throughout the entire life of the CI system (Farrell, 2007). Best practice companies develop ways to make CI a part of everyone's job (Madden, 2001).

The development of a shared vision for the organisation is vital in a learning organisation that strives for a generative learning environment (Robinson, 2012). Teamwork is obviously preferred in starting up a new CI function (Bartes, 2013) and this team should be trained.

(**5) Best practice—User driven CI:** User-driven CI manage, capture and disseminate CI knowledge across business functions. In order to ensure that CI is systematic and actionable, organisations should: ensure that the CI is routed to the right people at the right time, provide access to key CI subject matter experts and provide the ability to transfer CI and best practices (Williams, 2002).

Best-practice organisations channel CI to the people who need it, when they need it, using targeted push deliverables, CI databases and dedicated CI sites on corporate intranets. Several of the best practice organisations in User-driven CI created organisational structures that facilitate knowledge sharing. For example, MetLife has seven dedicated research managers funnel CI information to their specific product groups. These research managers have a dotted line reporting relationship to the director of CI and support the group by building relationships with key end users and providing content for various CI products. The seven research managers are each responsible for a key business unit or combination of business units. They ensure that the customer business unit receives the intelligence that they need, when they need it (Madden, 2001).

(6) Best practice—Evolve CI overtime: Best practice companies have CI mechanisms and structures in place that have evolved over time. The stability of these structures is usually held together by key people who have experience in their respective industries and the development of networks.

Introducing CI into a business operation has its pitfalls. If this undertaking is not to become a one-time venture but a systematic activity, it is necessary to create appropriate human, organisational and physical conditions. For example, an important factor is the size of the company and the resources it can allocate to this endeavour (Bartes, 2013).

(7) Best practice—Use phased approach: Best practice companies developed their networks slowly. Because of the length of time required for effective CI functional development, companies starting CI and adapting best practices should focus on areas where there is the greatest competitive threat and build from there (Madden, 2001). Long-term investments must be made in the intelligence system and companies must recognise that CI implementation is a phased approach that will grow gradually. As mentioned by Odendaal (2004), as in the case of Telkom (of South Africa), the CI unit took six years to develop as a function and an integral part of the business process.

Best practice organisations also plan for the evolution of their CI to continually adjust to new trends and industry changes (Madden, 2001). Various methods are used for forming networks.

Some develop from grassroots while others are more formal. Kodak, for example, has a matrix of different groups performing CI in different areas such as manufacturing, competitors and technology. When information is needed it can be drawn from any of these sources by either individuals or groups (Madden, 2001).

(8) Best practice—Develop CI capacity and train CI team: Gaining executive backing is not the only support necessary for the CI programme. Also essential are executive support, education and integration within the organisation's planning and strategic development process (Barnes & Deans, 2007). A common denominator in successful CI programmes is the involvement of all employees in the intelligence function (Prescott & Miller, 2001). To do this well, the value of CI needs to be promoted within the company. This need goes beyond the necessary training. A larger cultural change is required to get employees to embrace the value that CI can give to the company as well as to themselves (Fleisher & Bensoussan, 2003).

The skills required to successfully execute the CI activities should be determined in designing CI implementation training programme. The CI team must attend a formal training course on CI, information gathering, dissemination, interpreting and presentation techniques. The CI team must be trained on how to apply CI software programmes effectively (Farrell, 2007).

(9) Best practice—Build internal and external CI networks: Best practice companies have large established networks with experienced CI champions. Companies new to CI may not have people with the necessary qualities to execute an effective CI programme or carry the momentum.

Whether tightly coordinated or decentralised in nature, internal and external networks play a vital part in refining and upgrading CI's role in the organisation. Access to knowledgeable, responsive and credible resources increases CI's ability to deliver timely, value-adding products and services (APQC, 2000). For example, frequent, high-quality interactions increase a CI unit's ability to anticipate and satisfy customers' needs, create more valuable products and services and results in more knowledgeable users--each critical to enhancing the trust and credibility of CI personnel.

Regarding building external networks, for instance, companies that compete in the vast markets without geographical or administrative boundaries, adopt very flexible management behaviour, in which intangible assets are all-important, designed to exploit global economies of scale. In other words, economies of size, based on key company resources (usually technology, communications and intangible assets), whose value does not increase in relation

to the degree of exploitation of elementary manufacturing factors, but in relation to the 'intensity of sharing' of given resources, with a networking approach, in other words in an organisation in which there is close collaboration between internal and external structures and with co-makers (Brondoni, 2005).

(10) Best practice—Fit CI in existing organisation system and structure: Process and structure concern the presence of policies, procedures and infrastructure to ensure optimal employee participation in and contribution to CI.

To function effectively in an enterprise, CI must be established where the CI unit fits into the organisational structure of the company (Du Toit & Muller, 2004). Whatever type of company, sector of activity, culture, available resources, many practices adopted in the operation and management of the processes of CI and KM can be implemented respecting the particularities of each company. organisation

Best practice shows that CI as a strategic management tool is best placed as close as possible to top decision-makers to facilitate focus on crucial strategic management issues and to ensure a constant flow of intelligence into the strategic planning process. In addition, CI should also be a company-wide activity with operational units actively involved in the process on a more tactical level (Machado, De Abreu & Agrasso, 2013).

Studies of best practice companies have revealed that the process is actually dynamic and interactive (APQC, 1997). Throughout the intelligence cycle, feedback and updates from CI professionals allow midcourse adjustments and new issues to surface. Further, best practice companies also typically have many individuals throughout the organisation involved with the intelligence process (Prescott, 1999).

(11) Best practices— Leverage technology across the organisation: Technology is one of the major factors contributing to the rising popularity of CI (Bouthillier & Shearer, 2003). Citing studies made on best practices in business and CI across several industries by O'Dell, Grayson and Essaides (1998) and Madden, (2001), Marseille (2008) notes that the responsiveness of information technology systems was one of the seven components of CI best practices. Supporting this 'best practice', a famous consultant firm affirms that development of a central corporate Strategic Intelligence System or Portal seems feasible in big conglomerates that compose many related firms (SBUs) and where critical strategic decisions are made centrally, at the HQ (McKinsey & Co., 2008).

(**12) Best practice—CI structuring, organisation and administration:** Overall, CI management involves the coordination of the management of CI processes, CI sources, CI outcomes and CI needs. It also involves allocating appropriate resources to these areas. There is no single management structure that works best; it depends on the circumstances (Hall & Bensoussan, 2007).

If CI capability is to have any lasting effect on a company's performance, it should have its own organisation and administration. If business units are mostly autonomous, with different needs, different products and a different customer base, a decentralised CI function will probably be most appropriate and effective (Prescott & Miller, 2001). On the other hand, if most of the strategy, planning and tactics come from corporate headquarters, centralising the CI function is the correct approach. The most likely CI organisation would be a hybrid of centralised and decentralised staff functions (Prescott & Miller, 2001). Regardless of where a company's CI function falls in this spectrum, ensuring the coordination between strategic and tactical intelligence is vital for enduring success (Barnes & Deans, 2007).

Best CI practice in companies which have many divisions indicate a formal but decentralised structure to have the most advantages (Bose, 2008; Farrell, 2007).

(13) Best practice—CI code of conduct: CI staff needs to work within a well-defined code of practice (Trim & Lee, 2008). Good competitive decisions can be made without resorting to illegal and unethical CI processes (Hall & Bensoussan, 2007). Best practices in CI include strict adherence to a code of ethics as published by the Society of CI Professionals (Barnes & Deans, 2007).

The professional organisation for competitive intelligence, SCIP has a code of ethics that each member agrees to support and abides by. It is vital to the future of CI that companies comply with all applicable laws, respect confidentiality and avoid conflicts of interest (SCIP, 2017).

(14) Best practice—Evaluate the CI programme: Like all functions, a CI manager cannot manage if the CI programme cannot measure (Hall & Bensoussan, 2007). How the CI programme is evaluated drives its evolution or dissolution? Best-practice companies' formal and informal evaluations, gap analyses and continuous improvement efforts propel their CI processes closer to the ultimate CI vision—where CI is inextricably intertwined in all business processes and key strategic and tactical decisions.

Development of a CI programme proceeds through four stages: prestart-up, start-up, established and world-class. While each stage is associated with key indicators and transition

activities to the next stage, external and internal factors that cause reversals to earlier stages--if not failure of the CI programme--must be examined as well (APQC, 2000). The CI programme should be continually assessed in terms of the new, improved CI process and its implications for the organisation and continually improving the process (Nasri & Zarai, 2013).

(15) Best practice—Learn from best practice and benchmarking CI: Finally, companies should **l**earn from best practice organisations how to develop a CI structure, mobilise resources to implement the CI programme, create action-oriented products and services to improve the speed and quality of decision-making and measure and evolve the CI programme in developing a successful CI programme.

Companies can learn a great deal from other companies with well-developed and defined CI programmes. Organisations must remember that no individual best practice is suitable for everyone and needs to be evaluated within the firm planning to implement it (Madden, 2001). On the other hand, CBIA (2009) notes that CI exists to provide company decision-makers with the knowledge and foreknowledge they need to craft breakthrough strategies and achieve "best practices" in key operational areas.

Summary for using best practices in implementing CI programmes: To conclude, like any other process or function, CI has methods and techniques for improving its effectiveness. Like any other function, it also has best practices. Although measuring the effectiveness of CI is difficult, best practices in CI have been identified in companies which are perceived by expert observers to be performing CI better than anyone else.

By looking at several different studies, models and current best practices, several common or similar factors should appear to be crucial to effective CI regardless of the organisation, size of organisation or industry. Each organisation should look at these similarities as the foundation on which to base its efforts in adapting CI practices.

There are several key requirements necessary for a best practice CI programme (Barnes & Deans, 2007). Irrespective of the rationale for the deployment of CI in organisations, requirements are critical. The requirements set the direction and help determine value, as well return on investment. The requirements for selecting and implementing CI products are different from both business and technical perspectives. Furthermore, the requirements differ from one organisation to the other (Iyamu & Moloi, 2013; Dugal, 1998).

4.7.2 CI (programme) implementation strategy success factors

All the previous discussions provided in 4.7.1 are considerations when designing and implementing a CI programme from best CI practices and therefore may be named as CI programme implementation factors or issues. In this sub-section, only those listed are enumerated critical success factors that companies should consider when designing and implementing a CI programme.

4.7.2.1 Critical success factors for CI programme implementation

Comai (2016) proposed a framework in which seven elements could affect CI and therefore the CI expenses. The key elements interacting in the CI process and the CI function are: the external environment (sources/signals); the business information characteristics; decision-maker's environmental perception, characteristics and resources available; the need or demand for CI; the benefit/perceived value of CI by decision-makers; the CI investment, result and feedback; and the organisation (factors & characteristics).

As also indicated for 'best practices', the critical success factors for CI programme implementation include issues such as senior management involvement, a focus on what is important to the organisations, the maintenance of ethical standards and the development of expertise in analysis and communication. The overriding influence on successful CI activity is the existence of a management style, culture and structure that encourage trust, facilitate communication and encourage the easy flow of information (Wright et al., 2002).

A number of success factors and considerations were identified by different authors for the successful implementation of a CI programme in an organisation. The following are the main ones: understanding of company's context (Pant, 2009; Institute of Management Accountants, 1996a); support from top management (Bartes, 2013; Marseille, 2008; Havenga & Botha, 2003); CI champions development (Havenga & Botha, 2003); CI culture development (Bartes, 2013; Sewlal, 2004; Havenga & Botha, 2003; Kruger, 2003; Madden, 2001; Institute of Management Accountants, 1996a).); existing structure consideration (Bartes, 2013); existing capability (Bartes, 2013); and identification of key intelligence needs (Bartes, 2013; Marseille, 2008; Havenga & Botha, 2003).

A closely related study to this one was conducted by Fouche (2006) whose ultimate objective was to assist South African organisations to improve the implementation success of the CI programme. Fouche tried to recommend an optimum implementation model. From Fouche's research it is clear that there is no single approach to implementing a CI programme as it is

heavily dependant on the objective, the company culture and business model and the resources at the disposal of the company.

4.7.2.2 Designing a start-up CI programme in a company

The need for CI in enterprises is the basic drive of CI applications. In order to meet CI needs, two elements are generally needed: firstly, to be self-supplying (enterprises themselves carry out CI) and secondly, to buy CI services from external CI companies or organisations (buyers establish business relationship with suppliers to develop the CI market) (Xie & Jin, 2011).

The CI function can be secured in the following manner: (1) By the company management as a team (suitable for smaller or small businesses), possibly in cooperation with an expert from some external organisation; (2) By a professional CI unit of the firm, instituted specifically for this purpose, in cooperation with both company personnel and external organisations; (3) By an appointed team of company employees under the expert guidance of a CI specialist from an external organisation, or a trained employee of the company's CI (CI Coordinator), or by a member of a professional CI unit; (4) By a company-contracted external organisation (e.g. a college doing a research project and the like) (Bartes, 2013).

4.7.2.2.1 Starting up of a CI programme in a 'CI Novice' corporation

How can a CI programme be implemented in a 'ÇI novice' corporation, a corporation that is new to implementing a formal CI programme?

Preparation to start CI programme introduction: Bartes (2013) cites Dostal, Loubal and Bartes (2009) noting that the actual process of CI introduction should be, like the other system application disciplines, divided into three phases: managerial preparation; personnel-oriented and professional preparation; and organisational preparation for the implementation and practice of CI.

Conducting initial CI audit: An overall impression of the "as is" situation, based on the audit, was that the company had a tremendous capability to produce intelligence on the external competitive environment but that these capabilities were dispersed and not coordinated nor focused on specific business objectives (Fouche, 2006).

The groundwork for the CI process is done through an internal CI audit, which is primarily a review of the organisation's operations to determine what is actually known (Berner, 2001) and what should be the CI objectives and products for strategic decision-making. The initial

CI audit can be made by the CI team who is involved in all aspects of the CI process (Farrell, 2007).

A complete assessment of processes, technology and people in the current state has to be done as these will be critical to the success of any changes made to the current environment (Pant, 2009). Similarly, a company's profit sales (sources and/or SBUs), new products and largest threat from its competitors can be taken into consideration when developing the initial CI programme (Farrell, 2007). As a starting point for obtaining CI data, the organisation generally has some knowledge of its competitors and its own CI needs. Thus, an organisation may conduct a CI audit that is effectively a review of its current operations to determine what is actually known about the competitors and their operations (Berner, 2001), for example.

Furthermore, the company's existing intelligence capabilities must be evaluated before attempts are made to formalise any structure. An appropriate intelligence programme should be designed to meet management's needs, bearing in mind that the system should be thoroughly aligned with and fit into the organisational culture and structure (Bartes, 2013; Bose, 2008). Moreover, a CI audit can be utilised to determine the different stakeholders, the services required and the CI content required (Fouche, 2006). Here, companies must recognise their limitations and be prepared for the length of time it takes to develop the necessary components for a successful CI programme. Time is required for CI to become institutionalised and integrated into a company's culture to allow the processes and practices to be adopted and incorporated (Madden, 2001).

Use phased approach for implementing a CI programme: The whole lifecycle of the CI system must be characterised by planned and phased development (Farrell, 2007). By starting small, with a few highly specific problems, an efficient and effective working relationship can be formed gradually between the intelligence function and upper management before permanent intelligence processes and systems have been locked in (Roche & Blaine, 2015).

For any application of CI, it is essential that an evolutionary approach be followed. The initial CI service does not have to be perfect. Rather, it should be useful, serving as the starting point from which refinements can be undertaken. Attempting to anticipate all the difficulties and issues surrounding a CI function is impossible. Instead, beginning with something satisfactory and improving upon it is the practical course (Mohn, 1989). Best practice organisations also plan for the evolution of their CI to continually adjust to new trends and industry changes (Madden, 2001).

It is also better to use a phased approach to build the intelligence organisation and implement the necessary technology systems. The problem set to be addressed by the new intelligence organisation is likely to change and grow as managers become more comfortable using these resources (Roche & Blaine, 2015). Best practice companies slowly developed their CI networks, function and system (Farrell, 2007; Madden, 2001; Bernhardt, 1994).

Confirming the above facts, APQC notes that the beginning of a CI effort is more characteristic of a "Big Bang" than an orderly process; it is emergent rather than structured. The process begins as a result of a critical incident and emerges over time as a result of a few key activities. Weaving CI into the fabric of the organisation's business processes and developing its influence in decision-making begins with a promotional plan and develops over time (APQC, 2000).

Best practice CI implementation model by APQC—Five Steps of the FIICH Model*:* In APQC's FIICH (i.e., initials of each step) model development study, researchers were interested in what "attributes of CI were most valued by managers" (APQC, 1997). Different findings were determined for best practice companies in each step of the FIICH model's framework.

1) *Focus of CI Efforts*. Best practice CI organisations:
    a. Focus their CI efforts on decision-making areas that are critical to their business
    b. Have actively involved senior management in CI rather than just asking for moral support of CI
    c. Allow the critical intelligence needs (CIN) focus to drive the output of CI products and services
2) *Implementation of CI*. Best practice CI organisations:
    a. Establish a systematic, documented process that clearly defines roles and responsibilities for those involved with CI
    b. Follow practices that include a sensible approach, built-in redundancies, future orientation, global perspective, integration of informal and formal networks and a concern for ethics
3) *Institutionalise CI Knowledge*. Best practice CI organisations:
    a. Spread CI by providing a variety of products, services and practices throughout the organisation
4) *Change*. Best practice CI organisations:
    a. Provide training in information technology (IT) and human networks
    b. Encourage managers to make more decisions using CI knowledge and embed CI processes in the organisation culture
5) *Hone*. Best practice CI organisations:
    a. Coordinate and strive for continuous improvement across diverse business units
    b. Measure, or attempt to measure, the economic impact of CI

The FIICH model is believed to simplify the approach to CI. However, the model does not express how to apply this knowledge to actual decisions. This model has been added as an item to the seven key findings of the 1997 APQC study.

To conclude, several problems and difficulties arise in establishing and adapting best practices in CI to businesses. As discussed under 'best practices', there are however difficulties in implementing best practices for CI and/or this model. One difficulty with transferring best practices in CI is that the best practice for one company may not become a best practice in another company (Fleisher & Blenkhorn, 2001) (if any of the seven elements described above are missing). A best practice for one company would be a CI operation or activity such as competitor assessment, primary-source collection or war game, performed by a specific user/applier in a community of similar users that produces superior results (Herring, 2015).

Thus, companies must recognise their limitations and be prepared for the length of time it takes to develop the necessary components for a successful CI programme. Time is required for CI to become institutionalised and integrated into a company's culture to allow the processes and practices to be adopted and incorporated. For companies just getting into CI this time element may be discouraging and detrimental to the development of a CI programme. If results from CI are not visible, a CI programme may lose its credibility before it has a chance to become established in a company (Madden, 2001).

4.7.2.2.2 Fitting CI in an existing system, structure, culture and capacity

No two companies are the same and there is also no blueprint for CI structures. But, in CI structure design should fit into the company (Du Toit & Muller, 2004). Thus, in designing a CI function, a strong focus must be on actioning the available CI and the output of the process should therefore be integrated with the existing decision-making process and mechanisms in the company (Fouche, 2006).

(1) Fitting organisation system, structure, communication system and culture: Many organisations also found themselves with disparate systems and this was partly due to the organisational structure. Implementing a successful long-term CI programme requires integrating CI into a company's 'organisational fabric' (Fouche, 2006). The CI unit shall be integrated and aggregated into the whole organisation's system and also be defined in the structure of the organisation to have a clear strategy of CI, which would support and be in line with the overall strategy. Otherwise, not only is CI inappropriately used by the different units/managers but the organisation also loses all its essential characteristics (Allio, 2003), and even competencies and competitive advantages.

Organisational structure and culture need to be arranged so that communication occurs across business units. If an organisation is not already communicating cross-functionally it will be more difficult to implement an effective CI programme (Madden, 2001). According to Beynon-Davies (2002), an organisation's information systems are often developed within the existing organisational structure.

It is important that the CI activities be integrated throughout the company and they should be embedded in and aligned with the company's infrastructure (Farrell, 2007). A company should first develop the infrastructure for the CI programme and then look into CI systems for assistance. Although software solution can help (and it continues to evolve), a company should focus most of its efforts on building the infrastructure (staffing, training, processes, etc.) associated with CI. It is not wise to work in reverse, forcing one's processes to fit some software solution – that is designing the processes first and then supplementing the CI with investments in basic technologies. Additionally, one may want to leverage their existing technologies such as internal databases, intranets, Lotus Notes and other applications for building their CI infrastructure (Bose, 2008).

Moreover, in making the CI audit, CI designers should review culture within the company, as this would impact on how individuals and entities interact with each other and with information (Fouche, 2006). When preparing to implement CI, one should start with a basic insight proved to be true many times over in business practice (Fuld, 1995), namely the fact that the foundation of a successful information system is the corporate culture. This means that the system is based primarily on people (Bartes, 2013).

(2) Fitting with informal CI system: CI programme can be defined as a continuously evolving integration of both formal and informal processes. In almost all countries CI development is starting informally and becoming more sophisticated over time. Early CI practices were more likely to be unstructured, with managers relying on their human resource network to provide them with information and insight into relevant developments (Muller, 2007b).

Strategists, especially those charged with development and maintenance of CI programmes in organisations, need to pay equal attention to both formal and informal processes and not focus their time and resources to only the more visible, formal processes. The central role of integration implies that efforts must be made to harness intelligence from both the channels so that it is available to decision-makers (Dugal, 1996).

Significant value to the quality of intelligence can be added by harnessing and linking the formal and informal channels/activities across the entire firm (Dugal, 1996). However, both channels (formal and informal) perform important but different functions and their presence is a required (but not sufficient) condition for success of CI activities. Intelligence flowing through the two channels need to be "integrated" in a synergistic and cost-effective manner. Integration of intelligence takes place when managers who need CI have it available to them from both the formal and informal channels and can therefore bring it to bear upon decision-making. In addition, effective integration implies that intelligence available from the two channels is utilised without excessive duplication and expenditure of time and effort.

(3) Fitting with company's strategy: The CI Function tends to fit well with functions like Strategic Planning and Knowledge Management. It is essential that any initiative needs to be linked to existing business processes for it to be sustainable. In this regard, the strategy development process will be an essential link as it probably is the most important process associated with a company's efforts to make sense of the environment, hence the need for CI. The key to a business case for CI is to understand strategy development and where CI will add value.

Furthermore, depending on the preferred approach to secure the CI function, it is necessary to define how it will be implemented. However, before the management decides on the form of CI implementation, it should hold an introductory seminar with a discussion about the existing method of company management, especially in regard to critical situations that foreshadow every change in strategy (Bartes, 2013).

Finally, it is good to mention the results of a closer study, single-case qualitative study, conducted by Du Plessis and Gulwa (2016) and Gulwa (2015) on financial institutions to suggest a 'strategy framework'. Both the article and dissertation results presented a strategy framework that could be used as a planning tool by CI professionals in the financial services industry. The studies presented a 12-point CI strategy framework as a planning tool for CI professionals. The researchers found that the centre point of the process was [#1] understanding of the role of CI in strategic management on which balances, [#2] the value decision-makers place on CI; and, the value [#2] rests squarely on the fine balancing of the other 10 points of the CI strategy framework, [#3] to [#12] …. #3 Use of CI in decision-making #4 Identifying the actual CI needs of decision-makers #5 Extent to which CI needs of decision-makers are being met #6 CI education and promotion of available CI services #7 Auditing of available CI services within the FI #8 Collaboration between CI teams #9 Review

of scope of the central CI team #10 Improvement on distribution of CI outputs #11 Capacity of CI team #12 Presentation of research results.

The researchers concluded that a financial institution's CI capability could be enhanced to better meet the CI needs of the organisation's decision-makers when CI professionals carefully planned their approach of informing corporate decision-making.

4.7.2.2.3 Transferring military intelligence experiences into business

The conglomerate was originated from military institutions and the key staffs (leaders) are military officers. Because of the fact that most industries of the conglomerate are originated from the already existed military industries (technology facilities) of the Federal Democratic Republic of Ethiopia's government and they are run by high-ranking military officers, there is clear influence of the military culture and consequently intelligence know-how in these industries. As it is owned by the country's Defence Ministry and run by military officials, the conglomerate is built by military discipline, culture and skill; and may get good experience out of the intelligence experience of the military (military intelligence practice).

In operationalising the term 'military intelligence' in his thesis, Bang (2017: 21) defines the term as follows:

> *Military intelligence is a product with the aim of delivering knowledge or foreknowledge of the world around us to military commanders at all levels or the activity of producing this product", the question still remains how and if intelligence analysis differs from any other form of analysis…. Although this describes intelligence analysis in one way, it does not separate it from other types of analysis such as business analysis or risk analysis, just to mention but a few.*

The similarities of military intelligence and CI are more than the differences between the two. To begin with, the government convention of referring to intelligence users as "customers" suggests by itself the demonstrable similarities between government intelligence and business information support functions (Krizan, 1999). Moreover, the two intelligences share similarities in global intelligence, intelligence collection, processing, intelligence personnel skill and even utilisation of intelligence tools and technologies. The Intelligence Cycle is equally applicable (Ingram, 2013). Moreover, strategy and commercial intelligence process is similar to military style intelligence with established standard and operating processes, resulting from a hierarchical organisational style (Roche & Blaine, 2015). Analogies are used in many different kinds of intelligence analyses from military and political to industrial intelligence. Production of intelligence follows a cyclical *process*, a series of repeated and

interrelated steps that add value to original inputs and create a substantially transformed product. In government and private sector alike, analysis is the catalyst that converts information into intelligence for planners and decision-makers. In this primer, components are identified as Intelligence Needs, Collection Activities, Processing of Collected Information, Analysis and Production. In government and private sector alike, analysis is the catalyst that converts information into intelligence for planners and decision-makers (Krizan, 1999: 5,7,19).

As long as military officers perform or supposed to perform CI function in the case company, it is necessary to give how military intelligence (skills, tools and process) is applied in business.

Roche and Blaine (2015: 7) say "… military intelligence personnel are more suitably trained than CIPs who are commonly MBA graduates." Similarly, Govoreanu et al., (2010: 102) say, "…competitive intelligence in business organisations has benefited greatly from military and government intelligence practices and knowledge. Many of the pioneers in the business intelligence community migrated from a variety of governmental organisations."

Understanding the fundamentals of business intelligence based on lessons learned from centuries of military intelligence experience can better prepare the business intelligence professional for the real world and reduce the practice of impulse buying expensive solutions (Kelleher, 2004). The following story by Kim and Kim (2004) from Korea best illustrates how military intelligence skills, models and tools can be used and transferred to and used by business practice (CI).

> *…Public intelligence in Korea has influenced CI in Korea in several important ways. First, public intelligence has provided important sources of CI professionals and methodologies for firms in Korea. For example, many of the first generation of CI professionals in Korea originated from military intelligence organisations and some of the current key CI professionals in group companies such as Samsung and LG, came from the National Intelligence Service and government organisations. Second, these large companies adopted a formal CI function relatively early by employing military and national intelligence officers, but most of these companies have treated CI primarily as an underground activity, hiding CI units and professionals from the public and focusing more on collecting secrets or undisclosed information.* (Kim & Kim, 2004: 16)

Training of military officers in strategic thinking, business terminology, market research and presentation skills, knowledge of primary information sources and research methods; development of interviewing and communication skills, analytical ability, familiarity with scientific methodology would help to find CIPs for corporations. Thus,

according to the above real example, high-ranking military officials staff the case conglomerate can be taken as its competitive advantage with respect to transferring and employing military CI capability for easy start-up and use of CI programme in the case conglomerate.

To conclude from the literature review and the existing fact in the conglomerate, with little training, it can be said that the conglomerate can have the required number and qualification of its military staff to run a formal CI function throughout the corporation and its industries/SBUs.

4.8 Shaping and improving the CI programme

Regarding the need for CI improvement, Bohn (1994) notes the need for applying a Continuous Improvement Programme within a corporation. The structure and dynamics of the group itself must lend themselves to continuous learning in order for a competitive advantage or core competency of any kind that can last a reasonable length of time. Best practice companies have CI mechanisms and structures in place that have evolved over time. To mention from empirical example, leading Chaebol groups (conglomerates) in Korea started building formal CI programmes in the early 1980s and have continuously improved their CI practices (Kim & Kim, 2004).

Companies embarking on CI programmes should realise that the long-term benefits of a good CI programme can keep the company to tune with the competitive environment and changes that may affect business strategy (Madden, 2001). Thus, CI is a continuing process that is carried out as part of the business strategy (Nikolaos & Evangelia, 2012).

CI development and evaluation process will be better by performing CI practices. Benchmarking current applications will also help in both issues. Systematic studies may also provide success in both goals (Colakoglu, 2011).

4.8.1 Evaluating effectiveness of CI programme

After implementing the CI Programme, organisations should assess and adapt the programme continuously following lessons learned from the implementation (Fouche, 2006). A deep evaluation must be made of the system, placing due emphasis on the level of acceptance and participation of people within the company. The efficiency of the tools (software and hardware) and of the team must be assessed in order to adapt and improve the unit, thereby re-initiating a cycle through which the unit is continuously reorientating according to the necessities expressed by the company and by its external environment (Rouach & Santi,

2001). The CI unit should actively participate in continually assessing the new, improved CI process and its implications for the organisation and continually improving the process (Nasri & Zarai, 2013).

4.8.2 Improving the management of CI

If good CI has the potential to improve the competitiveness of organisations, then in an increasingly competitive environment it makes a lot of sense to explore ways to improve the management of CI.

Making improvements to CI management means balancing the trade-offs involved, between reliability, timeliness, cost effectiveness, relevance and legal/ethical concerns.

Improved CI management then comes down to making improvements in understanding CI needs; managing the whole CI function and the resources required for it; managing CI processes; managing CI sources; delivering CI outcomes via capability and preparedness; and CI resource management and CI management structure.

Shaping a corporate CI function at IBM (illustration): As IBM began to reshape itself in the 1990s, its traditional emphasis on customer satisfaction broadened to include a renewed focus on competition. In 1993, IBM revised its approach to CI, which had previously been isolated within business units. To illustrate this, Behnke and Slayton (1998) stated the following:

> *Competitor analysis and the use of CI have a fairly long history at IBM. For example, in the early 1990s IBM conducted several internal conferences on CI and offered classes by leading academics to help analysts develop their skills. For most of this time, however, CI was largely isolated within various business units, with marketing, product development and finance units each hosting their own competitive analysis or business intelligence function. These functions operated in a parochial fashion and were rarely linked. In 1993, IBM revised its approach to CI…*
>
> *The new approach was very simple. IBM identified a dozen or so premier vendors of information technology. These were vendors with whom customers planned to do more and more business. For each of these competitors, a senior IBM executive was assigned to be the resident "expert," responsible for ensuring that strategies throughout IBM addressed the competitor and led to appropriate actions in the marketplace. …*
>
> *Most of these executives established "virtual" CI teams that assessed their competitor's actions and strategies. The ideal virtual team consisted of the assigned executive, peer executives representing various IBM business units, a small core team of CI professionals and representatives from functional areas such as manufacturing, development, marketing and sales.* (Behnke & Slayton, 1998: 5)

> *To link CI with strategy, the Corporate Strategy group began to lead the programme by providing a framework, methodology and tools to each of the virtual intelligence teams. This helped to keep CI visible to executives while they were developing IBM's strategies*. (Behnke & Slayton, 1998: 7)
>
> "*A small corporate team was formed to manage the overall programme, while day-to-day competitive analysis was performed by teams located throughout existing organisations. These teams were expected to think and act with the overall best interests of IBM foremost in mind, rather than thinking and acting first in the interests of their individual business units. Requiring team members to extend their point of view was one of the objectives in assigning senior executives to be IBM's resident experts on competitors. In other words, the new CI programme aimed not only to improve IBM's competitive intelligence, but also to help change the culture of IBM.* (Behnke & Slayton, 1998: 4)
>
> *Actionable intelligence is the goal of IBM's CI operation. IBM learned that to deliver actionable intelligence, users and developers of CI must continuously ask, "So what?" Asking "So what?" reveals that information and analysis are inert, but focused intelligence can precipitate action—action that leads to competitive advantage.* (Behnke & Slayton, 1998: 9)

The need for an improved CI programme for a case company (Case Company X) has been identified and recommended by Farrell (2007) in the following way. In order to improve and to steer the current CI programme of Company X to a more mature phase, Company X should: Redefine the role, administration and structure of the CI programme in Company X; Obtain action-orientated CI products and services; Give attention to the training of the participants in the CI programme; and Measure the CI programme to meet the changing needs of Company X (Farrell, 2007).

4.8.3 Sustaining the CI programme

Once the CI programme is introduced, efforts should be made to sustain it. According to Fuld (1995), there are three immutable principles that guide the sustainability of a CI programme: (1) constancy; (2) longevity; and (3) involvement. A study conducted by Marseille (2008) identified the following for the sustainability of BI/CI programme: openness to listen feedback and to make decisions participative, propitiating flexible process; trainings for people to understand the process and its objectives; sharing of knowledge created in order to improve company's result and motivate people; active support from top management, recognition system for people that perform the activities voluntarily and focus of the process to generate intelligence.

4.8.4 Developing and institutionalising CI culture

The overriding influence on successful CI activity is the existence of a management style, culture and structure which encourage trust, facilitate communication and encourage the easy flow of information (Nasri, 2011; Muller, 2003; Wright et al., 2002) and CI sharing (Ghannay & Mamlouk, 2015). Intelligence should be deep-rooted within a company's organisational culture, rather than being grafted on as another function (Bartes, 2013; Kruger, 2010; Fouche, 2006). One indicator of the effectiveness of CI is the extent to which an intelligence culture builds up within a company (Sewlal, 2004). The top managers need to be involved and drive the organisation's culture to institutionalise CI into the company's culture. This process takes time and commitment on the part of senior managers, but is necessary for the continuous implementation of CI (Madden, 2001).

4.8.5 Developing CI champions

The corporate champion programme idea comes from best practice study partner IBM. This programme was started in the early 1990s at IBM as a mechanism to understand competitors' key strengths, weaknesses and the implications of their actions, as well as to anticipate their next moves. Key executive champions at IBM head cross-functional champion teams and each team is responsible for keeping up-to-speed on a specific key competitor. These champion teams are responsible for transferring lessons learned regarding their specific competitor to those who need the information (Williams, 2002).

A CI champion driving the process is one of the fundamental issues which a CI programme should address (Havenga & Botha, 2003). A high-ranking champion of CI is essential (Barnes & Deans, 2007).

Further, beyond creating champions, Muller (2005) suggests that companies should appoint CI coordinators throughout the company and should provide incentives for those who participate actively in the CI programmes (Farrell, 2007).

According to the recommendation made by Havenga and Botha (2003) for corporations with many SBUs, a CI champion shall be assigned within each business unit whose responsibilities should be related to the co-ordination of the CI system within the business unit and the conduct of CI pertaining to the business unit.

4.8.6 Continuous training and idea sharing on the CI programme

To execute the CI programme, companies should give training to participants in the CI programme (Farrell, 2007) and selected staff in CI methodology and related activities (Bartes, 2013) and build internal CI awareness and develop internal and external human information networks (Sawka, 2009).

Each CI implementation phase has different focuses in CI training. Thus, continuous CI training to all staff members of the company is imperative. Companies should provide training to all staff in the different business units to execute their responsibilities, in other words collecting techniques and understanding the code of ethics (Farrell, 2007). Staff should know what to contribute towards the CI programme and what information not to share outside the company. Responsibilities and roles (in sourcing, processing, interpreting and reporting CI) of CI in SBUs and the CI Centre should be clearly stated in the Governance and Policy Manual, for example.

To creating awareness on the do's and don'ts of CI, companies can use industry conferences, sales meetings and trade shows. These events can also leverage to establish intelligence synergy between corporate and business unit stakeholders. This gives the company a unique opportunity to share the CI objectives of the entire enterprise while leveraging the contacts and knowledge of business unit professionals during a specific event. Frequent discussions on CI and the importance thereof should be emphasised and become a regular item on meeting agendas (Farrell, 2007).

4.9 Chapter conclusion

CI as one of the fastest growing domains has long been acknowledged as a strategic management tool. However, CI is generally still thought to be the domain of large companies. Global developments have also been uneven in CI. Studies into global CI practices show that CI evolves over time and that hurdles and challenges that need to be overcome show similarities across countries and practices. Various factors influence the development of CI in countries. These include culture, the nature of the economy, the country's competitive position and aspects such as location and a supportive regulatory environment. Since CI, as a management practice, is subject to various environmental forces, including institutional environments, each country is likely to have unique facets of CI.

CI is a well-established function in organisations in developed countries. Developing countries could learn lessons from other developing and developed countries (governments

and business) by studying how they leverage CI to become effective knowledge economy players in this competitive arena. However, in many developing countries which are competing in the global economy and competing with global products and services in their country, the CI function is given less emphasis.

MI (marketing intelligence) are given better recognition by public enterprises in Ethiopia. Moreover, from previous experiences, it is possible to make intellectual guess that most large companies gather competitive information in a haphazard way using different sources to support their business decision-making. From the desk research on the use of CI for decision-making and enhancing competitiveness of products and services produced by Ethiopian companies, it can be said that the concept of CI is not well understood as its role is replaced mainly by marketing intelligence. It is evident that a lack of research on the topic of this study in Ethiopia warrants investigation of the issue and introduction of a comprehensive CI programme implementation framework for initial use by large Ethiopian companies.

There are many variations on the CI models chosen by companies which have many SBUs. This means, there is no "best practice" in terms of centralised or decentralised functions or the location of the function. However, by looking at several different studies, models and current best practices, several common or similar factors should appear to be crucial to effective CI regardless of the organisation, size of organisation or industry. The most likely CI organisation in a conglomerate would be a hybrid of centralised and decentralised staff functions. Regardless of where a company's CI function falls in this spectrum, ensuring the coordination between strategic and tactical intelligence is vital for enduring success. Despite centralisation and decentralisation of the CI activities is an important question to be addressed by any company, a central place within the company must be established for the exaction of the CI effort. The general recommendation provided for big companies is a decentralised but centrally coordinated CI function, activities and/or structure.

There are several problems and difficulties in establishing and adapting best practices in CI to businesses. Thus, companies must recognise their limitations and be prepared for the length of time it takes to develop the necessary components for a successful CI programme. Time is required for CI to become institutionalised and integrated into a company's culture to allow the processes and practices to be adopted and incorporated. Each organisation should look at these similarities as the foundation on which to base its efforts in adapting CI practices.

The similarities of military intelligence and CI are more than the differences between the two. Therefore, there is a possibility to transfer military intelligence skills into the business world.

Chapter Five

Research Methodology and Design

5.1 Introduction

The study was made to answer the following main question**:** How can competitive intelligence better support SDM in the case conglomerate and its current context? Related to this question, thus, the primary intent of this study was to develop a competitive intelligence (CI) programme implementation strategy framework for the effective utilisation of CI in SDM (SDM) in a conglomerate which comprises many subsidiaries. The case study is about a phenomenon of CI utilisation for strategic-decision making purpose at a big vertically integrated conglomerate with many subsidiaries/industries.

Whereas the research followed structured research approach drawing on prior theory, the study is embedded mainly in an interpretivist paradigm, using qualitative methods to investigate and understand the actors, actions and processes that have influenced the use of CI for strategic decision-making. In other words, this qualitative dominant study, which mainly collected qualitative data using key informant interviews from higher officials (who could be CIPs and CI users) was supported by the quantitative data collected from the employees (who were largely CI personnel like engineers, researchers and IT experts). The employees are found at both the subsidiaries of the conglomerate and the parent company through questionnaire which was then analysed using a positivist approach. In short, both positivist (for questionnaire from employees) and interpretative (for the main qualitative case and sub-units) approaches were applied to conduct the whole study in their entirety.

In precise words, the research methodology employed in this study is that of a 'single case study" with embedded multiple units of analysis and an exploratory qualitative dominant research. In utilising case study this thesis closely followed Yin's (2003) definition of an exploratory single case study with embedded multiple units of analysis.

5.2 Research methodology

Any phenomenon is embedded in its context. Thus, a case study method gives attention to the intertwining of phenomenon and context. The embedded case study approach is particularly relevant to examine of an environment where the boundaries between the phenomenon of interest and context are not clearly evident. With this blurred foresight, exploratory research helps the researcher identify, define and structure the problem (Kostova & Esho, 2008).

In relation to the above fact, the present study adapts triangulation and embedded quantitative analysis to triangulate and increase validity of the study— (1) triangulation (i.e., merging qualitative and quantitative data to understand a research problem); (2) embedded (i.e., using of quantitative data to answer a research question within a largely qualitative study) (Creswell & Plano-Clark, 2007). This qualitative dominant study was supported by the quantitative data collected from the deliberately selected employees at the subsidiaries and the HQ through questionnaire.

A mixed methods approach is clearly a valuable methodological choice for information systems (considering CI as information system) and strategy researchers because of its strengths taken from both qualitative and quantitative methods. Such an approach is not a panacea and does not always lead to the discovery, development or extension of a substantive theory (Venkatesh, Brown & Bala, 2013). The purpose of this thesis was to develop a start-up CI programme implementation strategy framework for CI introduction and use which is suitable for the contexts of the case company. The second objective of the research was to develop a middle-range theory which could extend CI and SDM in terms of the contextual issues which both disciplines share.

5.3 Research perspective (paradigm)

Paradigms are essentially philosophical in nature since they may be specified by ontological, epistemological and axiological tenants; and since they are assumptions that are not subject to proof (Shanks & Parr, 2003). For researchers, one's paradigm informs the research questions one chooses, and how one collects information and interprets it. The paradigm is used to organise the methods is explicitly systems thinking, in which a case is broken down into salient components, with each component analysed, and the results integrated to provide new insights (Scholz & Tjetje, 2002).

Philosophically, researchers make claims about what is knowledge (ontology), how we know it (epistemology), what values go into it (axiology), how we write about it (rhetoric), and the processes for studying it (methodology) (Creswell, 1994).

Positivism is an approach to the creation of knowledge through research which emphasises the model of natural science: the scientist adopts the position of objective researcher, who collects facts about the social world and then builds up an explanation of social life by arranging such facts in a chain of causality (Baharein & Noor, 2008). The positivist paradigm is based on the ontological perspective that researchers can have an objective view on reality

in conjunction with the epistemological belief that observers can be independent of the social situation they observe (Dederichs, 2010).

In contrast, post-positivism is about a reality which is socially constructed rather than objectively determined. Hence, the task of social scientist should not be to gather facts and measure how often certain patterns occur, but to appreciate the different constructions and meanings that people place upon their experience (Baharein & Noor, 2008). The knowledge that develops through a postpositivist lens is based on careful observation and measurement of the objective reality that exists "out there" in the world (Creswell, 2003).

The interpretivist approach is based on an ontology in which reality is subjective, a social product constructed and interpreted by humans as social actors according to their beliefs and value systems. The interpretivist researcher attempts to gain a deep understanding of the phenomena being investigated, and acknowledges their own subjectivity as part of this process. Shortly, interpretivists focus their research on understanding what is happening in a given context, including the consideration of multiple realities, different actor's perspectives and the researcher's involvement (Carson, Gilmore, Perry & Gronhaug, 2001; Lincoln, Guba & Pilotta, 1985).

As Cassell and Symon (2004) observe, many researchers follow multi-paradigm enquiries that combine both positivist/functionalist and interpretivist paradigms because different perspectives bring in useful insights into researching organisations. This method, known as *interplay*, enables the researcher to identify data that highlights similarities and differences revealed by the two methodologies (Cassell & Symon, 2004).

Pragmatist researchers look to the 'what' and 'how' to research based on its intended consequences—where they want to go with it. In the same vein, mixed methods researchers need to establish a purpose for their "mixing"; a rational for the reasons why quantitative and qualitative data need to be mixed in the first place (Creswell, 2003). According to Creswell (2003), mixed method researchers employ pragmatism and the method is not committed to any one system of philosophy and reality. Morgan (2007) also advocates a "pragmatic approach" as a new guiding paradigm in social science research methods, both as a basis for supporting work that combines qualitative and quantitative methods and as a way to redirect our attention to methodological rather than metaphysical concerns.

Embedded case studies involve more than one unit, or object of analysis and they are not usually limited to qualitative analysis alone (Lewis & Thornhill, 2007). A pragmatic response to the research questions posed in this study results in assuming an embedded multiple unit,

single-case approach to conducting research. Embedded case studies are studies in which different levels or sources of data are collected (Yin, 2003; Yin, 1989).

Philosophically, this study interplays between positivism and interpretivist paradigms. Although the research followed a structured research approach drawing on prior theory, it was embedded mainly in an interpretivist paradigm, using qualitative methods to investigate and explain the different actors, actions and factors which have influenced the use of CI for SDM in the context and boundaries of the case conglomerate. Thus, for those phenomenon or issues that can be discussed pragmatic enough, will be elaborated using this approach.

5.4 Research method—mixed method and logic of inference

The choice of which method to employ is dependent upon the nature of the research problem (Baharein & Noor, 2008). To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences (Creswell, 2003). Besides, no clear-cut line exists between a quantitative and qualitative research (Scholz & Tietje, 2002).

Researchers have given increasing attention to "mixed methods research"— a "class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a *single* study" (Johnson & Onwuegbuzie, 2004: 17). Teddlie and Tashakkori (2009) outline three benefits of mixed methods research. First, mixed methods research has the ability to address confirmatory and exploratory research questions simultaneously. Second, mixed methods research has the ability to provide stronger inferences than a single method or worldview. Finally, mixed methods research provides an opportunity for a greater assortment of divergent and/or complementary views. Because of the dual strengths of qualitative and quantitative research, both positivism and interpretivism approaches also illuminate the importance of employing mixed method design in this research.

Embedded case studies involve more than one unit or object of analysis and usually are not limited to qualitative analysis alone. The multiplicity of evidence which focuses on different salient aspects of the case is investigated at least partly in sub-units, which focus on different salient aspects of the case. In an organisational case study, for example, the main unit may be a company as a whole (the conglomerate in this case) and the smallest units may be departments (PCUs and SBU in this case) or even groups of individuals (CIPs and CI users in this case) such as owners and employees (Lewis & Thornhill, 2007). The embedded case

design allows both qualitative and quantitative data and strategies of synthesis or knowledge integration (Lewis & Thornhill, 2007).

In mixed methods research, the divergent findings are not only valuable in that they lead to a re-examination of the conceptual framework and the assumptions underlying each of the two strands of mixed methods but also enrich the understanding of a phenomenon to appraise the boundary conditions of a phenomenon or relationships among its components and open new avenues for future inquiries (Venkatesh et al., 2013). The other reason that can be mentioned as a good justification for using this qualitative-dominant exploratory research for the first time is its value in giving initial insights for further investigations in the case or similar big enterprises in Ethiopia. Thus, this qualitative dominant study was supported by the quantitative data that was collected from the employees, who were mostly CI personnel and researchers, at the subsidiaries and headquarter. The largest proportion of the quantitative dataset was analysed using inferential statistics. This supplementary data analysis using a positivist way of interpretation said to position the study in employing a pragmatic way of data interpretation. However, the two approaches, which could be named as pragmatic approach altogether, should certainly enable the empirical study to explain CI usage for SDM and design an introductory workable CI programme implementation-strategy at least for first-time use by the cases.

Following the mixed paradigm approach (positivist and interpretive), both qualitative and quantitative data were used in answering the research questions. Overall, the thesis involved more qualitative than quantitative aspects, but both approaches had their places in the study (Pirttimäki, 2007). The methodological literature suggests that combined or triangulated strategies offer the best of both quantitative and qualitative research possibilities (Schell, 1992). The multiplicity of methods may be applied within the sub-units (Scholz & Tietje, 2002). The embedded case studies rely on more holistic data collection strategies for studying the main case but then call upon surveys or other more quantitative techniques to collect data about the embedded unit(s) of analysis (Yin, 2003).

As regard to logic of inference, in theory, a positivist paradigm prefers a deductive approach, aims at theory testing and applies quantitative methods, whereas an interpretivist paradigm is associated with an inductive approach, theory building and qualitative methods (Dederichs, 2010). In a similar analogy, mixed methods studies may include theory deductively in theory testing and verification, or inductively as in an emerging theory or pattern. In either situation, the use of theory may be directed by the emphasis on either quantitative or qualitative approaches in the mixed methods research (Creswell, 2003). While case studies can be used

to accomplish various aims such as providing description, testing theory, or generating theory, they mainly draw on inductive approaches that aim at building theory and generating hypotheses rather than having the primarily focus on testing them (Hartley, 2004; Eisenhardt, 1989). The single-case design can be used to determine whether a theory's propositions are correct or an alternative set of explanations might be more relevant (Yin, 2009). Case studies may be used primarily for description, or to test hypotheses, or to create theory (Remenyi, 2013). On the other hand, there are possibilities even to develop a theory by conducting a single case study using mixed methods. The complementary findings are equally valuable in the quest for generating substantive theories because these findings offer a holistic view of a phenomenon and additional insights into interrelations among its components (Venkatesh et al., 2013). By using a blended approach of deductive and inductive reasoning, the study had tried to juxtapose the emerging findings with theory and built-up patterns which certainly led the researcher develop middle-range theories.

To be more precise, since the phenomenon and context of the case were unique, the study used inductive reasoning; and since the study was largely guided by conceptual framework and broad literature review, the specific issues which were responded to the questionnaire, were analysed using positivist approach or deductive inference.

5.5 Case research strategy

Case studies become particularly useful where one needs to understand some particular problem or situation in great-depth and where one can identify cases rich in information (Baharein & Noor, 2008). A case study is considered a suitable research strategy for new or complex areas (Yin 1994; Eisenhardt, 1989). The case study is preferred in examining contemporary events, but when the relevant behaviours cannot be manipulated (Yin, 2009). Case research is especially appropriate, for example, for this type of practical business situations and problems where the boundaries between the phenomenon and its context are not clear-cut (Yin, 2014; Perry, 2001; Yin, 1994).

A case study is also an appropriate research strategy when the existing base of theory is thin or where the research problem is too complicated to examine outside its natural environment (Eisenhardt, 1989; Bonoma, 1985). The purpose of a case study is to gain an in-depth understanding of the situation and meaning for those involved. A case study is appropriate primarily because of the scarcity of pervious research on the subject (Eisenhardt, 1989) in Ethiopia.

The interest of a case study can be in the process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation (Laws & McLeod, 2004). Moreover, a key advantage of a case study method is therefore the explicit consideration of contextual factors and a multitude of variables to which other methods would largely be insensitive (Röder, 2007).

Similarly, Siggelkow (2007) promotes single case research strategy for at least its three important uses—motivation, inspiration and illustration. In the first use, the researcher may not have a purely theoretical motivation, but rather may be motivated to work in a grounded real-life situation, which is usually much more appealing because theories and models are always simplifications. If they were as complex as reality, they would not be useful. The second desire to make a case study could be that the researcher is inspired for new ideas. If only limited theoretical knowledge exists concerning a particular phenomenon, an inductive research strategy that lets theory emerge from the data can be a valuable starting point. Moreover, cases can also help sharpen existing theory by pointing to gaps and beginning to fill them. The third valuable use of cases in the context of making a conceptual contribution is to employ them as illustration. For Siggelkow, the debate between case research proponents and opponents (i.e., mainly on sample size and representativeness) is a mismatch of method and goals. To say something representative, the researcher needs to pick a different methodology. Siggelkow (2007: 22-23) says, "Regardless of how cases are eventually used, research involving case data can usually get much closer to theoretical constructs and provide a much more persuasive argument about causal forces than broad empirical research can...The more robustness checks one can offer, the more convinced readers will become of the newly proposed mechanisms."

Sharing Siggelkow's advocacy to case studies, the author of this research would also like to express his firm belief in the function and knowledge contribution of his single-case study (Siggelkow, 2007). To put it another way, if this case study was not made on the strategic value of CI for SDM and not produced a CI implementation strategy framework for SDM in an Ethiopian conglomerate, there would be no insight and chance for discussion on this study's outputs—findings, conclusions, middle-range theory or propositions for similar future studies on the issue in Ethiopia.

A case study is useful in understanding complex social processes in an organisational and environmental context like the phenomenon of this research—CI linkage with SDM. It is especially suitable for exploring new processes or behaviours that are not well known, such as the exploration of this study—i.e., a case study made to find a contextual and suitable position

for CI in SDM of a conglomerate, which is composed of a number of integrated subsidiaries and which is new to the implementation of a formal CI programme.

Except the last one (though the actual field investigation had taken almost three years in the case conglomerate), this study certainly shares all of the following attributes of a case study identified by Yin (1993): (1) subject is a contemporary phenomenon; (2) subject must have theoretical significance; (3) detailed examination within real-life context; (4) phenomenon embedded in context; (5) examination uses multiple sources of data; and (6) examination is usually longitudinal.

5.5.1 Exploratory single-case research

Specifically, exploratory case studies help to gain an insight into the structure of a phenomenon in order to develop hypotheses, models, or theories. Scholz and Tietje (2002) state that the *exploratory* approach is useful when generating hypotheses, models, theories and when formulating a more explicit problem definition. This approach is applicable when there is little information about the analysed phenomenon and when it is hard to select the correct models. This approach is most commonly used in the beginning of the research when the aim is to generate knowledge because the subject matter is unfamiliar (Ryberg & Svensson, 2010). In relation to this study, however, explorative case studies are appropriate when the objective is to generate an in-depth understanding of the complexity of a studied phenomenon in an organisation (Thomas, 2011; Yin, 2009). The strength of a case study relies on the capacity to describe, explain and explore social process in organisations (Yin, 2009).

The label *case study* is most frequently associated with the exploratory case study (Scholz & Tietje, 2002). Both single- and multiple- case designs can be adopted for exploratory research. Where explanatory research is undertaken, a single case may provide the basis for developing explanations of why a phenomenon occurs and these may then be further investigated by applying them to additional cases in other settings (Darke, Shanks & Broadbent, 1998). In order to indicate what CI was necessary and how CI could be enhanced to improve SDM in the case conglomerate, this study used an exploratory research strategy and qualitative dominant. Qualitative research is exploratory and is useful when the researcher does not know the important variable to examine (Creswell, 2003).

A case study may take on typical, critical or deviant approaches. Single cases might be critical, extreme, unique, representative, typical, revelatory, or longitudinal, depending on the problem and needs of a particular research study. In applied research, the situation may be

different because the focus is on a specific situation, but concerns about a single case may still apply (Rahim & Wan Daud, 2015). Similarly, the case study on this complex phenomenon and conglomerate in Ethiopia may best be characterised by an in-depth, exploratory single-case study.

When doing research on decision-making, case study research is a research strategy to be preferred (Teiu & Juravle, 2011). After exploring literature, considering facts about the strategic use of CI by Ethiopian firms, absence of empirical evidences on the problem area in Ethiopia (except some intentions to use marketing intelligence mainly by public organisations), then, the researcher decided this type of research warrants an exploratory case study. In order to have close understanding of this vague issue/problem area in Ethiopia, it was mandatory to make an exploratory study so that a clear picture of the status and role of CI for strategic purpose would be revealed themselves.

A single-case design can also be used to determine whether a theory's propositions are correct or an alternative set of explanations might be more relevant (Yin, 2009). The single case can also represent a significant contribution to knowledge and theory building (Teiu & Juravle, 2011). Thus, this study may even help to refocus future investigations in the relationships of the two fields of study under investigation—CI and SDM.

Detailed justifications are provided for using a single-case research design for the present study are provided hereunder.

5.5.2 Justifications for using single-case study

Not to contradict Siggelkow's (2007) support for case research, Yin (1994), however, states the following about a single-case research design:

> *If you do use a single-case design, you should be prepared to make an extremely strong argument in justifying your choice for the case. (Yin, 1994: 62)*

Following the above quotation, in his proposal, the researcher had to give strong justifications why he used a single-case (embedded) strategy for this unique and first study in Ethiopia on CI discipline.

In this sub-section, an attempt is made to reduce the criticisms of a single-case study which are given by proponents of multiple-case study who favour multiple-case approach over a single-case approach mentioning two major qualities of a multiple-case study approach—

generalisability and ***replicability***. It should be noted here that the main purpose of the current study was not to work on a 'replicable' case and make 'generalisation' out of this study.

It is necessary to discuss the criticisms of single-case design first.

5.5.2.1 Criticism of single-case study

Critics for a case study as a whole claim that the process of preparing case studies takes a long time and results in massive, unreadable documents or reports only the researcher's conclusions. A major criticism of case study research is that the small number of cases make a case study not suitable for statistical generalisations; a limitation that certainly is true for single-case research (Patton, 2002; Eisenhardt, 1989). Additionally, critics suggest that the lack of defined methodology is lamentable, especially considering the very highly skilled and specialised task of interviewing of informants and professionals (Schell, 1992).

Objections to single case research can arise from concerns about the representativeness of the chosen case, the extent to which generalisability is possible. It is also difficult to carry out comparative analysis with a single case study (Rose et al., 2014). Lee (1989) also argues that no theory would be generalisable on the basis of a single case study; generalisability is strengthened when the theory is tested on other empirical circumstances. Findings from multiple cases tend to be more compelling and stable than single case studies (Herriott & Firestone, 1983). Critics also claim that there is little basis for scientific generalisation—especially with single cases (Schell, 1992).

It is clear that a study of the single case with no replications limits both the strength and a range of generalisation arguments considerably. It does not preclude functional analysis, however, nor does it preclude description of the relevant common and unique attributes of the case. But, in fact, the range of generalisation simply cannot be known to the evaluator (Kennedy, 1979: 661-678). Moreover, opponents of case research study say that generalisation cannot be known in exploratory case study. Although generalisation is not the main intention of the current study, as justified by Yin (1994), there is possibility to make generalisation from a single-case exploratory study.

5.5.2.2 Justifications for a single-case study

Why do we use single-case research design, then?

> *If we can accept these* (the above) *criticism and conditions, then we must agree that a single research methodology can't be tested on its own account. In fact, all social*

> *research cannot be tested on its own account. Each research strategy is firmly rooted in an ontological and epistemological position and yet as Bryman has shown, there is no perfect correlation between an epistemological position and the expected methodological position. Thus, we are not in a position to justify case study research as superior on the basis of an epistemological position and yet we must recognise the difficulties involved with criticising case study research on this basis.* (Morgan & Smircich 1980, cited in Schell 1992: No page)

Proponents of wider application of case studies such as Yin (2017; 1981) claim that the use of case studies is only limited by lack of understanding of the types of applications, the types of research questions best addressed (as opposed to other strategies) and the type of case study design. Yin (2017; 1981) agrees, to some extent, that there are shortcomings in the methodology of case study research, but contends that these shortcomings are not innate and represent opportunities for development within the research strategy, or even more importantly, recognition of methodological constructs which are already known. Thus, justification of a case study as a valid form of research design. Therefore, it relies upon methodological soundness and a systematic approach to case study design, execution, analysis and evaluation. It is unlikely that the use of case studies as a research medium will become less important for management scientists, regardless of foreseeable epistemological developments. Improved methodology, principally led by more explicit research protocol and case-study databases may lead to dramatic improvement in the reputability of this research strategy (Schell, 1992).

There is a great demand, especially in the field of management science, for research which is able to build knowledge from observation of phenomenon within a contextually rich environment (Schell, 1992). Most management dissertations and/or theses rely heavily upon case studies, either for supporting information or for exposition of the main thesis of the work—it would be a serious blow to management research if, as many detractors contend, there is no real value to qualitative, case-based research (Schell, 1992).

Below are provided strategies and facts for reducing '**generalisability**' and '**replicability**' criticisms discussed before.

The following facts about the single-case study in the conglomerate justify the appropriateness of conducting single-case study in the selected conglomerate. Although the study was technically made on a single conglomerate, the actual exploration was made on six big subsidiaries (semi-autonomous companies) of the case conglomerate (i.e., embedding six sub-case industries and the HQ).

1) The conglomerate involves many big semi-autonomous industries (company subsidiaries, not just firms), in metal and engineering business. The case industries further involve a number of factories or firms, which were Private Limited Companies. In short, these different industries (of a vertically integrated conglomerate were researchable cases by their own— (i.e., they could be taken as representative cases for similar companies operating in the metal and engineering sectors).
2) Beyond the approach of this study (single-case), each industry as a sub-unit (or sub-case) may alternatively warrant the conduct of a single-case study in its entirety. The industries were big enough for a multiple-case study in terms of their size, structure, business type, product lines and number of employees and ultimately would help data/research validity and reliability. Moreover, as a set of industries or organisations of one big conglomerate, they could be clearly defined as units of analysis for the study. As per the proclamation to establish the conglomerate and its strategy, these separate semi-autonomous establishments were established and integrated taking into consideration the vertical value chain (strategy) of the conglomerate.
3) Stake (1995), says there are 'cases within the case'. According to Patton (2002) there is no distinction between case and unit of analysis. The case is simply identical with the unit of analysis, "cases are units of analysis" (Patton, 2002: 447). Teegavarapu, Summers and Mocko (2008) view, unit of analysis simply means case or cases being studied, for example, individual, group, organisation, activity, event or process. Unlike Patton (2002), Teegavarapu, Summers and Mocko (2008), Grünbaum (2007) says unit of analysis is different from the case. Grünbaum distinguishes units of analysis from cases. He discusses the possibility of making a multiple unit of analysis design in three ways. First, choosing and analysing more cases, but only one unit of analysis in each case. Second, examining more units of analysis in one case. Third, analysing both more cases and more units of analysis. According to Grünbaum, embedded multiple units of analysis in a single-case study can share the advantages of multiple case studies as long as the meaning of 'case' is taken different from the 'units of analysis'. The conglomerate was established acquiring old establishments and forming new businesses or subsidiaries. Thus, surely, it was possible to say that each sub-unit or subsidiary has its own historical background in its origin of establishment, staff composition, industry structure, competition and overall context. If this study was a multiple-case study, this by itself would allow the researcher to conduct a multiple-case study while not missing the semi-autonomous status and the linkage the industries had with the conglomerate. Thus, this single-case study may share two qualities of a multiple case study that most single-case studies lack—generalisability and replicability.
4) Though the case conglomerate also involved three exclusive industries that were engaged in producing weapons and military items, this study was conducted only on the commercial wing which was taken as one best representative sample (like blood test) for companies operating in the metal and engineering sectors in Ethiopia (i.e., there still existed a replicability possibility for future studies in the sectors). Since each industry (sub-unit) shares some common features with other businesses in Ethiopia in terms of organisational structure, management style, management behaviour (for example, perception of management in the role of CI), employee and organisational culture, operate in same industry structure or share same market, it would be possible to find some pattern and make analogous study taking the already discussed country-wide and sector-wide contexts in future studies—replicability.
5) Merriam (1998) suggests two relevant strategies for enhancing the possibility of generalisation of a single case study: *rich thick description* which requires enough description provided by the researchers; *modal category* which describes how typical the phenomenon studied is. These methods allow the readers to make relevant comparisons related to their own situation. For example, in the sample research given by Merriam (1998), the researchers described the future development of entry into certain proposed markets. The researchers justified that external validity was high because their theory,

empirical data and analysis could be applied to some extent to other western companies (i.e., in similar industries in this case). Analogy to justifications given by the researchers, this case research was done in the metals and engineering industries in Ethiopia and following similar approach. Therefore, the study may bring some similar situations at least for those companies that operate in same industries (Schell, 1992; Merriam 1998).

6) Due to the fact that the semi-autonomous (wherein most of them were producing complementary products) industries were guided by the strategy of the conglomerate (and of course they had their own strategies that were derived from the Corporate Strategy and they had to comply with the corporate grand strategy) and were influenced by conglomerate's prescribed generic structure, leadership and management philosophies/values, it was mandatory to deal the phenomenon along this line of discussion or context. However, while the study's primary purpose of the study was to show how CI could be enhanced for strategic use in the conglomerate, it also tried to indicate feasible ways (CI implementation strategy-framework) for introducing a structured/formal CI system in the conglomerate and its industries as well. On the other hand, outputs of this study may give light for those companies which are operating in the metal and engineering sectors in Ethiopia—to start forming a formal CI activity and using CI for their SDM. Almost all literature support and encourage the use of CI since CI has strategic significance for almost all industries of different sizes—i.e., there are possibilities for generalisability and replicability of cases for other similar companies in the metal and engineering sector. Moreover, analytic generalisation can be used whether a case study involves a single case or multiple cases (Yin, 2009). While this study did not claim replication, as it was limited to a single case, findings could be strengthened through the inclusion of embedded units.

External validity: The other situation in a single-case study is the issue of external validity, which could be viewed as the extent to which the findings of a particular case study can be applied to other situations (cases). The higher the external validity, the higher the level of generalisation is. Using theory in single-case studies enhances the external validity of the study (Yin, 2017; Yin, 2014: Yin, 2009). Furthermore, the limitations of single-case study research as associated with issues of validity and reliability have been addressed in the research design by including provisions such as a process of careful subject selection, clear definition of the sub-units, case study protocol and points provided in 5.9 (Methodological Norms and Quality). Those considerations for conducting a single case study are maintained in this case study—deciding the case prior to data collection; identifying, delimiting the case and its context; and distinguishing between the phenomenon studied (the case) and its context (Rowley, 2002).

Justifications for using single-case research strategy based on Yin's (2009) arguments for single-case study: A case may be considered unique, prototypical, salient or revelatory to understanding a phenomenon or problem (Scholz & Tietje, 2002). A single case may form the basis of research on typical, critical or deviant cases (Yin, 2009; Schell, 1992). Yin (2009) states that single case designs are functional when they represent the critical case in testing a well-formulated theory or a unique/extreme case. Out of the five reasons to use a single-case design, this study shares the first three reasons of Yin (2009).

1. It represents an *extreme* or *unique* case: Example: a case with a rare disorder
2. It is the *representative* or *typical* case, i.e. informs about common situations/experiences; Gain insights in commonplace situations
3. It represents the *critical case* in testing a well-formulated theory: The case meets all of the conditions for testing the theory thoroughly
4. The case is *revelatory*–-A unique opportunity to study something previously inaccessible to observation; Opens a new topic for exploration
5. The case is *longitudinal*–-It studies the same case at several points in time; The corresponding theory should deal with the change of conditions over time (Yin 2009).

(1) Unique case

In some situations, single-case designs are the best or the only choice (Yin, 2009). The case study on this complex conglomerate in Ethiopia may best be characterised by an in-depth, exploratory single-case study that must be done on CI-SDM linkage in a comprehensive way. Thus, this study is unique in both its methodology and purpose, for it is the first of its kind done in Ethiopia on the issue of CI and SDM linkage. In addition to introducing the discipline of CI for practical use to Ethiopian firms, the study could pave ways for consideration of the problem area in a business practice and in academia (research). In another words, merging theory and best practices with empirical results (both qualitative and quantitative data) and fitting the theories and best practices in case company's realities, would make the study unique in terms of its case research approach.

In relation to the above literature on a single-case study, the case company (a conglomerate) was selected for the following special reasons.

1) The case conglomerate is a vertically integrated conglomerate whose industries (subsidiaries) are members of a highly integrated value chain. During the time of the study, it was the biggest conglomerate and market leader in the metal and engineering sectors in Ethiopia. Moreover, the case company is a relatively knowledge-based company in terms of technology search/technology intelligence and technology transfer; the focus it gives to R&D; organic structure (which enables continuous crafting and improvement of its structure and organs); and the formally stated 'centre of dynamism' and 'do-learn-improve' motto; which are all implying CI search and usage in the conglomerate.
2) The case conglomerate was established to realise the GTP of the country. (Details on the 'strategy context' are given in the context chapter and national contribution of the study). The study was conducted in state-owned military run business (also produces military products) conglomerate whose strategies were directly derived from the country's Growth and Transformation Plans (GTP I and GTP II, each GTP for five years). The case was unique in terms of its strategy contexts.
3) The case conglomerate composed adequate sub-cases for the study. The semi-autonomous industries composed many industries operating in related and unrelated businesses. Although the industries have some latitudes in planning and executing their own plans and developing projects, they were expected to comply with the requirements and grand strategies of the conglomerate (i.e., cases in one context). Thus, a single-case study in this conglomerate was researchable and suitable for this thesis than the multiple-case one.

4) The case conglomerate relatively practised CI on areas or KITs that were implied from the strategies discussed in Chapter 2 (Context) and Chapter 4 (Literature). It had clear strategy and relevant departments to the case phenomenon and context at the Industries and HQ such as R&D, Strategic Planning and Control, New Business Development Principal Unit, Marketing and Sales Principal Unit, MIS, Think-tank and Knowledge Management (at the HQ) and an inactive (Business Intelligence Competence Centre (at HQ); and Technology Excellence Centres (at the Industries). Thus, there was an opportunity to talk about CI and SDM in the case company than in any other public organisations and business establishments in Ethiopia.
5) The industries (sub-units) under the conglomerate were semi-autonomous industries of the vertically integrated conglomerate were integrated vertically. In relation to the nature of the conglomerate, one of the strategies of the conglomerate was promoting an integrated value chain strategy which was less likely to find such strategies and practices in most conglomerates which were again not big enough like the case conglomerate to incorporate many integrated industries and SBUs. Besides, the industries' strategies were also unique as derived from the conglomerate's Grand Strategy and as conglomerate's strategies were derived directly from the country's GTP or strategic priorities too. Thus, there was a chance to conduct the study in sub-units which had an already defined strategy (context and phenomenon).
6) CI collection, use, location and structure can be influenced by company's structure, philosophy, degree of freedom (autonomy), capacity, etc. and not enough studies were made in a vertically integrated conglomerate like the case conglomerate. Moreover, the conglomerate was staffed by military officials under the Ethiopian Ministry of Defence. Thus, as per the literature review, there was high chance to transfer military intelligence skills and experiences into business situations.
7) Most corporations in Ethiopia were not as large as the case conglomerate and even not as large as the semi-autonomous industries in the metal and engineering sectors. Thus, it was necessary to make the study for the purpose of initiating CI's use in this big conglomerate and the industries (SBUs) under it. As an in-depth investigation of a phenomenon in a single-case, the results of this investigation could enable the case conglomerate to implement a CI programme in the conglomerate and its industries for the first time. This was only possible by employing a single-case strategy. Single-case studies are widely used because they may offer insights that might not be achieved with other approaches (Rowley, 2002).

(2) Representative or typical case research

As the case company was composed of big semi-autonomous subsidiaries, it was possible to make a multiple case study. However, as discussed in previous sections, this study would be conducted better in the conglomerate and its subsidiaries in order to have greater significance and contribute to both the conglomerate and the country's current priorities because the conglomerate was established to mainly realise the GTP of the country.

Since this study was the first to cover the issue in Ethiopia, the main target was not to generalise from this research experience, but this study could be useful to other similar, or even not so similar, large companies in Ethiopia. One rationale for adopting a single case was that this design allowed in-depth analysis; and therefore, could facilitate meaningful learning about the problem being investigated in this exemplary case.

Exemplary case studies carefully select cases and examine the choices available from among many research tools in order to increase the validity of the study. Careful discrimination at the point of selection also helps erect boundaries around the case. For example, a case study may involve study of a single industry and a firm participating in that industry. This type of case study involves two levels of analysis and increases the complexity and amount of data to be gathered and analysed (Soy, 1997).

1) Where a case is so representative, it allows general information to be gained. From desk review, it was possible to learn that no single company in Ethiopia had employed a systematically developed CI programme to support its decision-making and thereby had taken advantage of this to increase its local and global competitiveness. This was a common truth for other similar companies in the metal and engineering industry and other medium and large enterprises in the country as a whole.
2) CI was not a formally carried out issue in most Ethiopian companies. And this was true in the case conglomerate too. On the other hand, though found in different industries, there were potential private and public for-profit making corporations (cases) which were well established and seemed to become a knowledge-based organisation at least in the long-term business practice of the nation. Thus, this study will bring light to those companies which are operating in the metal and engineering sectors in Ethiopia—to start forming a formal CI activity and using CI for their SDM. Almost all literature supports and encourages the use of CI since CI has strategic significance for almost all companies (industries) of different sizes.
3) Being an in-depth case study that was conducted in big conglomerate which had semi-autonomous industries and since the study made deep investigation in each case (industry), the study possessed unusually dual purpose—purpose to the conglomerate and each industry in it. This means that though the study took place in the structure (context) of one big conglomerate corporation which involved more than 17 big industries (each involving five to seven big factories). Technically, the study made deep investigations in each of the six selected big semi-autonomous industries which were highly integrated than the other industries of the conglomerate. Therefore, coverage wise, this study could be taken as an analogous of multiple-case study that was underway in semi-autonomous relatively big industries of the parent company.

Not contrary to the reasons given (i.e., generalisability and replicability) for conducting multiple-case study, each industry could be taken as one big sub-case under an umbrella of a broad single-case study for the following reasons:

1) In Ethiopian context, each industry could be taken as a large industry since it comprises many SBUs and/or factories under it;
2) Relatively, each industry was found in a different business, core business, external and internal environments; and
3) Related to the above reasons, the industries were operating in different markets too. In most studies made on companies, which had many subsidiaries, CI was mostly discussed mainly to serve unique intelligence needs of SBUs. Similarly, CI collection and use were dependent on the firm's specific market/industry.

(3) Critical case

The third rationale for the single case is that it represents the critical case in testing a well formulated theory (Schell, 1992). Some single-cases are made to capture the conditions of a commonplace situation, or merely to test or validate a well-formulated theory. Yin (2009) also associates the appropriateness of a single-case study with the need to test a significant theory. This case can also represent a critical case as it is situated in broader theories that show the importance of information for decision-making — that is, CI value for strategic decision-making.

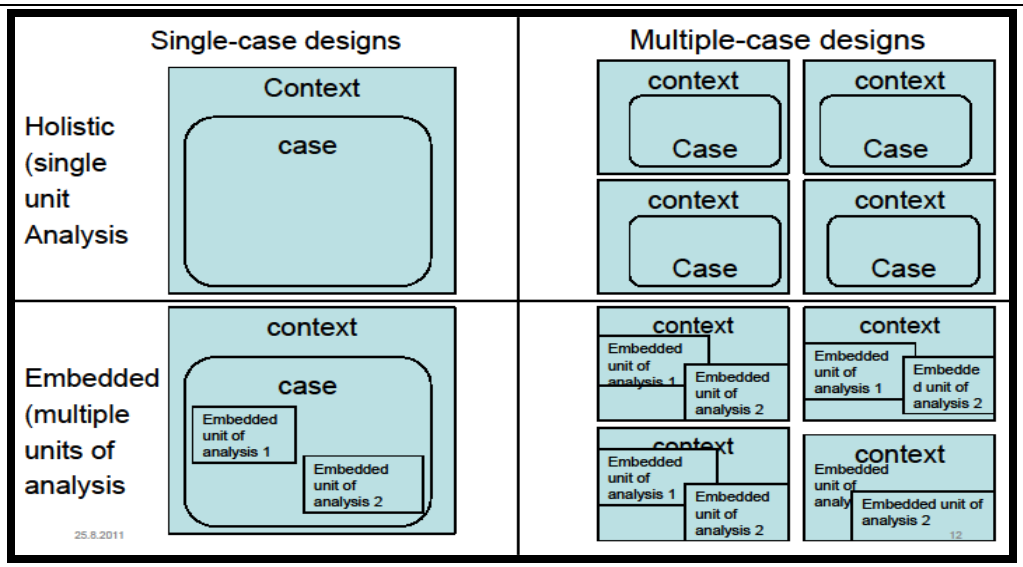
Where a theory has a clear set of propositions together with a solid understanding of the circumstances in which these propositions are believed to be true, the case is a critical case. Yin (1994) notes that critical cases allow the researcher to confirm, challenge or extend a theory, or framework, in other words they allow the validation of a framework. The present study does not have proposition for it is the first exploratory research in Ethiopia and conducted in a unique case. However, from the literature review and within the contemporary context (strategy of the conglomerate), the researcher, too, strongly believed that CI would largely enhance conglomerate's SDM and thereby its competitiveness. As could be implied from the purpose statement of the study, SI would have a significant contribution to enhance SDM of the conglomerate and its industries and thereby enhance their competitiveness in the short-, medium- and long-term metal and engineering industries in Ethiopia. However, as a secondary objective, this study seeks to find common contextual issues that both CI application and SDM share through the literature review and empirically validated findings—middle-range theories.

To conclude, the three justifications put by Yin (1994) for conducting single-case study or the rationale for single-case designs cannot usually be satisfied by multiple cases. By definition, the unusual or rare case, the critical case and the revelatory case all are likely to involve only single cases. Moreover, conducting a multiple-case study can require extensive resources and time beyond the means of a single student or independent research investigator. Therefore, the decision to undertake multiple-case studies cannot be taken lightly (Yin, 1994). Thus, the researcher preferred to conduct a single case study to multiple case study for this type of complex phenomenon for the first time in Ethiopia.

5.5.3 Embedded units single-case design

Yin (1984) describes cases as 'holistic' and 'embedded' based on the source of information. According to him, when a case has a single source of information, it is taken as a holistic case.

Whereas, when a case has multiple sources of information, it is taken as an embedded case. Embedded designs should be used when logical organisational sub-units can be identified; holistic designs should be used when they cannot (Yin 2003; Scholz & Tietje, 2002; Schell, 1992). The main case and the six embedded sub-units were identified following a single-case protocol. As illustrated in Figure 5.1, this study employed the approach found at the lower left quadrant (i.e., embedded multiple units of analysis). In this approach, the starting and end point is the comprehension of the case as a whole in its real-world context. However, in the course of analysis, the case could be faceted either by different perspectives of inquiry or several sub-units.



(Source: Yin, 2003: 46)

Figure 5.1 Comparative single-case designs

One means of making thorough investigation or exploration of a phenomenon is by studying units or processes or projects within a single case (embedded). An embedded units single-case design is a methodology that provides a means of integrating quantitative and qualitative methods into a single research study (Yin, 2003; Scholz & Tietje, 2002). The study design was appropriate because it relied on multiple sources of evidence to add breadth and depth to data collection to assist in bringing richness of data together in the apex of understanding through triangulation and contribute to the validity of the research (Yin, 2017; Yin, 2003).

Why the researcher cannot use multiple-case study in the conglomerate?

Well, if this study rather used the holistic multiple case study (second quadrant) approach, it would be a multiple case study on the subsidiaries (industries) of the conglomerate and whose title would be like *CI for SDM in Subsidiaries of a conglomerate.* Thus, though it would satisfy the 'replication' logic of a multiple case study, the study would be a handicapped one

as long as it would be conducted in subsidiaries whose context was same (in terms of the derived strategy, structure and effort of CI) in same one conglomerate. This means, this option does not satisfy Yin's option of working in multiple case analyses in cases that are operating in different contexts. The researcher wants to mention this possibility because single-case exploratory studies are highly subject to modification of methods which would be resulted during the emergent and unexpected realities which would reveal themselves during the course of the study.

Why embedded multiple units single-case strategy?

The basic distinction in Yin's categorisation approach revolves around the question whether or not a given study investigates multiple cases and whether or not it involves a single unit of analysis or multiple units of analysis. In other words, the selection of a holistic or embedded case study design will depend on the type of phenomenon being studied and the research questions (Yin, 2017; Yin, 2009).

One means of making thorough investigation or exploration of a phenomenon is by studying units or processes or projects within a single case (embedded). Yin also provides the rationale for adopting a specific type of case study, the single-embedded case study (Yin, 1994). Following Yin's rationale, it is necessary here to reason out why the researcher prefers to make an embedded multiple unit single-case study. The following facts about the single-case study in the conglomerate justified the appropriateness of using this study approach. It should be recognised that though the case conglomerate was a single big conglomerate, the study was conducted embedding its six subsidiaries and the HQ (sub-units), which were even found at different locations of the capital city and outside of Addis Ababa.

1) Single-case designs require careful investigation of several possible choices to minimise the chances of misrepresentation and to maximise the access needed to collect the case study evidence. A single-case study with embedded unit of analysis captures the circumstances and conditions of an everyday or commonplace situation.
2) Single-embedded case studies are most promising when the same case study involves several units of analysis, i.e. when attention is also given to one sub-unit or several sub-units (Yin, 1994: 46-48). Embedded designs should be used when logical organisational sub-units can be identified; holistic designs should be used when they cannot (Scholz & Tietje, 2002). Including the main case (Corporate HQ), this single-case multiple units study already identified seven units of analysis which were found in same structure of the big conglomerate.
3) *Complexity of the case (exploring issues of CI as linked to SDM and strategy in a big conglomerate with many industries and factories under the industries):* Holistic case study refers to a single-case study design with a single unit of analysis, whereas embedded case study refers to a single-case study design with multiple units of analysis. One of the common pitfalls associated with a holistic research design is that there is a tendency for researchers to analyse the case in question either too broadly or to choose a topic with too

many objectives to study properly. Several authors, including Yin (2003) and Stake (1995), have suggested that placing boundaries on a case can prevent such explosions. To this end, the researcher had chosen an embedded case study with multiple units of analysis design for the complexity of the case.

4) Both chapters on the Theoretical Foundations and Literature give detailed discussion on CI and SDM in conjunction. Thus, this multidisciplinary discussion approach requires a single-embedded case study and mixed method.
5) According to an established consensus in the literature, the study of strategy making (which can be seen with reference to CI) requires consideration of the context of the study, which would dramatically increase the number of variables. The embedded single case study is a methodological approach that seems ideally suited to accommodate context in the study of strategy making (Gibbert, 2003).
6) The ability to look at sub-units which are situated within a larger case is powerful when the researcher considers that data can be analysed *within* the sub-units separately (within case analysis), *between* the different sub-units (between case analysis), or *across* all of the sub-units (cross-case analysis) (Baxter & Jack, 2008). Within the single case embedded design, the sub-units can often add significant opportunities for extensive analysis, enhancing the insights into the single case (Yin, 1994). The insights offered by this case study should be seen as accumulative to the already established body of knowledge not in contrary to the uniqueness of the case (state-owned, big conglomerate, with integrated industries and in Ethiopia).
7) It was possible to make in-depth investigation on this single organisation (but composing six big sub-units) in a limited time for a doctoral student. To put it differently, resource limitations (time and money) had redirected the researcher to conduct his study in single organisation but composed of seven units of analysis (i.e., the six big subsidiaries and the parent company at the HQ). The Industries for sub-unit analysis could be easily identified in the conglomerate. The single-embedded design is advantageous when a single or several units are clearly identified (Rowley, 2002).
8) A problem with the holistic design is that the entire nature of the case study may shift, unbeknownst to the researcher, during the course of study. The initial study questions may have reflected one orientation, but as the case study proceeds, a different orientation may emerge and the evidence begins to address different research questions. One way to increase the sensitivity to such slippage is to have a set of sub-units. Thus, an embedded design can serve as an important device for focusing a case study inquiry (Yin, 2003).
9) Lastly, it was the interest of the researcher to work on researchable case company and on strategic establishment for the country's transformation and industrialisation plans; and unique strategies of the conglomerate–which were mainly guided by the country's strategic interest and priorities. *(Case conglomerate's strategies and missions are already discussed in the Context chapter).* A case is considered from a specified perspective and with a special interest (Scholz & Tietje, 2002). The researcher has a keen interest to investigate the phenomenon along the unique contexts of the case as related to the country (the GTP) and to show how the conglomerate could be benefited by enhancing CI for strategic purpose in its attempt to help the industrialisation and competitiveness of the country.

Because of the aforementioned facts, the 'contributions of the study' and the justifications given for the single case study, a single-case design with embedded multiple units of analysis was chosen as the best option for this study.

5.6 Case study procedure, case selection and units of analysis

This section presents the case study procedure, case context, case selection and units of analysis. It is better understood along what are broadly discussed in Chapter 2 (Case background and study context).

5.6.1 Research procedures (case study protocol)

The limitations of single-case study research as associated with issues of validity and reliability were addressed in the research design by including provisions such as a process of careful subject selection, clear definition of the sub-units and a comprehensive case study protocol (5.9: Methodological Norms and Quality). Those considerations for conducting a single case study were maintained in this case study—deciding the case prior to data collection; identifying, delimiting the case and its context; and distinguishing between the phenomenon studied (the case) and its context (Rowley, 2002).

Also, to maintain the quality of the case study, the researcher had followed the case study protocol by performing the following activities of case study procedures:

1) Making a preliminary investigation using desk review about the status and use of CI in Ethiopia;
2) Deciding on the case in metal and engineering sector;
3) Selecting the case—Details were already given under Justifications given for Single-case and Embedded multiple units single-case study;
4) Making preliminary investigation in the case conglomerate (in the Corp-HQ to determine the units of analysis and refine the context of the study);
5) Determining the unit of analysis (Corp-HQ and selected industries or sub-units in the conglomerate) using already conducted a preliminary interview at the headquarter (HQ);
6) Presenting theoretical foundations and conceptual framework for the study in Chapter 3 to guide the study;
7) Making extensive literature review relevant empirical studies, best practices and proof of tested theories. This also guided the study since the literature was framed based on conglomerate's strategies and possible KITs (in Chapter 4);
8) Making data collection and analysis in the multiple embedded sub-units (in selected industries)—using both qualitative and quantitative data (from employees at large); and by making data collection and analysis concurrently;
9) Conducting corporate-wide exploratory study in Corp-HQ using qualitative method—before and after collecting data from the industries. Yin (2003) cautions novice researchers integrating embedded units into case study design, noting that they may tend to conduct analyses at the sub-unit level and fail to return to the global phenomenon central to the research study. This is a valid concern, especially considering the complexities inherent to the phenomenon of student academic success explored in this embedded case study design. In an effort to not lose site of the global issue at the heart of this study, the discussion of results for this study returned to the global-level of the phenomenon central to this research study (i.e., the main case, the corporation as conglomerate);

10) Making overall synthesis: Making cross sub-unit analysis and synthesis in conjunction with the main unit of study (the Corporation or HQ)—6.12 of Chapter 6;
11) Recommending CI programme implementation-strategy and initial CI programme execution framework for starting up a formal and structured CI function for the Case; and
12) Indicating future studies out of the findings of this exploratory study within and/or as implied from the study's own limitations. Conducting this type of single case-study is to be understood foremost as a prelude to further study, in other words as an exploratory device or a pilot case where issues are identified rather than hypotheses tested.

Actual procedures in data collection, analysis and presentation: Considering the aforementioned facts, more or less, the study had followed the following procedure and structure in data collection, finding discussion (presentation), interpretation and conclusion.

Data collection:

1) Corp-HQ QUAL (Background data from documents and preliminary interview)
2) Corp-HQ (pilot questionnaire and data also incorporated in the main study)
3) Corp-HQ QUAL (Interview)
4) Industries QUAL (Interview) and Industries QUAN (Questionnaire)

Finding presentation:

5) Corp-HQ QUAL (Background data from documents and preliminary interview)
6) Corp-HQ QUAL Analysis
7) Sub-case QUAL Analysis
8) Sub-case QUAN Analysis
9) Overall conclusions (QUAL and QUAN)

Interpretation and conclusions:

10) Sub-case comparison conclusion (QUAL and QUAN)
11) Case (as conglomerate) (QUAL and QUAN)

Recommendations:

12) Industries and the conglomerate (Case company as conglomerate)
13) Implementation FW (Case company as conglomerate)

5.6.2 Case and sub-case selection

The case selection or screening goal is to avoid the scenario whereby, after having started the actual case study, the selected case turns out not to be viable or to represent an instance of something other than what the researcher had intended to study (Yin, 2004).

5.6.2.1 Purposive case selection

Purposive case selection provides an ability to collect the most relevant data (Edmonds & Kennedy, 2012). Cases selected via purposeful sampling in case study research can be single cases (a single organisation) or multiple cases (a number of organisations). Related to purposeful case selection, Yin states case study is not a methodological choice but a choice of what is to be studied (Yin, 2003). Since the study is a single-case study, one single organisation is selected as representative of a general phenomenon. Thus, as put by Yin (2009), the first step in designing the current case study was also made after defining the 'case'.

Results of the desk research and preliminary investigation redirected the researcher to make his study in this unique and critical case on the issue which has never been explored in the nation—Enhancing CI value for SDM in the biggest vertically integrated conglomerate which had many integrated subsidiaries and whose strategies were crafted from the national development and industrialisation agenda. Explanation given 5.5.2, *Justifications for using a single-case research strategy*, mainly those issues which are raised on 'unique case', 'representative case' and 'critical case', were also taken as reasons to select this conglomerate as a case to study. Relevant reasons were provided for selecting the case conglomerate under: *Why embedded multiple units-single-case strategy?*

5.6.2.2 Sub-case selection

"Case selection includes deciding on the number of units of analysis, distinguishing between case topic and case context and determining the time specific boundaries that define the beginning and end of the case" (Yin 1994: 24). In considering the research questions and defining the design for a case study, it is very important to determine the unit of analysis. The unit of analysis is a critical factor in the case study. It is typically a system of action rather than an individual or group of individuals. As a general guide, the researcher's tentative definition of the unit of analysis (which is the same as Yin's definition of the "case" or in this case the larger case (the case conglomerate) and sub-cases (subsidiaries/industries) is related to the way the researcher has defined the initial research questions.

This study was undertaken in a conglomerate which comprises 15 big industries and 2 sub-industries, which were producing either commercial products or military products or both types of products. This study selected six semi-autonomous subsidiaries which were involved in producing commercial products and vertically integrated. The HQ and the six industries, which had high industry integration are the embedded units of analysis for the case study. In addition to the reason provided for sub-case selection (selecting the 6 highly vertically

integrated industries among the 12 commercial industries), both military product- and commercial product-producing industries have similar structure, organisation and management. Because of these similarities (i.e., the generic strategy, structure and management the industries apply/follow), the six industries are very representative to conduct the embedded multiple units single-case study.

5.6.3 Units of analysis

The embedded design is preferred when the same case study involves more than one unit of analysis. Although their strategies are derived from the conglomerate's grand strategies, the units were sufficiently diverse in terms of business domains, core businesses, origin, growth stage, even industry-specific culture and other characteristics to warrant their inclusion in the case study.

Operational definition for sub-units: A major step in designing and conducting a single case is defining the unit of analysis (or the case itself). "An operational definition is needed and some caution must be exercised—before a total commitment to the whole case study is made—to ensure that the case in fact is relevant to the issues and questions of interest" (Yin, 1994: 44). In this study, the term 'embedded' is used to denote the multiple units of analysis, namely the sub-units (six industries and HQ) of the case conglomerate. The main unit was the organisation as a whole. Thus, this study gives an analysis focusing on different sub-units of a specific phenomenon and in the context of one entity (conglomerate). The embedded units were also major units of analysis along the entire company or main case (Corp-HQ). The research was carried out as a single embedded case study, where focus was on both an overall case unit and to multiple sub-units embedded in the overall case unit (Yin, 2009).

The case conglomerate also involved three exclusive industries that were engaged in producing weapons and military items. Side by side, as integrated industries, a few of the commercial industries (factories) of the conglomerate also produce military items and complementary products for the military industries. In this study, industries that were engaged in production of civil or commercial products (not Military SBUs of the conglomerate) were chosen for the sub-unit analysis. These units were selected deliberately since they are highly integrated than the rest industries.

Selected sub-cases or units of analysis: The six industries and the headquarter are sub-units or sub-cases of the embedded single-case study.

The researcher intended to work the sub-case study in a total of eight industries. However, from the actual field work, he learnt that two industries were less integrated and the selected six industries whose grand strategy and generic structure were already prescribed by the parent company. Thus, two subsidiaries/industries were excluded from the actual field study. Because of this (sub-case) uniformity and the lesser integration, the Hi-Tech and the agriculture machinery industries (which were planned to be potential sub-cases for the study). In other words, the six industries (sub-cases) were very adequate to come up with answers to the questions of the study and discuss the findings within similar contexts pertaining to the sub-cases and the case conglomerate at large.

Although Corp-HQ was the parent company or headquarter of the case conglomerate, it was taken as one of the sub-cases in the study as a reference point and shall be considered as one sub-case so that it was possible to make comparisons among the responses of the sub-cases (the industries) and between the sub-cases and the conglomerate (as headquarter).

Thus, the main unit, which was the conglomerate as a whole and the six industries were the primary units of analysis. In short, unit of analysis for the embedded case study was done on:

1) exploratory study in the main case (Corporate Headquarter and its Principal Corporate Units); and
2) exploratory study in sub-units (six selected industries and the HQ; and relevant CI-related Departments—R&D, Marketing and Sales, Industry Clustering and MIS and/or Planning)

The target subjects at the HQ involved CI-Strategy Activity Units and/or Principal Corporate Units were: Corporate Commercial Operations, Corporate Research and Development, Corporate R&D, Corporate New Business Development, Corporate Marketing and Sales, Corporate Finance and Investment. The embedded industries are linked to the Principal Corporate Units and Director's Office at Headquarter. Moreover, these units can be both producers and users of CI. The respondents in this group were directors of the Corporate Commercial Operations, Corporate New Business Development, Corporate Marketing and Sales, Corporate Finance and Investment, Corporate Strategy and Control Units; and members of the Think Tank and Knowledge Management Organ (dissolved during data collection). The main departments which seemed to have performed CI-related activities and were included in the sub-case level data collection include: (1) Marketing & Sales Department; (2) Research and Development Department; and (3) MIS and/or Planning; and (4) Manufacturing Clustering Department.

The respondent groups are listed in 5.7.3 (Qualitative and Quantitative Data Sources).

5.6.4 Sub-cases similarity and implications for the study's approach

It is vital to give brief justifications why the actual field study findings have somewhat altered the data collection procedures and presentation of the findings—a slight difference from the study's plan.

Similar sub-cases: The parent company (the conglomerate) has already provided the generic structure and framework of an organisation in such a way that all industries should refer and develop their own structure in accordance with the framework put in place. Thus, as confirmed by key informants, the industries have almost similar structure and management practices which include making major and/or strategic decisions in teams.

The industries were tailored to follow the strategy of the conglomerate. Although the industries have some latitudes in planning and executing their own plans and developing projects, they were/are expected to comply with the strategic issues, objectives and core strategies of the conglomerate such as technology transfer, custom production, technology transfer, meeting national market failures (national demand-supply gaps) and partnership or joint-production.

Similar group of respondents (qualitative data source targets): The fact that the conglomerate and its industries originated from the already existing military industries with technology facilities of the FDRE's government, the leadership and management philosophies may originate from military institution leadership practices. These officers who were main respondents of the study were expected to have almost similar background, expertise and even similar level of awareness and understanding of the problem issue under investigation.

Higher positions in the headquarter including the CEO, members of the Executive Committee, Principal Corporate Units (PCUs) and other departmental and section heads were managed and led by higher military officials. The managerial positions in the industries' upper echelon and departments were also staffed by higher military officers. These officials were the ones who were interviewed and consulted to obtain the qualitative data.

The study was also largely helped by availability of similar group of respondents due to the fact that the majority of these respondents were qualified in both Military Science (good to note here the points of convergence between military intelligence and CI) and Business Management/Engineering/Information Science. Based on the discussion provided in Chapter 4 (4.7.2.2.3 Transferring Military Intelligence Experiences into Business), the researcher believed that this combination of skill/experience Military and

Engineering/Business/Management would certainly create conducive environment for the study and would help in enhancing the validity and reliability of data collection tools.

Considering the above facts, thus, the study should make some adjustments in its data collection, analysis and interpretation techniques and procedures. That is, it was found feasible to make summary analysis in one to most of the responses obtained from the industry sub-cases. This would also present an opportunity to make general conclusions while at the same time to allow an easy way for data presentation. However, a finding which was different or unique to the sub-case or a department has to be discussed specific to the sub-case or respondent department like what has been done to in variance analyses.

5.7 Instrument design, data collection and sources

This section presents the data collection instrument design, and the types of data collected from different sources using different instruments.

5.7.1 Instrument design, administration and study constructs

In order to make appropriate sub-case selection, initial research design and develop main constructs to design data collection instruments, the researcher made a preliminary investigation on the selected case company. This activity was actually preceded and performed based on the broad theoretical and literature investigation focusing on the main strand of the study (i.e., CI for SDM).

During the preliminary investigation, the researcher could gain a general insight whether and how the concept of CI (competitive information/intelligence) was understood in the case company. Besides, it was possible to explore the overall status and use of competitive intelligence as it is linked to strategic and other business decision-makings. It was only possible by this investigation that the researcher could develop an initial 'CI-SDM linkage constructs' for the main case study (survey and interview).

5.7.1.1 Questionnaire design

Although this study is not a large-scale study made to test external pilot testing for randomised sampling (Lancaster, Dodd & Williamson, 2002), which is common to external pilot testing, the pilot testing was made for the main reason of enhancing methodological rigour. Thabane, Ma, Chu, Cheng, Ismaila, Rios, Robson, Thabane, Giangregorio and Goldsmith (2010) argue that an internal pilot investigation does not usually address any other feasibility aspects because it is essentially part of the main study. Similarly, the very purpose

of conducting the 'pilot' was not to ensure external validity, but, as a single-case study, rather to ensure internal validity.

In order to get the right test results from both respondents working at the HQ and the industries for the questionnaire, the 37 (n=37) target respondents who were involved in the pilot study were CIPs who were found at the CaseOrg (HQ), Sub-case B and Sub-case C. The responses obtained from these target respondents were also included in the main study. Thabane et al. (2010) justify the possibility of combining data from the pilot with data from the main study, provided the sampling frame and methodologies are the same. They even argue that this can increase the efficiency of the main study. However, they further warn that caution is needed to ensure the key features of the main study are preserved in the pilot.

The result of the pilot survey was also incorporated in the main research for the following three reasons. First of all, the respondents who took part in the pilot study were target respondents who were useful to the study and were not provided the questionnaire for the second time (i.e., final study). Secondly, the questionnaire for the pilot study was prepared after making detailed preliminary investigation at the HQ and the two industries (sub-cases). Due to this, only the KIT topics and one item was excluded from the final pilot study, rather be called from the first phase of questionnaire administration. Since the KITs identified by the pilot testing (questionnaires) were enough for the study and were less relevant to the purpose of the study (and are not specifically included in the conclusion and recommendations of the study) and the items of this item category (i.e., variables) would make the final questionnaire bulky, this part was omitted from the final questionnaire. Put differently, all the key variables (items) that appeared on the pilot questionnaire also appeared on the final questionnaire. Thirdly, because the study is a single case study (in a unique case) and the number of participants who would take part in the purposeful sampling were limited in number, the responses of this same group had to be included in the final research/analysis Related to the given reasons, Lancaster et al. (2002: 310) also note the following, "…In some situations, even participants involved in an external pilot are later included in the main study, to make savings in recruitment".

As regard to the reporting of results, Lancaster and his colleagues note the following, "The analysis of a pilot study should be mainly descriptive or should focus on confidence interval estimation" (Lancaster et al., 2002: 311). Despite this fact, it is informative to provide explanations in how the final questionnaire was improved.

Pilot questionnaire reliability test results: The pilot questionnaire was designed based on the research questions and tentative constructs. The items were designed to gain insights on understanding of the concepts of competitive information/intelligence, perception of employees on CI importance and their involvement in CI collection and knowledge sharing, CI status, location of CI, challenges in implementing formal CI and purpose/use for CI for SDM or other decision making in both the main case and the sub-cases. The final questionnaire was refined and constructed based on the results of pilot survey, which were tested for reliability and validity.

Both reliability and validity test look good for both the pilot and final items of the questionnaire. A test of normality was also run so that it was possible to do the right analysis for the collected data. All the items in the pilot study, including those items which were excluded from the final questionnaire in order not to make the questionnaire bulky, had revealed highly accepted reliability test (Cronbach $\alpha \geq .96$) and content validity. Of the 85 items (nominal and scale variables) used for the pilot study, only 42 variables (half) were selected to conduct the final quantitative data collection from the seven units. The 32 KIT topics (items/variables) that are listed on Table 6.10 (Appendix 2) were omitted from the final data collection instrument.

Final questionnaire reliability test result: The reliability test for the items or variables which were used for the final analysis could also reveal a highly accepted reliability test (Cronbach α for all scale items = .892). No variable showed up itself as > .892 if deleted.

The reliability test for the grouped variables which were used for both ANOVA and Regression analysis have also Cronbach α = .931 (for the Main Constructs) and Cronbach α = .880 (for CI Implementation Challenge Variables). (See Table 5.4, Appendix 2)

Both open-ended and closed-ended questions were incorporated in the questionnaire. Likert scales were used to establish the level of agreement and disagreement of respondents to variables. As most items of the questionnaire were ordinal data items, they involved five response categories: Strongly Disagree, Disagree, Partially Agree, Agree and Strongly Agree. In some instances, these responses could be collapsed into one positive category (Strongly Agree and Agree) and one negative category (Strongly Disagree and Disagree) to make easy analysis. For CI implementation challenge or problem items, a similar way of categorisation of data was used: 5-Most pressing; 4-Pressing; 3-Less pressing; 2-Not a problem; and 1- Not practical.

Besides, the conceptualisation and iteration approach between the theoretical discussions and empirical findings have also contributed in assuring the content validity. As regard to content validity, Woschank (2018: 99) notes the following: "Content validity can be ensured by the structured research process which is based on the theoretical analyses and the systematically deduced conceptual framework."

Finally, responses from participants were collected in sealed envelopes so that no one could see how respondents replied. This could enable the collection of credible responses since this tactic would allow respondents to freely express their real feelings and opinions.

5.7.1.2 Interview guides design

Being a case study, the study is largely inclined to follow a phenomenological approach (interpretative approach) so that data case- and sub-case specific data shall be obtained from multiple sources of evidence such as interviews, questionnaire, focus group discussions and documents (Perry, 2001). Therefore, being a qualitative-dominant study, it was necessary to design the comprehensive semi-structured interview guide for the four respondent groups. The extensive literature review at the early stage of the study and the preliminary interviews informed the semi-structure interview guides. Pre-test interviews of key informants were beneficial in correcting prior assumptions of the research at both the industries and the headquarter. Moreover, the semi-structured interview presented to each interviewee was modified and tailored to gain specific information that was evident in each unit or department at the HQ and the subsidiaries. Irrelevant questions that might have similar responses were skipped during some interview sessions too.

As can be seen in the Appendices (Appendices 5-9), both the interview guides and the questionnaire involved introductory notes on the concepts of CI and instructions so that it would be possible to improve reliability and construct validity of the items. Each of the semi-structured interview guides also involved a sub-case or department/PCU-specific directed items so that specific research-related responses could be obtained from these units. Besides, along the main interview guides, the key informant groups were also provided additional supporting documents which explained the new concept CI and statements which clearly explained the purpose of the study (i.e., CI for SDM) so that they could have a clear grasp on what the researcher want to find by his study. As can be seen from the attached instruments, the data collection items were coded by sub-case, specific department and type of respondent.

The interview guides were administered at least one week before the actual interview session. Each respondent was given enough time to reply the questionnaire. In some instances, same

interview was conducted in two different days. This happened because respondents needed additional document to refer for some items or because the extensive interview had required additional time.

To improve the validity, reliability and generalisability of the study, comments of experts or key informant groups at the HQ and the industries were incorporated not only in designing the instruments (constructs), but also in designing the right research procedures and even analysis and generalisations of results (Yin, 2017; Yin, 2003). A couple of key informants, who were leading related departments to the study and two PCU heads at the HQ were asked to comment on the narratives from the interview transcriptions.

Finally, the contextual realities and orientation of the study (discussed in Chapter 2) also determined the constructs of the study. Considering these facts (context) and coupling the quantitative empirical data, the qualitative data and literature review, the following CI-SDM issue dimensions were finally identified as *main* constructs of the study and themes to discuss the empirical findings.

1) CI collection, availability and usage for SDM;
2) CI formality, structure, coordination and sharing and effects of these on SDM;
3) Challenges related to CI application and usage (*i.e., contexts, problems related to CI collection, quality, coordination, sharing, location, structure and their impacts on using CI for SDM*);
4) Overall usage of CI or information for decision-making;
5) Tactical and business decision-making using CI;
6) SDM using CI (*key construct that leads to the whole study*); and
7) Enhancing strategic value of CI for SDM *(# 4, 5 and 6 must be compared to investigate the actual use of CI for SDM so that CI shall be emphasised to support SDM*).

5.7.2 Sample size and data collection

The data that was used to address the aforementioned research questions was gathered from the six units (industries) embedded in the conglomerate and in the conglomerate (HQ). Even though this study was based on a single case, the use of multiple embedded units of analysis could allow for the strengthening of findings using this type of analysis. The two main levels of analysis provide for cross-case comparison and a greater understanding of phenomenon in the sub-units and in the conglomerate (generally). While this study was not primarily claiming replication, as it was limited to a single case, the findings were strengthened through the

inclusion of embedded units—different units (rather sub-case industries/subsidiaries) in a vertically integrated conglomerate.

5.7.2.1 Purposive sampling in each sub-unit

In distributing the questionnaire in the cases, *purposive sampling* was employed getting names of respondents who were initially determined by the management, based on the virtue of the office they held, their job responsibilities, position and knowledge of the subject of study—CI and SDM. Selection of people for the interview was also made purposefully. Practically, being a purposive sampling almost a census was applied to reach every potential respondent and almost all respondents who could provide relevant data for the study had responded the questionnaire (See Table 5.1 Planned vs. actual respondents and sub-cases).

The researcher purposefully identified and painstakingly selected those respondents who were directly engaged in making strategic decisions using CI (i.e., CI users/clients) from suppliers of CI at both the HQ and the Subsidiaries. Almost all individuals from the CI user and CIP group had participated in the study, at least by responding to the questionnaire when it was impossible to conduct the face to face interview.

Of the distributed 140 questionnaire to experts and sub-section heads, it was possible to secure 134 appropriately filled questionnaire—a high response rate (>95%). Almost all interviewees, who were higher officials and CEOs, welcomed the researcher and were highly cooperative in supplying the necessary data for the study.

5.7.2.2 Population and actual sample size

Adequacy of sub-cases for the study: Of the total 15 industries and 2-sub industries, the three industries produce military weapons. This study selected six semi-autonomous subsidiaries which were involved in producing commercial products and vertically integrated. In this study, industries that were engaged in production of civil or commercial products (not Military SBUs of the conglomerate) were chosen for the sub-unit analysis. These units were selected deliberately, since they are highly integrated than the rest industries. In addition to the reason provided for sub-case selection (selecting the 6 highly vertically integrated industries among the 12 commercial industries), both military product and commercial product producing industries have similar structure, organisation and management. Because of these similarities (i.e., the generic strategy, structure and management the industries apply/follow), the six industries are very representative to conduct the embedded multiple units single-case study.

Adequacy of respondent sample size and population: Regarding the population of individual respondents and adequacy of sampling, as indicated in Chapter 2 (generic structure for the industries shown in Figure 2.2), all the industries/subsidiaries have similar, particularly in the selected industries, structure and departments. Meanwhile, the composition, designation and assignment of the personnel in each of the conglomerate's subsidiaries and the selected units (departments) of analysis were the same too (i.e., R&D, MIS and/or Planning, Strategy & Control, Marketing & Sales, Clustering units/department/sections). Thus, almost all targeted personnel for the study (CI users and CIPs) had participated in the study, at least by responding to the questionnaire when it was impossible to conduct the face to face interview. Thus, within the selected sub-cases and at the HQ, the study almost applied census.

Below are listed sample size used for both interviews conducted with and questionnaire collected from the respective groups. Details are provided in Table 5.1 (Planned vs. actual respondents and sub-cases), Table 5.2 (Interviews at the Headquarter) and Table 5.3 (Interviews at the Industries) in Appendix 2 (Data Tables).

1) Respondent Group 1.1: Conducted interview with seven key informants who are directly responsible for CI and CI-related issues (CIPs) at the HQ. One (1) FGD was made with two technology experts at the Corporate R&D PCU.
2) Respondent Group 1.2: Conducted interview with 14 key informants who are directly responsible for CI and CI-related issues, including section heads to R&D, Marketing & Sales and MIS and/or Planning section (under the CEOs office) at the six industries. One (1) FGD was made involving Head of Marketing & Sales and Head of R&D (former Operations Head) at Sub-D (sub-case or industry D).
3) Respondent Group 2.1: Conducted interview with 6 managers who are strategic decision-makers and/or users of CI products (SI) at the HQ.
4) Respondent Group 2.2: Conducted interview with seven key informant who are decision-makers and /or users of CI products in the industries.
5) Respondent Group 1.3 (a): Collected questionnaire from 23 CIPs who are performing CI and CI-related functions, including marketing researchers, experts/engineers (in R&D departments), MIS personnel, strategy planning and controlling section heads at the HQ.
6) Respondent Group 1.3 (b): Collected questionnaire from 111 CIPs who are performing CI and CI-related functions, including marketing researchers, experts/engineers (in R&D departments), MIS personnel, strategy planning and controlling section heads at the industries.

5.7.3 Qualitative and quantitative data sources

This sub-section explains the types of respondent group and types of data collected from the respondent groups using qualitative data collection and quantitative data collection tools. The secondary sources which were consulted for the research are also presented.

5.7.3.1 Qualitative data

Desk research, preliminary interview, key informant interview (main interview made with leaders), content analysis and observations were used to find answers to the research questions and triangulate the discussion.

The contacted subjects were personnel that are mentioned in 'units of analyses'. Respondents in the industries and in the conglomerate (HQ) are shown on Table 5.2 and Table 5.3 (Appendix 2), respectively. The qualitative data from the listed key informants were collected from the very relevant Principal Corporate Unit Heads, section heads at the HQ, executives (industry CEOs), department heads, section heads and experts who were available during the field work. The key informants could be either CI users, CIPs (CI personnel, experts, researchers) or both.

Key Informants (Interviews): The interview sessions were conducted in order to get detailed data on the problem area or for the basic questions of the study.

The following Key Informants had participated in the qualitative data collection conducted using semi-structured interview guides:

1) Key informants directly responsible for CI and related issues (CIPs at HQ)—Group 1.1
2) Major strategic decision-makers and users of CI products (CI users at HQ)—Group 2.1
3) Key informants directly responsible for CI (CIPs at the Industries)—Group 1.2
4) Major decision-makers and users of CI products in each industry (CI users at the sub-case)—Group 2.2

Content Analysis: Content analysis was also made to supplement the empirical discussion and to interview the key informants referring the company and sub-case documents consulted during the study.

The following secondary sources were consulted in the content analysis:

- Corporate strategies (on information sources and usage for SDM and strategy design process)
- Formats and checklists relevant to the study like customer survey, information collection, storage, reporting formats
- Annual planning and strategy implementation-related evaluation checklist
- Sample strategy of one industry
- Technology Selection, Management and Transfer Manual
- Council of Ministers Regulation to Establish the Case Corporation (Regulation No. 183/2010)
- Corporate organisation structure (used to trace CI from the different functional units)
- Industry organisation structure
- Corporate magazine (quarterly magazine) and many newsletters
- Industries magazine
- Capacity-building package
- Website of the case
- Media on the case and its industries
- Press on the case and its industries
- Transformation (especially on what issued on the conglomerate and the industries)

Observation: Attempts were also made to physically check on the existing infrastructure that might give ground to initiate a formal CI system in the case conglomerate. The observation involved physical visits to a few factories in each industry. There was also the possibility of visiting facilities at the audio-visual section in the Corporate Public Relations and International Affairs Unit. Head of the MIS section under Strategy and Controlling PCU also demonstrated the software being used and developed by the case. The researcher also had the opportunity to make two separate visits and participate in two exhibitions (one organised by the case and the other when the case company participated in an international exhibition).

5.7.3.2 Quantitative data

The questionnaire was designed mainly to collect information so that they would supplement the qualitative data analysis and make compared analyses between the responses of CI experts/researchers and the CI users. Most items in the questionnaire were intended mainly to staff members who were associated with their respective organisation's CI function or activities who were selected from both the conglomerate (at HQ) and the industries.

The main participants of the quantitative data collection procedure were CI-responsible personnel (including CI personnel, engineers, technology experts, researchers, marketing and information personnel) and those key informants who could not take part in the interview.

Besides, most items which appeared on the questionnaire were intended to find answers to the research questions which otherwise could not be obtained through an interview. Thus, the quantitative data was mainly intended to complement the qualitative data gathering, which would ultimately enhance rigor through triangulation. Triangulation enhances construct validity (Yin, 1994; Denzin & Lincoln, 1994). The basic principle of triangulation can be applied to several areas: method triangulation (combining quantitative and qualitative research methods), researcher triangulation (two or more researchers are involved in the study) and data triangulation (Denzin & Lincoln, 1994; Yin, 1994; Denzin, 1978). In data triangulation, the collected data are validated by correcting errors of fact. The usual approach is to have key informants and research peers to review the actual facts presented in the case study (Yin, 1994).

Before filling in the questionnaire and in the start of each interview session, respondents were informed in advance the meaning of CI and that the focus of the study was on the strategic value of CI for SDM.

Almost all of the distributed questionnaire were collected and properly answered. Meanwhile, since a good number (n=134) of questionnaire were collected, different inferential statistics, like correlation, analysis of variance and regression could be employed in manipulating the data.

5.8 Data analysis and interpretation

The architecture for an embedded case study was developed by Scholz (1998) and Scholz and Tietje, (2002). In line with this architecture, the researchers first organised the case analysis into three structures or levels, each with its own, specific importance. The levels are linked to different qualities of knowledge (theory of knowledge): *(1) Verstehen (understanding), (2) Begreife (conceptualising)* and *(3) Erklären (explaining)* (Scholz & Tietje, 2002).

According to Scholz and Tietje (2002), in this study, the knowledge integration can take three types:

1) Disciplinary (like CI and SDM, which are two key constructs);
2) Systems (like the HQ and industries relationship and aligning CI and SDM in a conglomerate); and
3) Interest (like enhancing the value of CI for SDM in the case company).

This study partly adapted this Architecture for analysing and synthesising the empirical data of this case.

5.8.1 Qualitative and quantitative data analysis

Multiple source of evidence is used when a contemporary phenomenon within its real-life context is studied and when the boundaries between phenomenon and context are not evident (Yin, 2003). This is also true for this study where the setting and boundaries of CI practice and its application in the course of SDM process in the conglomerate were not clearly defined.

5.8.1.1 Qualitative data analysis

The case study's strength is its ability to deal with a full range of evidence—content analysis, documentation, artefacts, interviews and observations (Schell, 1992). The various methods used for data collection within a case study vary considerably. Methods such as observation, documentary analysis, questionnaires and interviews can be used. Accordingly, for example, the qualitative data concern meanings and the way executives, directors of principal corporate units, directors and department heads of the HQ, selected industries and even employees who could contribute to the CI function, manage and understand relevant issues as stated in the research questions. All these should therefore provide a deeper understanding of the phenomena.

5.8.1.1.1 Thematic analysis

The main qualitative analysis method for this study was *thematic analysis.* A framework of sections (based on those framed in Chapter 3 and Chapter 4, specifically the finally outlined *study constructs*) reflecting the themes in the case study were developed and evidence was gathered within relevant themes analysed and compared in these categories in order to achieve a description of the case study that can be corroborated from multiple sources of evidence (Rowley, 2002).

The following study constructs were used to apply the thematic analysis (in Chapter 6) and make conclusions (in Chapter 7):

1) CI collection, availability and usage for SDM;
2) CI formality, structure, coordination and sharing and effects of these on SDM;
3) Challenges related to CI application and usage;
4) Overall usage of CI or information for decision-making;
5) Tactical and business decision-making using CI;
6) SDM using CI; and
7) Enhancing strategic value of CI for SDM.

5.8.1.1.2 Data interpretation

In this type of case research, multiple sources of evidence should be consulted from the cases, for example, interviews, questionnaire, focus group discussions and documents (Perry, 2001). Thus, opinions of managers and responsible persons (via interview), questionnaire about the why and how of gathering and using of CI for SDM, even visits to a facility and relevant documents on strategic issues, minutes, organisation structures, policies, organisation manuals (via contents/thematic content analysis) and those documents listed in 5.7.3.1 (Qualitative Data/content analysis) were used to make the analysis and triangulate from rich data.

Following the exploratory study, interpretative approach was employed to study the cases and get case-specific data using the researchers' personal understanding and judgement for analysis and interpretation. Using interpretative approach, qualitative research analysis can be made in order to explain or interpret managements' behaviour in gathering and using competitive information and their behaviour in strategic decision processes using this information. In their attempt to link (use) CI to strategy, it was also possible to identify what useful information (key intelligence topic) the conglomerate and its subsidiaries determine and collect from different sources and link this to prior knowledge to construct meanings about the structure of the competitive environment, market/industry, content/base of competition and other SDM requirements. For those phenomenon or issues, like employing military intelligence skills to businesses or in CI, of this study were discussed pragmatic enough were interpreted using this approach.

5.8.1.2 Quantitative data analysis

Both Yin (1994) and Harrison (2002) observe that various research strategies are not mutually exclusive and it is quite possible for a survey to be part of a case study. When an embedded design is used, each individual case study may in fact include the collection and analysis of highly quantitative data, including the use of surveys within each case (Yin 2003: 52-53).

5.8.1.2.1 Survey questionnaire to employees

The exploratory questionnaire was expected to offer positive proof of evidence/data for it was collected and discussed using positivist approach largely applying statistical techniques. For the survey, the questionnaire was designed based on the research questions and constructs. The questionnaire was distributed to gain insights on understanding of the concepts of competitive information/intelligence, perception of employees on CI, their involvement in CI collection and knowledge sharing, CI status and use of CI for strategy in the case and its

industries. Therefore, compared analysis could also be made with the qualitative data which was obtained from executives through an interview.

In performing statistical analyses for this survey, the researcher employed a number of grouping procedures to simplify presentations into understandable themes.

Grouped variables used for statistical analysis: In terms of the traditional categorisations given to scales, a continuous variable would have either an interval, or ratio scale, while a categorical variable would have a nominal scale. Ordinal scales sort of fall in between. Bentler and Chou (1987) argue that ordinal scales can reasonably be treated as continuous as long as they have four or more categories. However, according to De Coster (2006), if an ordinal variable only has one or two categories, it is probably better that it either be treated as categorical, or else using procedures specifically designed to handle ordinal data. An ordinal scale allows a researcher to say something about who has more or less of the characteristic being studied. This permits a more sophisticated form of analysis, where a researcher can begin to investigate how and why some are ranked higher than others with respect to the phenomenon being examined. Thus, numerical values can be attached to values of an ordinal scale such as in attitudinal tests and social class stratification, for example.

An inefficient approach to handling nominal data is to convert one type of variable to another. If, for example, nominal variables can be subjected to some scoring scheme, then all the discrete variables can be treated as ordinal; alternatively, the ordinal scale may be treated as an interval and the ordinal variables can then be considered continuous (De Leon, Soo & Williamson, 2011).

Referring to many related studies (mainly theses/dissertations) that considered *ordinal scales as continuous scale variables,* Bentler and Chou (1987) and De Coster (2006) also support the possibility of making an analysis for categorical variables like those used in this study.

Group variables could be developed by making specific references to CI-SDM literature, the study's context and the pilot study results (reliability and validity analysis). For instance, similar CI collection issues and/or key intelligence topics (KITs) are grouped under related groups (category variables) and as practised by the case organisation. According to the conglomerate and the industries, both internal (customers of other industries of the conglomerate) and external customers are named as stakeholders and so is the intelligence the subject sub-cases do in this group. Finally, as can be seen from Table 5.5, 14 main dimensions or constructs were identified empirically from the quantitative data.

Table 5.5 Group variables identified by pilot testing

Main Constructs	CI implementation challenge group
1. CI collection & availability 2. CI sources 3. CI structure & coordination 4. CI sharing 5. Overall usage of CI or information for decision-making 6. Tactical & business decision-making using CI 7. Demand for strategic intelligence (SI) 8. SDM using CI	1. Challenges related to CI quality & decision usefulness 2. Challenges related to continuous (systematic) scanning or CI gathering 3. Challenges related to CI location/positioning 4. Challenges related to users' capacity in interpreting & understanding CI products 5. Challenges related to top management's perception 6. Challenges related to defining KINs (key intelligence needs) of users

The grouped variables that are shown in the above table are used to mainly make correlation, mean comparisons (ANOVA) and regression analysis for the quantitative data.

5.8.1.2.2 Data analysis tools employed

In making the quantitative data analysis, the study entirely used IBM SPSS Version 20. Frequency tables, charts, line graphs and mean plot were used to make a clearer presentation.

Though the study is qualitative dominant, mixed methods were also employed and more than the expected number of questionnaire were collected from respondents (n=134). Thus, the study had the advantage of employing different tools for inferential analysis, which are vital for advanced studies such as this study. Thus, a number of inferential statistics, like correlation, analysis of variance and regression, were used to manipulate the data.

Regression analysis: Enormous amount of data (i.e., variables in the questionnaire) is contained in this study to explore the phenomena rigorously—how CI issues are relevant and what different CI are used to support SDM and other decisions. Thus, there should be the need to use multiple regressions in this analysis because simple linear regression model is not equipped to handle more than one predictor.

Since enough data was collected (dataset=134), it is not worth reporting the adjusted R squared value. Moreover, since serious departures did not exist in the normality assumption and all the histograms for the reports look reasonably normal, they are excluded in data presentation too.

Variance analysis: Inferential methods that are used to test group differences among the ordinal variables are paired test, ANOVA and nonparametric measures. The ANOVA is made

for the questionnaire's data set that contains measurements on several different categorical variables whose value indicate a group the case is in.

The comparisons are made for the following reasons, which are actually associated to the basic questions:

1) To check on the status of each industry as compared to the others;
2) To check whether there existed response differences between the subsidiaries and HQ;
3) To analyse the point of differences on the perception and understanding of CI implementation-related issues among the respondents who were pooled from the three relevant departments—R&D; Marketing and Sales and MIS and Planning Offices; and
4) To check whether there are differences between responses of CIPs (CI personnel) and CI users; if any.

In addition to the largely employed inferential statistics tools (correlation, ANOVA, paired t-tests and regression), descriptive statistics has been used for the ordinal scale data. However, as much as possible, as an advanced study, this statistical tool was used only on a few variables and when it was mandatory to do so.

Furthermore, since the qualitative data gathered from the industries had almost demonstrated and resulted in similar responses, the quantitative data also needed to be used to answer the research questions. Data from the larger respondent group ***(n=134)*** was believed to enable the study to find out points of variations among the responses of the sub-cases. However, because almost all the items or variables were Likert-scale items and included explanations given by participants for a few open-ended queries, this part of the discussion could also be considered as qualitative.

5.8.2 Levels of analysis and data integration

The ability to look at sub-units that are situated within a larger case is powerful when the researcher considers that data can be analysed *within* the sub-units separately (within case analysis), *between* the different sub-units (between case analysis), or *across* all of the sub-units (cross-sub-case analysis) (Baxter & Jack, 2008). The main criterion for unit of analysis selection is the likelihood of presence of unit or activity or function related to CI in the organisation and potential to use CI for SDM. Even though the organisation in itself could be viewed as one case, the study further dissects it and views its different industries as separate sub-units, which shall be compared against each other.

As this case study consists of a single case with embedded units, analysis shall be done in these units internally, between each other and also to combine these findings and apply them

to the case study as a whole. Thus, the main unit is the organisation (the conglomerate) as a whole, the smallest units are the individual member industries and several intermediary units also were included and discussed mainly at sub-case, departmental and even respondent (as CI user and CIP) levels.

5.8.2.1 Analysis and synthesis in sub-units and the case

First, a within sub-unit analysis was performed and the data was further categorised into subtopics which will be identified based on the topic issues which were outlined under 'thematic analysis' and the relevant structured review literature (in Chapter 4), allowing the researchers to obtain a thorough overview of the information collected for each embedded unit of analysis.

Second, cross-sub-unit analyses, based on similar subtopics, were made between the different embedded units of analysis, providing an insight on similarities and differences within the industries and between the industries and the HQ. The analyses were made among the responses of the six sub-units (subsidiaries of the conglomerate) and between the responses of the industries and the responses of Corp-HQ. Finally, synthesis of the findings was made to the conglomerate as a corporation (Yin, 2012) so that a workable CI programme implementation-strategy could be developed in the end.

In addition to the thorough analyses and comparisons given for different levels, 6.12 (sub-case comparison conclusions) and 7.1 (overall study conclusion), present the final inferences or conclusions, respectively. In most parts of the discussion in Chapter 6, compared analysis were made between the responses of Corp-HQ and the industries; and among the industries using ANOVA.

5.8.2.2 Data integration, synthesis and presentation

Among the four major types of mixed methods design of Creswell and Clark (2007), this study adapts triangulation and embedded quantitative analysis to triangulate and increase the validity of the study--(1) triangulation (i.e., merge qualitative and quantitative data to understand a research problem); (2) embedded (i.e., the use of quantitative data to answer a research question within a largely qualitative study). The concurrent nested model, data analysis model used in this study, is often used when the researcher wants to gain broader perspectives as a result of using the different methods as opposed to using the predominant method alone (Creswell, 2003). For example, Morse (1991) also notes that a primarily qualitative design could embed some quantitative data to enrich the description of the sample

participants. For example, if an organisation is being studied, then employees could be studied quantitatively, managers could be interviewed qualitatively, entire divisions could be analysed with quantitative data, and so forth.

This study design (model) is appropriate because it relies on multiple sources of evidence to add breadth and depth to data collection to assist in bringing richness of data together in the apex of understanding through triangulation and contribute to the validity of the research (Yin, 2003). Thus, this qualitative dominant study was supported by the quantitative data that was collected from the employees, who were mostly CI personnel and researchers, found at the subsidiaries and headquarter. The largest proportion of the quantitative dataset was analysed using inferential statistics. This supplementary data analysis using a positivist way of interpretation said to position the study in employing a pragmatic way of data interpretation.

Integration of the two types of data might occur at several stages: data collection, data analysis, interpretation, or some combination of places. Integration means that the researcher "mixes" the data. Mixing at the stage of data analysis and interpretation might involve transforming qualitative themes or codes into quantitative numbers and comparing that information with quantitative results in an "interpretation" section of a study (Creswell, 2003). Integration can be said to occur to the extent that different data elements and various strategies for analysis of those elements are combined throughout a study in such a way as to become interdependent in reaching a common theoretical or research goal, thereby producing findings that are greater than the sum of the parts (Bazeley, 2012).

Separate and nested analyses of the QUAL and the qual data: Terrell (2012) notes that in concurrent nested strategy, there are two data collection methods; one is embedded (i.e., nested) within the other. The data collected from the two methods are mixed during the analysis phase of the project. This strategy may or may not have a guiding theoretical perspective (Creswell, 2003). However, priority is given to the primary data collection approach (qualitative data) with less emphasis placed on the nested approach, which is qualitative data in the case of this study.

The most common mixed methods design combines survey and interview data and results can be analysed independently, where after the findings are compared (Fielding, 2012). Similarly, Migiro and Magangi (2011: 3762), say the following: "In mixed methods, data integration characterises the final stage whereby both quantitative and qualitative data are integrated into either a coherent whole or two separate data sets (i.e., qualitative and quantitative) of coherent

wholes." However, the concept of combination relates to the manner by which data are mixed, meaning to establish whether the qualitative and quantitative data are indeed fused, or if they will be kept separate, or if they will be somehow combined (Creswell, 2003).

Creswell (2003) also notes the possibility of separate data analysis in a concurrent study, in that, the quantitative and qualitative data collection may be presented in separate sections, but the analysis and interpretation combine the two forms of data to seek convergence among the results. The study employs separate analysis for the qualitative data obtained from semi-structured interview (and small group FGD) and questionnaires, by embedding the later in the major themes (constructs). The sub-case comparisons (among the HQ and industries, and among the seven sub-units) and the departments/units (i.e., departments at the industries and PCUs at the HQ) are the major levels of analysis.

Johnson and Onweugbuzie (2004: 6) explain, 'The different data are often selected on the understanding that they have complementary strengths and non-overlapping weaknesses, and thus in the expectation that combining them will generate stronger outcomes, that is, outcomes that are better supported by evidence, or more generalisable, or both." Even though this study is based on a single case, the use of multiple embedded units of analysis will allow for the strengthening of findings using this type of analysis. The two main levels of analysis provide for cross-case comparison and a greater understanding of phenomenon in the sub-units (separately) and in the CaseOrg (overall analysis).

Synthesis and data integration: The integration of the qualitative and quantitative data sources can be data merging, connecting, embedding (Creswell, 2003). This type of data integration and synthesis is particularly followed in the concurrent mixed methods research, which is used in this study. According to Creswell (2003), in concurrent procedures, in which the researcher converges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem by integrating, at a later time, the information in the interpretation of the overall results. Also, in this design, the researcher nests one form of data within another, the larger Qual data in order to analyse different questions or levels of units in an organisation (Creswell, 2003). "The most common form of mixed methods studies similarly involves the use of different data components, comprising separate sources with different types of data or different types of data from within the same source, to complement or extend what might be learned from one or other of those data types independently" (Bazeley, 2012: 5). Bazeley further notes that, when opportunities to exploit multiple data components are not taken up during analysis, this can work to the detriment of the study's conclusions. Based on this possibility, an overall result synthesis was made in the conclusion

section. Crossover analysis techniques in mixed methods involve some level of abductive logic, which involves moving back and forth between inductive and deductive logic (Onwuegbuzie, Bustamante & Nelson, 2010: 58-59).

Moreover, "the analysis occurs both within the quantitative (descriptive and inferential numeric analysis) approach and the qualitative (description and thematic analysis) approach, and often between the two approaches" (Creswell, 2003: 184). Since the quantitative data was mainly intended to supplement the qualitative data, the analysis of this data was made embedded in same themes (qualitative analyses), for most parts of the discussions, the statistical analysis for the data obtained from the questionnaire will follow the qualitative data analysis. The data analyses from the two sources (interview/document and questionnaire) could be made in conjunction when necessary to do so. However, in a synthesis stage, the conclusions, which were drawn from the findings of the two data were confirmatory in most analyses. Therefore, the mixed methods research in this study allows for undertaking different methodological designs while producing mutually complementary results favouring a more complete and extensive interpretation of the phenomena being investigated (i.e., both qualitative and quantitative data were compared for similarities and differences, integrated or combined as appropriate for validity of responses). Thus, the identification of the convergence and divergence between data was the main benefit of this study. Related to this strategy of data analysis, Onwuegbuzie and Leech (2006: 486) also note the following, "the quantitative and qualitative research questions are most aligned or compatible with respect to underlying paradigm and methods used when both questions are open-ended and non-directional in nature, and they both seek to discover, explore, or describe a particular participant(s), setting, context, location, event, incident, activity, experience, process, and/or document."

Deductive and inductive inference and conclusion: As related to the approach employed in this study, Moran-Ellis, Alexander, Cronin, Dickinson, Fielding, Sleney and Thomas (2006: 18) note the following: "Mixed methods particular approach does not combine the methods or the analysis but rather takes each set of findings and brings them together into one explanatory framework." Being a mixed methods study that used mixed data sources, the study used both the deductive and inductive approach so that literature or theoretical discussion may not guide the entire analysis. As mentioned in 5.4 (Research Method—Mixed Method and Logic of Inference), the mixed method study has the possibility of making inferences both inductively and deductively, where the former may not be guided by theoretical framework. As also noted by Migiro and Magangi (2011), using this method, the data are mixed during the analysis phase where a theoretical perspective may or may not guide the design. Therefore, there was instances to use inductive logic (not just based on

literature) to reach at conclusions mainly for the responses obtained using the qualitative data collection instruments.

Below are summarised the main steps the study follows in making data analysis and synthesis from the two data types and data presentation. The study:

1) Made data collection, preparation and analysis concurrently using the QUAL and quant data collected by conducting individual interview and small group interview (FGD) with CIPs and CI Users; and administering questionnaire to employees (CIPs) at both the HQ and the sub-units; Make empirical analyses in the multiple embedded sub-units (in selected industries)—using both qualitative and quantitative data (from employees at large). In an embedded study, the analysis of all data begins at the single case (industry) rather than general pooling of cases across the case conglomerate (Chapter 6);
2) Made data integration and interpretation embedding industries in the CaseOrg (QUAL and quan) and the CaseOrg's functional units (CIPs) and the industries' as a whole (Chapter 6, 6.12). In an effort not to lose site of the global issue at the heart of this study, the discussion of results for this study returned to the global-level of the phenomenon central to this research study (i.e., the main case conglomerate).
3) Made overall conclusions based on the synthesis made for the main unit of study (the conglomerate or HQ) and consolidating the overall results obtained from all the selected industries (sub-units) (Chapter 7).
4) Recommend model (rather initial framework) for starting up a formal and structured CI function for the CaseOrg along the step-by-step CI implementation strategy framework (Chapter 7).

5.9 Methodological norms and quality

Yin provides an excellent discussion of the process of designing qualitative case study research, focusing on the components of such designs, how to judge the quality of a design and the four different types of case study designs. He argues that "five components of a [case study] research design are especially important" (Yin 2003: 21-27):

1) the research questions the study asks;
2) the "propositions," each of which "direct attention to something that should be examined within the scope of study";
3) the unit of analysis, the defining of which is a "fundamental problem … that has plagued many investigators" and should be done tentatively based on the research questions;
4) "linking data to [theoretical] propositions," matching patterns with theories; and
5) "the criteria for interpreting [the] findings"

Yin (2003: 40-45) discusses four measures of the quality of case study research—construct, internal and external validity, along with reliability—and recommended using multiple sources and chains of evidence, having some participants review the case study report,

matching patterns, addressing rival theories, using theory and replication and thoroughly documenting the procedures followed.

The limitations of single-case study research as associated with issues of validity and reliability can be addressed in the research design by including provisions such as a process of careful subject selection, clear definition of the sub-units and a comprehensive case study protocol. Those considerations for conducting a single case study are maintained in this case study—deciding the case prior to data collecting; identifying, delimiting the case and its context; and distinguishing between the phenomenon studied (the case) and its context (Rowley, 2002).

5.9.1 Instrument pilot testing

The research and data gathering instruments were tested for reliability, validity and generalisability. To improve the validity, reliability and generalisability of the study, comments of experts from one official at the headquarter and two officials from two industries were obtained for the semi-structured interview guides. Expert reviews and oral comments were also taken into account to improve validity and ease of understanding of a few items of the questionnaire. Only one variable, which questioned information and/or CI sharing among the factories of the sub-case subsidiaries, was included in the final questionnaire.

Construct validity is quite subjective and depends heavily on the understanding, opinions and biases of the researcher. To improve the *construct validity*, upon the completion of Instrument Testing, an attempt was made to establish the correct operational measures for the concepts of CI and its use in case's SDM and orientation. The study verified reliability of the items in each construct using Cronbach's Alpha to measure the construct validity of the instrument and conducted a factor analysis for verification of validity. A Cronbach Alpha test was also made to check the consistency of the reliability test for refined grouped variables from the pilot study which would appear in the final questionnaire. The final construct measurements revealed a Cronbach Alpha result of .895.

5.9.2 Quality (validity) criteria for embedded case studies

A case study must address the problem of validity (Scholz & Tietje, 2002; Yin, 1994). For the embedded case study, validity, rather than reliability or objectivity, is the core issue. The reason is that cases and the circumstances of their analysis are unique. Furthermore, the case is often affected and changed after a case study is performed.

Validation by triangulation is very central to an embedded case study. According to Scholz and Tietje (2002), validation in embedded case studies nevertheless falls mostly on the verificationist. Verificationists accept a scientific finding or belief only if it can be justified by positive evidences; shown to be true, or at least, to be highly probable. Data from CI users (decision-makers) and responsible CI persons (via interview), questionnaire about the why and how of gathering and using CI (via questionnaire), document analysis about strategic issues, minutes, organisations structures, policies, strategies, organisation manuals like technology transfer manual (via contents/thematic content analysis) were gathered and consulted to triangulate the data and make the right inferences.

The following techniques or activities were actually employed to increase the validity of this study.

1) Face validity. Face validity was maintained by:
    a. sticking to the detailed procedures and case protocols provided for this study;
    b. studies made in the two disciplines—CI and strategy (more specifically SDM);
    c. getting judgement from experts (one CI user and two CIPs at industries were consulted for comment)
2) Case impact validity: One purpose of this study is to develop a CI programme implementation strategy framework for use by a conglomerate operating in a developing country. According to Scholz and Tietje (2002), if a new ground-breaking idea has been developed in a case study discussion, there is no means to verify that this idea would not have been born without the study.

To maintain the quality of the case study, the current study had followed the case study research protocol by performing the activities of case study procedures listed in 5.5.3.1.

5.9.3 Avoiding pitfalls of embedded case designs

"A major pitfall associated with an embedded case study design is when the study "focuses only on the sub-unit level and fails to return to the larger unit of analysis (Yin, 2003: 45). The potential pitfall of focusing only at the sub-unit level and failing to focus also on the larger unit of analysis (Yin, 2003) was avoided by collecting data from the parent company and making compared analysis between the responses obtained from the industries and the headquarter. 'Corp-HQ' itself was considered as one sub-case for the reason provided in 5.6.3 (Units of Analysis). Further approach for avoiding this criticism is given in the research protocol part. Moreover, 6.12 (sub-case comparison conclusions) and 7.1 (overall study conclusion), present the final conclusions, respectively. In most parts of the discussion in Chapter 6, compared analyses were made between the responses of Corp-HQ and the industries; and among the industries using ANOVA. The research procedures (in 5.6.1)

clearly demonstrate how the research was conducted procedurally to arrive at overall conclusions.

5.10 Ethics

First and foremost, the student fully complied with the UNISA's Research ethics policy: Available from: http://cm.unisa.ac.za/contents/departments/res_policies/docs/ResearchEthicsPolicy_apprvCounc_21Sept07.pdf. The researcher strictly followed UNISA's Policy on Research Ethics. All the data captured during interviews, using questionnaire and document analysis were in accordance with ethical guidelines outlined in the study's proposal. The researcher conducted the research with the highest integrity considering Unisa's Policy for Copyright Infringement and Plagiarism. No data gathered retrospectively was and will be used in this study.

The study was on issues of SDM (Strategy) and CI, which was sensitive in influencing competitiveness of the case company. This is to mean that although the case subject's grand strategies were already public, detailed issues on strategy and competitive information might expose the conglomerate to critical information leakage to both local and foreign competitors. In order to address this, principles of informed consent and confidentiality were strictly applied.

Nevertheless, in reducing this risk, the case conglomerate already mentioned to participants to keep confidentiality of a few critical issues (which might involve national strategy and security issues) in the already granted Research Cooperation Letter to the student.

Specifically, in conducting the study, the researcher:

- Followed scholarly codes and conducts (self-discipline);
- Adopted case research making protocol;
- Tested instruments/constructs for reliability, validity and generalisability (as much as possible despite generalisability is limited by a single-case study and it was not the quality target of this study);
- Kept originality of the study (being a pioneering study that was made in Ethiopian conglomerate to linking CI and SDM);
- Followed careful case and sub-case (units of analysis) selection criteria mentioned; and
- Kept data confidential (case organisations/codes and responses from participants were collected in sealed envelopes).

5.11 Chapter conclusion

The embedded case study approach is particularly relevant to examination of an environment where the boundaries between the phenomenon of interest and context are not clearly evident. With this blurred foresight, exploratory research helps the researcher to identify, define and structure the problem (Kostova & Echo, 2008). A case study is useful in understanding complex social processes in organisational and environmental context like the phenomenon of this research—the value of CI in SDM of the case conglomerate. It is especially suitable for exploring new processes or behaviours that are little known such as the exploration of this study, in other words a case study made to find a contextual and suitable position for CI in SDM of a conglomerate composed of a number of integrated subsidiaries and new to implementing a formal CI programme. In short, the research methodology employed in this study is that of a 'single case study' with embedded units of analysis (multiple unit of analysis) and an exploratory qualitative dominant research.

Except the last one (though the actual field investigation had taken almost three years in the case conglomerate), this study certainly shares all of the following attributes of a case study identified by Yin (1993): (1) subject is a contemporary phenomenon; (2) subject must have theoretical significance; (3) detailed examination within real-life context; (4) phenomenon embedded in context; (5) examination uses multiple sources of data; and (6) examination is usually longitudinal. In relation to a single-case research, Yin (2009) states that single case designs are functional when they represent the critical case in testing a well-formulated theory or a unique/extreme case. The present study shares the three possibilities to conduct a single-case studies. The case is an *extreme* or *unique*, *representative* or *typical* case and *critical case* in testing a theory. Being a doctoral study, the researcher provided adequate justifications for preferring and employing a single-case research for fulfilment of a doctor in business leadership.

Any phenomenon is embedded in its context. Thus, a case study method gives attention to the intertwining of phenomenon and context. The case is the phenomenon of CI utilisation for SDM purpose at a big conglomerate with vertically integrated industries. The status of CI is not well-known for its role in strategic and business decision-making in the conglomerate. Furthermore, the current study deals with two disciplines: competitive intelligence and strategy (more specifically strategic-decision-making). On the other hand, SDM and/or strategy development is also a complex issue that is influenced by many factors (internal and external). Moreover, since each strategy is unique for an industry/SBU or company, strategy is a contextual, abstract and elusive concept (Campos, 2006). Therefore, considerations such

as these have led the researcher to use a phenomenological approach to investigate and trace the relationship between CI and SDM so as to postulate how to enhance the value of CI for SDM and competitiveness, of this unique case.

Without contradicting the mixed methods approach, the research could employ pragmatism when it was necessary to reach the intended purpose and outcomes of the study. However, the study was embedded mainly in an interpretivist paradigm, using qualitative methods to investigate and understand the actors, actions and processes that have influenced the use of CI for strategic decision-making. Meanwhile, the interplay between positivist and interpretivist approaches also demanded the importance of employing mixed method design and deductive-inductive logical inferences. Since the phenomenon and context of the case were unique, the study used inductive reasoning; and since the study was largely guided by a conceptual framework and broad literature review, the specific issues, which were responded to in the questionnaire, were analysed using a positivist approach or deductive inference.

In order to make appropriate sub-case selection, initial research design and develop main constructs to design data collection instruments, the researcher made preliminary investigation on the selected case company. To improve the validity, reliability and generalisability of the study, comments of experts or key informant groups at the HQ and the industries were incorporated not only in designing the instruments (constructs), but also in designing the right research procedures and even analysis and generalisations of results. Both reliability and validity test look good for both the pilot and final items of the questionnaire.

Being a mixed methods research, the quantitative data collected using questionnaire was discussed using a positivist approach. Triangulation is made using different data collection tools from different source such as interview, small focus group discussion (one at the HQ and one at one industry/Sub-D), document analysis, questionnaire and even observation. The qualitative dominant study was supported by the quantitative data collected from the deliberately selected employees at the subsidiaries and the HQ through questionnaire. The quantitative data analyses were embedded in the qualitative analyses so that the latter supplements the former in most parts of the discussions. One reason to conduct a single case study with six embedded sub-units (industries) and the HQ was also to obtain a deeper understanding of the nature and depth of CI sharing or knowledge transfer among these units within the conglomerate. Although the HQ was taken as the parent company or headquarter of the conglomerate, it was included in the study as a reference point, and shall be considered as one sub-case so that it was possible to make comparisons among the responses of the sub-cases (the industries) and between the sub-cases and the conglomerate (as headquarter).

Chapter Six

Data Analysis and Findings

6.1 Introduction

The research was conducted initially based on broad theoretical discussions and literature reviews. The theoretical and literature investigations were vital to the formulation of the conceptualisation of the research problem so that analyses of the empirical findings followed the constructed conceptual framework. To put it differently, analyses of the empirical data were made guided by the constructs (see 5.7.1) which were developed mainly based on the conceptual framework. This approach allowed the study to make an iteration between the conceptual framework and empirical findings. Despite this fact, a conceptual framework provides not a causal/analytical setting but, rather, an interpretative approach to social reality (Rocco & Plakhotnik, 2009). In relation to this, 6.14 presents the linkages made between the conceptual framework and the empirical evidences.

The first two sections of this chapter provide background information. In this chapter, 6.1 gives a brief introduction to the data (qualitative and quantitative) collected and the data structure followed so as to make both qualitative and quantitative data analysis in both Corp-HQ and the Industries. This section also outlines the main variables used to present the discussions. 6.2 presents the background information about the participants who were involved in the quantitative data collection by utilising the questionnaire. It is necessary to begin the main discussion by first outlining the presence, maturity, location and objectives of CI in the case in the second section (6.3).

The following three sections (6.4, 6.5 and 6.6) focus on determination of Key Intelligence Topics, the collection and availability of CI for SDM and other business decision-making purposes. The CI Collection variables that are discussed using statistics in 6.5.2 will be employed to make multiple regressions with the predicted variables (i.e., overall decision-making, SDM, tactical/business decision-making) in 6.6, 6.7 and 6.8, respectively.

Since CI usage for SDM can be affected by issues related to CI structuring, organisation, coordination and sharing, discussions have been presented on such issues in 6.9. Moreover, an extended regression (to the regressions made in 6.7 on SDM using CI), are presented by employing some selected variables as moderator variables.

Another variable to discuss in the findings is about problems or challenges that the case conglomerate and the sub-cases had encountered in applying and using CI for SDM (6.10). The analysis and interpretation of the findings will be concluded by presenting the suggestions that participants had given to launch a formal CI programme in their conglomerate.

Irrespective of the proportion of the contents discussed for the quantitative data, the main reason to use the questionnaire is to supplement the major findings that are obtained by the help of the interviews and to find answers for those variables which may better be obtained by the questionnaire. Therefore, for most parts of the discussions, the statistical analysis for the data obtained from the questionnaire followed the qualitative data analysis. However, depending on the suitability of presenting the data, the data analysis from the two sources, namely interview/content analysis and questionnaire, could be made in conjunction whenever it is necessary to do so. The conclusions provided are for both data types.

Lastly, the secondary research question was the following**:** *What contextual factors influence the application of CI for SDM in the case conglomerate?* Thus, in the last section of this chapter, the middle-range theory, along the approach employed, will be presented. Following a middle-range theorising approach an interplay was made between the empirical findings (the differences in applying CI among the sub-cases) and theory/literature review, inferences were made to develop two middle-range theories (propositions) which further led the researcher to converge theories of the two disciplines (CI and SDM) into another integrated theory.

The last three sections of this chapter present the constructed middle-range theories (6.13), linkages between the conceptual framework and empirical evidences (6.14) and the crafted CI programme implementation structure or model (6.15).

6.2 Respondents' background information (questionnaire data)

Introduction to the qualitative data collection and analysis was provided in the previous chapter. Thus, this section just provides introduction to the background information about the respondents of the questionnaire.

Most items in the questionnaire were intended mainly to staff members who were associated with their respective organisation's CI function or activities who were selected from both the conglomerate (at HQ) and the industries. However, significant number of section heads and key informants that were selected for the study and those who could not take part in the main

interview had also replied to the questionnaire. Thus, it was possible to get responses from CIPs, CI users and CIPs and CI users.

Subject sub-cases and participants from the sub-cases): Table 6.1 shows the sub-cases (including Corp-HQ) and proportion of participants who took part in the survey conducted in the case conglomerate. Although Corp-HQ was taken as the parent conglomerate, it is included in the study as a reference point and shall be considered as one sub-case so that it would be possible to make comparisons among the responses of the sub-cases (the industries) and between the sub-cases and the conglomerate (as headquarter).

Table 6.1 Respondents from sub-cases

		Count	N %
Case Org /Sub-Case/	Corp-HQ	23	17.2
	Sub-A	15	11.2
	Sub-B	16	11.9
	Sub-C	19	14.2
	Sub-D	22	16.4
	Sub-E	20	14.9
	Sub-F	19	14.2
	Total	134	100.0

While 17.16% of the total respondents were from Corp-HQ, the smallest percentage of respondents (11.19%) were from Sub-A. The small variance range in percentage indicates that almost equal number of respondents from all the sub-cases participated in the study. Finding approximately equal number of respondents would help when conducting comparative analyses (such as ANOVA) with reference to this equal distribution of respondents from each sub-case (i.e., taking the sub-cases as a factor or independent group).

Respondent background information: The table presents participants of the study grouped in 'education level' and area of specialisation or field of study.

Table 6.2 Respondents' background information (questionnaire)

Respondent Qualification		CaseOrg/Sub-Case														CaseOrg/Sub-Case		
		Corp-HQ		Sub-A		Sub-B		Sub-C		Sub-D		Sub-E		Sub-F		Total		
		F		F		F		F		F		F		F		Freq	Percent	Valid Percent
Education Level	Diploma	0	0.0	1	8.3	0	0.0	1	6.7	0	0.0	0	0.0	0	0.0	2	1.5	2.0
	First Degree	18	85.7	9	75.0	9	90.0	11	73.3	12	100.0	14	100.0	13	86.7	86	64.2	86.9
	Second Degree (MA or MSc)	3	14.3	2	16.7	1	10.0	3	20.0	0	0.0	0	0.0	1	6.7	10	7.5	10.1
	Third Degree (Doctorate)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	6.7	1	.7	1.0
	Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0
Valid	Total															99	73.9	100.0
Missing	System															35	26.1	
Total																134	100.0	
Area of Specialisation	Business Field	5	21.7	3	25.0	1	10.0	3	18.8	3	16.7	2	11.1	6	40.0	23	17.2	20.5
	Art or Social Science	1	4.3	0	0.0	1	10.0	0	0.0	1	5.6	0	0.0	1	6.7	4	3.0	3.6
	Science	0	0.0	1	8.3	0	0.0	2	12.5	0	0.0	0	0.0	1	6.7	4	3.0	3.6
	Engineering	16	69.6	5	41.7	7	70.0	10	62.5	14	77.8	16	88.9	6	40.0	74	55.2	66.1
	Information Science	1	4.3	3	25.0	1	10.0	1	6.2	0	0.0	0	0.0	1	6.7	7	5.2	6.3
	Military Science	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0
	Other or Combination of the Above Fields	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0
Valid	Total															112	83.6	100.0
Missing	System															22	16.4	
Total																134	100.0	

Out of 134 respondents who were included in the quantitative study, 64.2% had a first degree (valid n=86); 7.5% of them either did their second degree or are studying towards it; one official was busy with his doctoral study; and two salespersons in the customer service departments of Sub-A and Sub-C had diploma and were studying towards their first degree.

Obviously, although the choices for the item were undesignated, the rest of the respondents (26%) might hold their first degree because respondents were painstakingly selected by the virtue of the position they assumed and contacted by the researcher himself.

Before distributing the questionnaire, a preliminary study was conducted to determine the right group of respondents from the available departments of the sub-cases. Since the conglomerate identified itself as a centre of technology excellence and the main actor that facilitates the technology transfer of the country, it has given special attention to this issue and has already established and staffed its R&D units (both in the HQ and industries) by high calibre engineers so that it will realise its strategic objectives. us, 55% (valid n=74) of the respondents were engineers working in these departments. The second largest (20.5%) group of respondents have a business background.

Respondents by department: The Pie-chart illustrates that the highest proportion of the respondents came from the R&D Departments in both the headquarter and in each of the six industries (sub-cases) selected for this single case study.

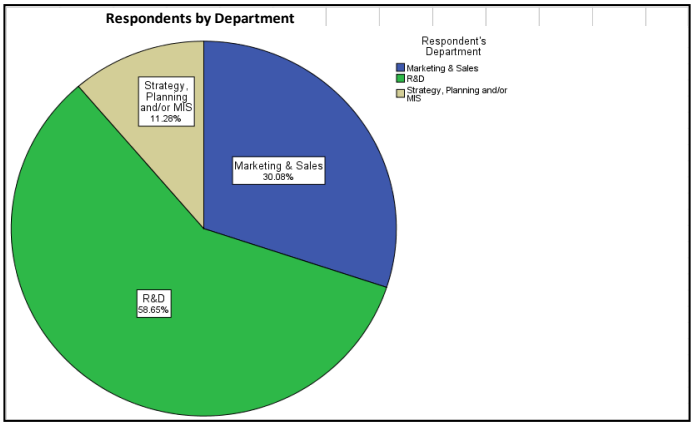


Figure 6.1 Respondents by Department

Self-identified respondent category: Participants were asked how they identified themselves as related to the CI function in their organisation or respective departments, as either CIP (Competitive Intelligence Personnel—a term used for the study).

Table 6.3 Respondents association to CI

Respondents Association to CI	CaseOrg/Sub-Case															
	Corp-HQ		Sub-A		Sub-B		Sub-C		Sub-D		Sub-E		Sub-F		TOTAL	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
CI Manager, Expert or Personnel	3	6.0	9	18.0	7	14.0	7	14.0	6	12.0	10	20.0	8	16.0	50	37.3
CIP and CI User	8	14.5	6	10.9	4	7.3	9	16.4	13	23.6	6	10.9	9	16.4	55	41.0
Valid Total	11	20.5	15	28.9	11	21.3	16	30.4	19	35.6	16	30.9	17	32.4	105	78.4
Missing															29	21.6
Total															134	100.0

Under the Competitive Intelligence Personnel (CIP) group, respondents identified themselves as CI Manager; CI Personnel or Research Expert. The second group identified themselves as both CI users and CIPs or personnel who collect or gather CI for decision-making. While 50 respondents were CIPs, the rest (or 55 of the total valid respondents) identified themselves as both CIPs and CI users or decision-makers. Although the choices for this CI-association self-

identification item were undesignated by 29 respondents, who were engineers and researchers whose main responsibility revolved around conducting research, product development and technology intelligence more than any other staff in their respective organisations. They were CIPs working in the R&D departments of either Corp-HQ or the industries. An almost equal number of respondents responded from the two groups, which means that comparisons between the responses of the two groups were possible.

6.3 Competitive intelligence—presence, maturity and objectives

In this part, presence, maturity and location of CI are discussed mainly based on the data obtained from the collected questionnaire. In relation to the location of CI, detailed analysis will be given in 6.9 (Competitive Intelligence in Corporate Headquarter—Structure, Coordination and Sharing).

6.3.1 CI presence and maturity

The CI function exists as activity in different units, mainly in Principal Corporate Units at the HQ. The embedded industries are linked to the Principal Corporate Units and Director's Office at Headquarter. Moreover, these units can be both producers and users of CI. The respondents in this group were Vice Presidents of the Corporate Commercial Operations, Corporate Marketing and Sales, Corporate Strategy and Controlling, Corporate Research & Development, Corporate New Business Development and Transformation & Capacity Building Units; and Section Heads found in the PCUs at the HQ.

This section discusses the presence and practice of CI either as an auxiliary practice, function or a formally organised or systematic activity in the case conglomerate.

Responses by sub-case (Table 6.4, Appendix 2): The frequency table reveals results which can be presented following the options appeared in the questionnaire and in descending order (i.e., 32.4% for Comprehensive/Systematic; 25.2% for Regular Use, but not Continuous; 22.5% for Ad Hoc or Temporary Use; 14.4% for No Systematic CI Approach; and 5.4% for No Attempt to Use CI).

The results reveal that CI appears to be practised more formally at Corp-HQ (33.3%) and at Sub-A (33.3%) than at the other industries. For respondents from the HQ, *regular use, but not continuous* follows the first choice. This choice was more prevalent for respondents from Sub-D (41.2%), Sub-E (44.4%) and Sub-F (43.8%) than for the rest of the cases. The largest proportion of respondents from Sub-C (27.3%) and Sub-D (37.5%) revealed that CI was only an *ad hoc* activity in their organisation.

From the varying and inconsistent results, it is possible to conclude that there were sharp differences in observations or understanding or both of respondents regarding the practice and status of CI in their respective organisations.

Overall, no significant mean variations (significant ANOVA p) were observed among the industries regarding *CI presence and practice* in their respective industries.

Responses by respondent department: It is also good to look into the practice of CI in the case based on respondents' department category because opinion differences on maturity of CI might exist among respondents just by virtue of the office the respondent held. The clustered bar graph on the right demonstrates that most respondents from the Marketing & Sales Department felt that CI was a regular activity but not a continuous one. Almost equal number of respondents from the Planning and/or MIS departments (these sections fell under the CEO's office), responded as the CI activity was either a comprehensive/systematic one or a regular activity but not continuous one.

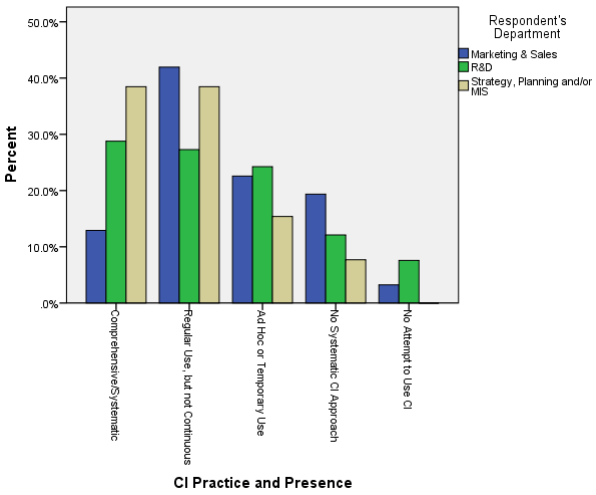


Figure 6.2 CI practice as responded by departments

Overall results indicated that CI practice required more focused attention in the case organisation.

6.3.2 CI responsibility centre

Since the conglomerate was a growing conglomerate (established as conglomerate just in 2010), it was subject to continuous improvement. To this date, the conglomerate recruited an external consultant and established a taskforce to restructure the conglomerate into a more modern conglomerate structure. This might be because of these facts that although a *Business Intelligence Competitive Centre* appeared in the existing manual, it was not functional yet. Detailed discussion about this Centre and other units which are responsible for CI gathering, storage and production will be presented under CI Structure and Coordination Section.

The following departments seem to perform CI-related activities: (1) Marketing & Sales Department; (2) Research and Development Department; and (3) MIS and/or Planning; and (4) Manufacturing Clustering Department.

The qualitative and statistical discussions are based on the data collected mainly from these departments. Since the last department was found only in the industries, only qualitative data was provided by this department.

In connection with the above qualitative findings, respondents were asked from which of the given departments most CI was supplied for SDM. Their responses are analysed based on their department and industry next.

Responses by respondent's department (Table 6.5, Appendix 2): An overall result of this item indicates that most of the CI gathered and used for decision-making is perceived to come from the Planning/Strategy and MIS Department (27%), followed by the R&D Department (23.6%).

Largest percentage (38%) of the participants from the Marketing & Sales Department felt that most of the CI for SDM was contributed by their own department. Largest percentage (28.3%) of the participants from R&D Department also replied that the CI mostly came from their department. This association of own department to CI contribution was also true for the respondents from the Strategy/Planning Department (33.3%).

The above results clearly indicated two things. First, CI activity existed in each of the three departments as a distributed function. Second, there appears to be very little integration and coordination in both collecting and sharing CI products among the departments.

Responses by sub-case (Table 6.6, Appendix 2): The table presents the responses obtained only from the six industries.

Similar response variations could be observed from the responses of the sub-cases. While the largest proportion of respondents from the Sub-A and Sub-B felt that the Planning/Strategy Team or Unit was mainly responsible for CI and CI-related functions; largest proportion of the respondents from Sub-C and Sub-D felt that the R&D Department was responsible to present CI for SDM purpose. The largest proportion from Sub-E (38.9%) expressed that the CI the management used for SDM is produced by the MIS unit/team. Consistent to the interview response obtained from the Marketing and Sales Head and the R&D Head, here also the largest proportion (35.3%) of participants from Sub-F expressed that CI was a dual responsibility practically performed by all departments.

CI responsibility centre or Location (ANOVA results by sub-cases): F ratio is marginally significant at F (5, 83) = 2.169, p = .065 (which is however > .05). Mean variations exist between responses obtained from Sub-F and Sub-C for item that requested participants to indicate the location of CI responsible unit in their respective organisation.

To conclude, major CI-related activities or functions were being performed by different departments in different industries (or the sub-cases) just since the function was located in different departments of the industries. Responses of participants clearly indicate that the responsible CI unit had no uniform location in all the sub-cases and participants had different levels of knowledge about the department which had the major duty to produce and supply CI for management's decision-making.

6.3.3 CI objectives and roles for SDM

Using interview data and content analysis, it was possible to trace the existence of the CI function in informal or quasi-formal state in the conglomerate and its subsidiaries/industries. Although hanged at the corporate level, a formal organisation manual outlines functional description on scanning, CI and research related issues. The conglomerate has a corporate strategy that discusses different strategic issues and the relevant market, industry, technology and external environment scanning issues in five-year intervals.

The semi-autonomous industries (subsidiaries of the conglomerate) were required to develop their own plans and devise strategies to their respective industries in reference to the corporate grand strategy. The industries were structured following the generic structure framework prescribed by the HQ.

In connection to the above facts, the researcher was interested to explore to what extent the objectives and roles of CI were consistent with the corporate objectives and strategies of the industries using the quantitative data collected from 134 participants contacted in the six industries and the Corporate HQ.

Whether CI activities and objectives are consistent with organisation's objectives and strategies *(Table 6.7, Appendix 2)****:*** Respondents of the sub-cases were asked to rate a negative item that states the *activities and objectives of CI were not consistent with those of the organisation and its strategies*.

Organisations should ensure that the CI efforts are tied to the firm's goals, strategies, objectives and internal processes (Nasri & Zarai, 2013) and CI must have clear objectives and goals (Barnes & Deans, 2007; Du Toit & Muller, 2004). Well-defined CI needs, deliverables

and goals will help determine whether the CI product/service provided was actionable and/or useful in making a decision (Madden, 2001).

Only 30% of the participants disagreed with the statement (selected options 'strongly disagree' or 'disagree'). The rest (69.6%) of the respondents believed that the activities and objectives of CI were not consistently configured to organisation's strategies. The feedback obtained from the interviews confirmed that there was no formal CI policy, manual or objective that was communicated to the large staff of the conglomerate. However, as is indicated in Chapter 2, the conglomerate already developed an organisation manual which also stipulated functional descriptions to the Principal Corporate Units (PCUs), which also involved general statements about the duties and responsibilities of each PCU in scanning the environment and collecting and storing intelligence on different issues (mainly on customers/stakeholders, market/industry, technology and competitors). However, the Business Intelligence Excellence Centre that was located in the Strategy and Control PCU had no functional description of its own to guide its contribution and duties in collecting, storing, processing and producing CI for SDM or to serve the strategies of the HQ and its industries. In an empirical study, Pugna and Boldeanu (2013) stres the importance of BI governance through establishing business intelligence competency centre. Successful CI governance can be translated into an efficient Business Intelligence Competency Centre, which serves to help collaboration between team members and define best practices for decision analytics in order to improve business results. As organisations and users speak different languages, an interpreter who understands their needs and can make sense of them in terms of the organisation is needed. Business Intelligence Competency Centre can play that role.

CI objectives for SDM (sub-case ANOVA): A one-way between subjects (by sub-case) ANOVA is conducted to compare among responses whether the activities and objectives of CI are consistent with those of the organisation (and its strategies). There is a significant mean variation at F (6, 118) = 3.075, p = 0.008. Levene's test is insignificant at F (6, 118) = .819, p = .557. The mean plot on the right displays the mean variation between the responses of Corp-HQ and Sub-F. Tukey HSD table reveals that the Corp-HQ (M = 2.70) is

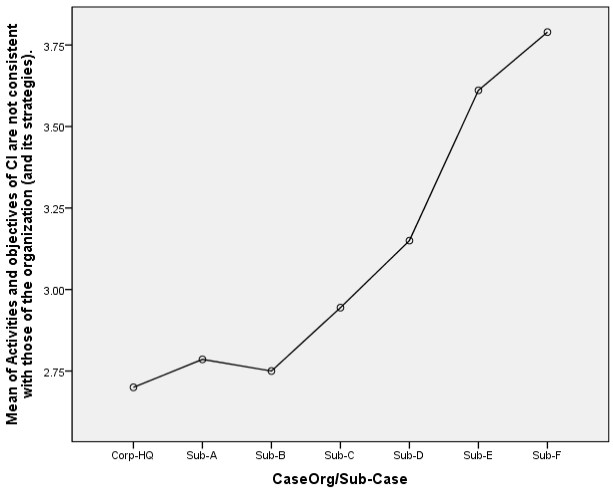


Figure 6.3 CI objectives for SDM (compared by sub-case)

significantly different from the Sub-F (M = 3.79), with a mean difference of 1.09 and a p value of .028.

The variance comparison made by 'respondent departments' revealed insignificant mean variation.

According to the respondents, CI activities and objectives were better defined or otherwise understood by the respondents who took part in the survey from Corp-HQ, Sub-B and Sub-A than the respondents from Sub-C, Sub-D, Sub-E and Sub-F. This response variation resulted because as discussed in upcoming qualitative data presentation, the CI function was found and practised in an informal or quasi-formal way.

Further, results of the next item and subsequent discussions reveal as participants had indicated the existence of CI implementation challenges regarding defining the exact CI needs of CI users and roles of CI for management's decision-making.

Defining CI roles *(Table 6.8, Appendix 2)**:*** For the purpose of cross-checking, another relevant variable under the CI Implementation Challenges Group was forwarded to participants—whether there was ambiguity about the role of the CI (in terms of what it was supposed to do and how it was supposed to help managers).

Most participants confirmed that there was ambiguity on this issue. Half of the participants who responded indicated that the problem of defining CI roles, what and how CI could help managers was either a pressing problem or most pressing problem. Only 15.5% of the participants considered the problem as not a critical one. The problem was also evident in Corp-HQ or not limited to the industries since there was no a formally defined and communicated CI role and/or CI reference manual for use by CIPs (CI personnel/experts) and CI users of the case conglomerate and its subsidiaries.

ANOVA results: The variance comparison made by both sub-case and respondents' department revealed insignificant mean variation.

The modified Spearman Correlation *(Table 6.9, Appendix 2)* illustrates the summary of the strength of the relationship between the two variables for each sub-case and the case. For the case as a conglomerate, there is a direct and positive correlation between the two variables at $\beta = .324$ and $p = .000$. However, the correlations between the two variables are strong and direct only for Sub-D at $\beta = .524$ and $p = .021$; and Sub-E at $\beta = .726$ and $p = .001$.

An overall conclusion: Lack of clear description for purposes, functions, objectives and roles of CI to play its vital role in SDM and the failure to align CI objectives with conglomerate's overall objectives and directions would be taken as additional reasons for not properly using CI in SDM by the case. The variations among the sub-cases possibly spring from the absence of a formal document that clearly outlines the roles, objectives and functions of CI. Further, failure to communicate the what, why and how of CI might have its own influences on other CI-related issues or main constructs of the study (i.e., CI collection and CI usage for SDM). Thus, had the employees well communicated the available and formally stated CI-related activities, less variation among the answers of participants (sub-cases) would have been observed.

6.4 Key intelligence topics for SDM

As Campos (2006) explains, the strategic search must first look in those areas previously defined by the strategic projects and second filter out those possibilities that are not strategic, that is in the strategic projects. Maungwa and Fourie (2018: 369) state the following: "From a CI point of view, key intelligence needs relate to the needs or requirements of an organisation to succeed according to the organisation's vision, mission and strategic objectives. When such needs are expressed for the purpose of seeking information (that can be interpreted as intelligence), it represents a gap that is experienced in the knowledge of an individual who needs to make organisational decisions."

One major challenge of CI is aligning key intelligence topics (KITs) to the conglomerate's strategic priorities **(**Frost & Sullivan, 2012). Thus, the study also explores this challenge as one construct (as CI usage and application challenge for SDM). The two topics presented in this section include the practices of the case in determining KITs and the sources of these KITs or intelligence for the case and its subsidiaries.

6.4.1 Practices in determining KITs and KITs for SDM

This section presents highlights the determination of KITs in the case conglomerate. After giving brief statements on qualitative data results obtained from documents and interview session, questionnaire results will be presented to outline which KITs were given emphasis by the seven units (including Corp-HQ). The data obtained from the quantitative data was limited to the observations made during the pilot testing phase of the study (n=37).

Practices in determining Key Intelligence Topics (Qualitative data): According to the section head of the Corporate Strategic Issues Section, the Corporate Strategy and Control

Principal Corporate Unit (Strategic Issues Section) was responsible for drafting the key intelligence topics (KITs) for CI collection based on the existing corporate strategy and specifying the reporting format to the industries. Thus, determining the assessment topics and scanning assumptions were largely based on the strategic assumptions and objectives outlined in this strategy document. The collection and reporting format only outlines the framework for CI collection and broad KIT topics of which most are outlined in Table 6.10 (Appendix 2). However, determining specific KITs and the actual collection of CI were left to the discretion of the semi-autonomous industries since they were largely guided by each industry's context, market and strategy implementation approach. Moreover, since the industries were required to draft their own strategy implementation plans, tactical plans and operational plans, they were given freedom to decide on the specific KITs to meet their decision-making needs. As per the interview conducted with a high-ranking official from the Corporate R&D PCU, the R&D the technology strategy stipulates what and how technology transfer and own technology development are achieved in short and long time spans. The search for and acquisition of technology intelligence could largely depend on this strategy. For example, the technology intelligence issues that would be collected and analysed for technology partnership selection involve patent intelligence (patent searches); financial strength of potential partners (for advantageous joint partnership and production); detail design and specification issues for customisation of machines and plants and the potential for technology transfer and learning.

However, each industry had to contribute to the development, improvement and proper implementation of the corporate plan mainly by scanning those strategic information or KITs outlined in Table 6.10 (Appendix 2). This intelligence could actually be shared among the industries during the joint Corp-HQ-Industries strategy development and strategic issues discussions and the monthly/quarterly strategy implementation evaluation sessions at the HQ. According to Head of the Strategic Issues Section, the formal intelligence or scanning on general business environment issues (i.e., political, economic, social and legal scanning) was mainly made during the development of the conglomerate's and industries' strategies, which were customarily drafted in five-year intervals.

As also discussed in the Chapter 2 and from the interview data, it is possible to say that the strategies of the conglomerate had largely guided the KITs and/or CI collection activities and efforts in both Corp-HQ and its subsidiaries.

Key Intelligence Topics (Quantitative Data): In this section, only descriptive discussions and correlation are presented for the KITs since the data is limited to the pilot study made only on 37 observations and for the three sub-cases who took part in the pilot study, which

were Corp-HQ, Sub-C and Sub-D. The Reliability Statistics for Key Intelligence Topics (Grouped Variables) had resulted in a Cronbach's Alpha of .753.

The following KITs were highly rated by participants as CI collection issues (topics). Only KITs that were made 'usually' and 'always' and whose sum of valid percentage values are ≥ 70% are listed below. All the KITs under the Technology Intelligence group were the highest rated variables, which were consistently made according to the strategy and core businesses of the case organisation—technology transfer and customised production strategies.

1. Industry information
    a. Industry's manufacturing capabilities/resources (85.70%)
    b. Industry's research and development capabilities/resources (80.00%)
    c. Industry's sales capabilities/resources (77.10%)
    d. Industry's financial capabilities/resources (91.20%)
    e. Competitors' product improvements (73.50%)
    f. The Action / Reaction of Competitors (72.70%)
2. Supplier information
    a. Availability of raw materials or components (75.60%)
    b. Availability of labour (including outsourced labours and MSEs) (80.60%)
3. Social, political, economic and legal information
    a. Local social conditions (86.10%)
    b. National social conditions (94.40%)
    c. National economic conditions (69.50%)
    d. Local political conditions (80.50%)
    e. National political conditions (80.00%)
4. Technology information
    a. New manufacturing technology (91.60%)
    b. New product technologies (77.80%)
    c. Product design (79.40%)
    d. Global technology trends (77.20%)

Correlation between KITs and strategic decision-making: Table 6.11 (Appendix 2) presents the Spearman Correlation between SDM using CI (dependent variable) and independent variables (key intelligence topics). From the findings, with the exception of key intelligence topics on technology or technology intelligence, which shows positive correlation with p value of .011), the rest KITs are not correlated with the dependent variable (SDM using CI). The supplier KIT even negatively correlated with the dependent variable.

Correlation between KITs and tactical and business decision-making (TBDM): It is also necessary to point out that the KITs were also used to make tactical and other business decisions, not just SDM.

Table 6.12 (Appendix 2) presents the correlation between TBDM using CI (dependent variable) and the independent variables (key intelligence topics). From the findings, generally (except key intelligence topics on technology or technology intelligence, which shows strong

positive correlation with p value of .000 and r =.595 and a fairly positively correlated customer KIT (with r=.356 and p=.036); the rest KITs (key intelligence topics) are not correlated with the dependent variable (TBDM using CI). According to the pilot study dataset (n=37), the comparison of the two correlations reveal that technology intelligence is even better used to make tactical and business decision-making than to make strategic decisions.

Paired-sample t-test for the KIT groups *(Table 6.13, Appendix 2)**:*** The paired-sample t test is used to compare the means of two variables within a single group. It is good to make this test between the mean statistics of the KIT groups to find whether significant differences exist between the mean values of the respondents. The paired-sample t-test is made for the following pairs.

- Pair 1 KITs_Industry - KITs_Customers
- Pair 2 KITs_Industry - KITs_Competitors
- Pair 3 KITs_Customers - KITs_Technology
- Pair 4 KITs_Competitors - KITs_Technology
- Pair 5 KITs_PESL - KITs_Technology

The *t* statistics, (2.60) and its associated significance level ($p = .014 < .05$) indicate that there is difference between industry and customer KITs; between industry and competitor KITs is significant at (t=2.44, p=.020< .05); between customers and technology KITs is significant at (t=2.85, p=.007< .05); between competitors and technology KITs is significant at (t=2.71, p=.011< .05); and between PESL (political, economic, social and legal) KITs is significant at (t=2.44, p=.020< .05).

Since the sub-cases are industries of a conglomerate, which were operating in their respective industries and markets and since technology transfer is given high priority in the strategies of the industries— (this was also specified in the grand strategy of the conglomerate), the frequently collected CI and the associated key intelligence needs of the industries were mainly industry intelligence and technology intelligence (Table 6.10: Common key intelligence topics).

6.4.2 Formal and informal sources of CI

Before giving discussions on the collection and availability of CI for SDM, it is necessary to give a brief explanation on the sources of CI for the case (as conglomerate) and the subsidiaries/industries first.

The following discussion from the qualitative data explains what and how sub-cases collect CI from different sources.

As per section head of the Corporate Strategic Issues Section, both local and foreign intelligence gathering and assessments were performed by this section; and the intelligence could be gathered from both formal and informal sources. He further elaborates as follows:

> *…For instance, in acquiring factories from abroad, intelligence was vital to make decisions in finding, selecting and acquiring plants from abroad. This intelligence usually focused on evaluating the status of Chapter 11 companies on foreclosure. Both open sources (like the internet) and information from members of the Ethiopian Diaspora* (no detail procedures and tactics were explained in using this group as intelligence source) *might be used to finding those appropriate plants and their technologies during initial phase of scanning. Then, the conglomerate would employ expatriate experts and lawyers (or foreign foreclosure consultants) to make detail assessment on the factory for foreclosure. Following the assessments, a crew from the conglomerate would make a physical visit for confirmation and negotiation. There were also instances the conglomerate had used some foreign consultants (as source of intelligence) to buy additional factories which had Chapter 11 status.*

The Deputy Director for Commercial Operations also admitted the problems in patent licensing and technology transfer. In such situations, there were instances when the technology transferor or the strategic alliance was reluctant to disclose the full technology to the transferee (the conglomerate). In such situation, thus, the conglomerate was forced to make 'espionage' on foreign partners (i.e., alliance/partner intelligence) in such and similar situations.

According to the Marketing and Sales Head of Sub-D, Sub-D had a practice of gathering intelligence from its customers about the performance and acceptance of its new products. In Sub-D, customer intelligence could be made through oral interview or feedback and using formal customer analysis worksheet. For regular customers who came to the industry, the Customer Service and Promotion Section usually collected feedback in a formal way using a Customer Analysis Worksheet. As per the Head of Marketing and Sales of Sub-D, every member of the industry served as a source of CI.

According to the Operations Head of Sub-F, the main input for the development of the annual plan of Sub-F was the information or CI the industry received from the sales representatives. Personal contacts, partner product specification and profile request, partner employee intelligence and plant visits were the other sources the industry had used to gather intelligence in Sub-F. In joint-production discussions made in the beginning sections, Head of Marketing and Sales of Sub-F explained what benefits Sub-F had gained by participating in the exhibitions (i.e., use of intelligence from exhibition to select two production partners). Sub-F participated in all available exhibitions and bazaars to reach potential suppliers, customers and

even to check on the local and foreign competitors who were operational in the domestic market.

The technology and market intelligence at Sub-A were not confined to finding one big supplier or licensor from a certain country using open sources. Staff of the industry were also self-motivated to find appropriate technology from every available source which would be appropriate specific to their workshop. Employees were required to gather CI from the actors of the supply chain and this feedback could be considered as a supply chain intelligence to all the industries and the conglomerate as a corporation (Source: Head, R&D of Sub-A).

A different response obtained from the Head of R&D Department of Sub-E was what the Head specifically mentioned about the resource-based view the industry used in capitalising its resource utilisation and even in gathering intelligence mainly using the help of its employees. According to him, a lot of product ideas were originated by the help of technology intelligence which were gathered by staff of the R&D Department and this intelligence was mostly gathered by employees' own initiative and effort. He further added that the sources of CI for technology selection and customisation was usually made using open sources (followed by conglomerate profile and technology status request), informal recommendation from Ethiopians living abroad and actual technology visit in the hosting country.

The item on Table 6.14 (Appendix 2) presented to participants in order to cross-check the data obtained from the interview and document analysis was consistent to the responses obtained from respondent groups that are large in number. The qualitative data reveals that CI activities already existed in the case conglomerate in an informal and quasi-formal way. Interviewed officials also confirmed that their conglomerate gathers CI from different sources (such as customers, suppliers, competitors, industry experts, own employees) from both formal and informal sources including "Ethiopian Diaspora" and citizens who have foreign market and technology exposures and information.

The two highest response proportions (37.5% and 38.3%) that were provided by respondents are found in the 'partially agree' and 'agree' columns, respectively. There is a uniform response pattern for the response results summarised for the main case, sub-cases and respondent departments.

Variance analysis made by both sub-cases and respondents department revealed insignificant mean differences among the responses of the participants.

Both industry categorised respondents (or sub-cases) and respondents from the three departments had a practice of using both formal and informal sources to collect CI.

To conclude, both the industries and Corp-HQ had a practice of using both informal and formal CI sources to gather intelligence. The discussions in 6.9 (CI Structure and Coordination of CI) explains this in more detail.

6.5 Competitive intelligence collection and availability for SDM

The discussion in this section is about issues of CI collection, availability and sources used mainly to make strategic-decisions in the HQ and in the industries. The data was collected through interviews from all relevant Principal Corporate Unit Heads, section heads at the HQ, executives (industry CEOs), department heads, section heads and experts who were available during the field work. The key informants could be either CI users, CIPs (CI personnel, experts, researchers) or both. Content analysis was done to supplement the quantitative discussion. conglomerate

For most parts of the discussions, the statistical analysis for the data obtained from the questionnaire will follow and supplement the qualitative data analysis.

6.5.1 Practices in CI collection and availability (qualitative data)

Based on the core strategies of the case (technology transfer and learning), emphasis was given to the CI collection, tactics and usage for technology selection, acquisition, transfer, custom production and new business/product development.

Technology intelligence for technology selection, partnership and transfer: Capacity building and technology transfer are major strategies of the case conglomerate when linked to the overall national technical and technological capability development strategies of the country. As per the strategy document, the conglomerate's focus and expertise in product design and modification involve detailed activities in every step of the product development life cycle: concept development, sketching, modelling, simulation, prototyping, production process design and testing, new product development as well as product improvement. Considering these activities, all the subsidiaries of the case could enter into turnkey arrangement that were specifically customised to meet the precise needs of their respective customers and to address the technology gaps and market gaps of the nation.

The main references to decide on technology selection are the technology transfer and management manual and the strategy of the conglomerate. In order to engage in a uniform

and formal technology selection and transfer activities the case conglomerate already developed a technology selection and management guideline. The technology manual and directive already identified the technology gap in Ethiopia. The conglomerate's technology selection and management manual also outlines key issues in technology trends, plant selection, investment and even marketing issues. These issues could be taken as the key intelligence topics in performing the technology intelligence.

Technology search and selection practices/realities in the Case: With regard to technology search and selection, the Corporate Strategy and Control Unit Head stated that the conglomerate was at an advantageous position to easily assess and select the right technologies and foreign partners, since it was operating in 'an open time technology'. As also confirmed by the section head of the Marketing and Sales Unit, unlike the earlier establishment periods of the conglomerate, today different technological giants that worked in the automotive business such as Tata, Rise Engineering and General Motors, are interested to work with the conglomerate and to share their knowledge. Presently, the conglomerate recruits technology suppliers and strategic alliances from all corners of the world including partners from emerging countries in the Far East, western countries, the USA and other African countries.

The technology adoption and customisation were being done through training of engineers in technology transfer, by engaging into strategic alliances and joint production with technology transferors or strategic alliances with foreign companies. Experts from the Headquarters provide technology management training and orientation to engineers in how the industries could select and adopt the right technology for their respective industries.

The Corporate R&D Unit, which was a big entity by itself, was mainly responsible in handling the technology transfer function of the conglomerate and the country. This unit was working with different local and foreign partners for the customisation of new and critical technologies (which were identified as national technology gaps).

> *As the main responsible organ of the Corporation, the Corporate R&D accomplishes the technology transfer task in three ways. The first one is by purchasing different manufacturing plants from abroad (like by acquiring Chapter 11 companies) with manufacturing technology manuals and design blue prints. The second is by entering into joint venture contracts to work with the technology owners. The third one is by building the capacity of engineers through technology capacity building trainings from abroad. In the conglomerate, technology transfer and accumulation were made using STD. The accumulated knowledge will be used for upcoming similar projects* (Higher Expert from the Corporate R&D PCU).

According to the Head of this Unit, the conglomerate had been using all possible technology transfer methods such as benchmarking, reverse engineering, joint venture manufacturing methods, purchasing small scale manufacturing plants with the process blueprint and manuals and capacity building through training. One kind of tactics used to acquire technology intelligence from the foreign technology partners was to make joint design and specification and customisation of technologies. Beyond receiving complete manuals of the plants, the conglomerate entered into contracts with these partners to get joint installation and training services up to the time the conglomerate would fully acquire and own the technologies.

> *The suitability of the technology is assessed coupled with the willingness of the transferor in handing over the technology documents and disclosing every bit of information which is vital for proper technology adoption and customisation. Actually, the technology transfer contract inter alia clearly puts the technology transfer process like terms about capacity building, time of transfer and ownership. However, practically, once experts of the conglomerate have obtained all the required information/intelligence from employees of the transferor by any means, the customisation of the technology is mostly made by the conglomerate* (Head, Corporate R&D PCU).

Regarding technology intelligence, it is stressed that it was mandatory for the conglomerate and its industries to carefully scan both local and global technologies and technology partners in order to make such strategic decisions (i.e., decisions to search and select the right strategic alliances and technologies).

CI collection practice during acquisition, foreign partner and technology selection: The conglomerate acquired more than 10 metal and metal-related factories from abroad so far. It had a plan to buy and relocate other factories from Europe, China and India. Because it was also acquiring different technological products and factory establishments, it was engaged in extensive deals and negotiations with these groups using different sources of information. The conglomerate was also interested in partnering with foreign companies in its endeavour to develop the country's nascent industries. To mention a few, it had formed a partnership with Europe's second largest power equipment manufacturer, Alstom SA, the US-based solar panel manufacturer Spire Corp and the China Poly Group Corporation, for its engineering and manufacturing contracts.

As per section head of the Corporate Strategic Issues Section (a section in Corporate Strategy and Control Unit), both local and foreign intelligence gathering and assessments were usually performed by this section, the Director of the Commercial Operations (one of the two main divisions) and the Corporate Research and Development Principal Corporate Unit (PCU). In most literature a Business Development Unit is mainly responsible for performing CI-related

activities particularly during the acquisition process. This CI support might be required from the New Business Development Principal Unit of the Corporation.

The determination of the assessment topics or key intelligence topics (KITs) was made based on the strategy of the conglomerate. The information gathering might focus on finding and assessing the status of Chapter 11 companies on foreclosure, finding and selecting, strategic alliances and selection of appropriate technology. The conglomerate usually employed expatriate experts to make the assessment in the foreign markets. Following the assessments, a crew from the conglomerate would make a physical visit for confirmation and negotiation (Section Head, Corporate Strategic Issues Section).

The following explanation was also obtained from Corporate R&D Unit:

> *Any foreign partner who supports or works with our National development agenda or goals is welcome to work with the conglomerate through different cooperation schemes like joint-production, licensing, turnkey arrangement, technology transfer and direct technology capacity development arrangement (or services). Before entering into alliance, potential partners usually will present their product or services to concerned body in addition they will explain their technology or machine specification presenting their technology manual/document and issues on method of cooperation. Then a crew from the conglomerate (the crew may involve outside technology experts and advisors) will arrange a meeting for further discussion and the discussion is usually made considering conglomerate's technology needs and referring to the technology selection manual. During the second meeting the respective people will investigate all the required information about the partner. The crew will also make due diligence investigations during actual facility visits during negotiations and before concluding deals, contracting and sub-contracting.*

Technology selection and transfer by the Industries: The industries also use the technology selection and management manual of the Corporation. Based on this manual, they first do a detail analysis of the environment, technology suitability, market and customer needs and expectations studies so that they can contact the different technology suppliers from overseas. For instance, according to R&D Head of Sub-A, it was by means of technology intelligence that Sub-A initially decided to do technology marketing with different partners on SKD and CKD type of automotive technologies. During its production launching times, Sub-A entered into contracts with foreign suppliers on provision of trainings to its engineers both locally and at the plants of the partners.

Asked about the practices of technology transfer in Sub-F, the Head of R&D replied that technology transfer was usually facilitated and made by his Department. The recent technology licensing agreement the industry entered into contract regarding the installation of the Composite Factory was a case in point. The technology adoption was made because Sub-F

had learned from different sources that the technology was the latest one (state-of-the-art technology). This decision of selecting the new technology of its type was made by the help of internet browsing, foreign intelligence and lastly by making actual visit in the technology owner compounds last year. The transfer involved the installation and training of operators in the transferor's factory in abroad. As per the intelligence gathered from the trained employees of Sub-F, it was possible to learn the possibility of producing the raw material in Ethiopia too. As mentioned by Head of the Marketing & Sales Department, the best experience of Sub-F in technology adoption was made through technology imitation in designing and manufacturing.

> *The form of technology adoption and partnership production sometimes were made using turnkey arrangement, especially during the establishment of mega projects for the government. Therefore, detailed investigation shall be made on the methods of production and operations of the projects using different sources of intelligence*. (Head, R&D Department of Sub-E)

Technology excellence centres in the industries: Formerly, it was directly from the CEO's Office that the industries had been receiving technology development and transfer assignments. The instructions however were preceded by subsequent training provided to the industries on technology selection and management.

However, more recently, the industries were instructed to focus on industry specialisation through continuous capacity development and by establishing technology excellence centres within their compounds (in the R&D Departments). One of the primary tasks of these centres was to perform technology intelligence so that industry-specific technologies would be trapped, used, learned and further improved or customised and would be used as catalysts for innovation by each industry and its sister industries.

Technology intelligence practice during joint production and/or after deals: Further, according to another official from Corporate R&D Unit, the intelligence on technology and methods of production and customisation would continue to be carried out throughout each project's cycle. An expert would be assigned to each foreign staff member who would carry out the joint production or technology transfer from the start to the end of machine installation or final technology acquisition.

Also, according to Head of R&D Department of Sub-A, throughout a certain strategic alliance partnership, Sub-A could build its competency using its young engineers. Once the engineers were teamed up with the foreign partners (or technology transferor), they would start learning

the technology and immediately customising the already imported technology to address the needs of its different customers.

A good example of partner intelligence in technology transfer and learning was provided by Head of R&D Department of Sub-E as described below:

> *It was during the joint venture arrangement with the Indian conglomerate that the experts of Sub-E could locally customise the diffusion system of the sugar plants. This was possible by using partnership intelligence. Presently, all the metal-related works for the conveyors of the sugar factories were performed by Sub-E. This capacity development which was possible by attentive learning could close up the agreement with the partner before the contractual agreement period ended. This learning from the Beles and Kuraz Omo sugar projects, which was 60%-40% joint venture agreement, could be easily transferred for use in the rest big sugar projects.*

Reverse engineering practice: Reverse engineering is a common form of hands-on CI for competitive product lines that are offered in a market. Reverse engineering is a process of taking an existing product or service, breaking it down into its components, parts, sub-assemblies and other products, understanding how to build it and creating a model or representation of how the production process works. Using reverse engineering, a firm acquires competitors' products, then dismantles them in an attempt to understand their components, how they were made, what manufacturing processes and equipment were involved and their quality characteristics and cost estimates. The Deputy Director of the Corporation and Director for Commercial Operations explained how this process works in the conglomerate: practice

> *In implementing tactics of for the corporation's 'customisation' strategy, the conglomerate makes product knock downs of vehicle parts of 24 vehicles that were brought from different countries (including China, Korea, South Africa and Germany) into specific components. The reverse engineering was made by dismantling each vehicle/truck (i.e., all the 24 vehicles were completely knocked down or dismantled into breakable sections) that come from each country into detail parts in order to select the right components which could be customised to fit into an overall the conglomerate made product. The best customised assembly would lastly make up a corporation-branded product (vehicle/truck).*

The Head of the R&D Department of Sub-A explained further:

> *Sub-A has been developing its technology learning, imitation and adaptation capabilities gradually. Taking advantage of knock-down reverse engineering technology intelligence tactics and local knowledge for locally used and imported vehicles (both in their limitations and prices), Sub-A could present vehicles which have been preferred by its clients from time to time. For instance, Sub-A's Express buses could totally replace the long-time driven former Netherlands-made city buses. By doing this, it could also help the country's import-substitution strategy while also saving foreign currency. Sub-A has also contributed to the realisation of government's*

strategy and its purpose of establishment through meeting market failures that are prevailing in the automotive sector mainly by supplying its vehicles at competitive prices than the imported ones. Because of these tangible achievements, today, Sub-A is considered as an outstanding automotive technology transfer and development centre by the conglomerate, its customers and the government…. The CI Sub-A gathers is a detail one since complete knock down and selection of suitable components shall be made in order to select and customise each best part of one vehicle and develop a corporation-branded vehicle in the end. Today, Sub-A has received patent rights for its different vehicles.

Officials of the conglomerate acknowledged the existence of high wastage in such reverse engineering instances, but also felt that rigorous intelligence efforts in such situations would ultimately minimise wastage and product development costs.

External benchmarking practice: Benchmarking is a strategy implementation tool mainly in the areas of technology-driven machines and capital goods. An official from the Corporate R&D Unit mentioned that "China is our strategic partner in our national development endeavours. Thus, we pay benchmarking visits mostly to the plants of our strategic partners from China" China was thus the key strategic partner not only of the conglomerate but also by the present government of Ethiopia.

It is important to remember that the case organisation conglomerate was formed in 2010 to facilitate the Growth and Transformation Plans (GTP I and GTP II) of the country, so it reports directly to the Premier's Office and the Parliament. The conglomerate was given a development agenda and direction by the FDRE. This agenda was the essence of its corporate strategy (Corporate Magazine, 2013). It is hardly surprising that the strategies of the conglomerate were derived from the GTPs and that the conglomerate has to learn from the model countries, with a developmental state mind-set and the model conglomerates' mind-set. For instance, the motto of the conglomerate ("we develop our capacity while we work; we work while we develop our capacity"), is very similar to those used by Korean conglomerates in the 1960s ("do-learn-improve"). Thus, the benchmarking activities of the case conglomerate extend beyond technology transfer and learning.

In relation to benchmarking and technology adaptation, the CEO of the conglomerate says the following (as translated from Amharic):

…. (in benchmarking) we do not confine ourselves with industrialisation/production techniques or model of a specific country in its entirety. We have taken useful experiences from all nations for our local purpose. We continue taking best experiences in the future too. …We do not take or copy the experience as they are. We do not adopt but adapt both designs and technology. But our practice is first to study the local contexts to make them suitable and customisable… (Corporate Magazine, 2013).

The benchmarking studies, visits and the actual benchmarking were done by both the industries (for their respective industries) and the Corporation. The external and foreign conglomerate benchmarking was made by making overseas visits to potential and existing partners' facilities which were mainly in the identified model countries. The following specific benchmarking practice was mentioned by Head of the Corporate Public Relations and International Affairs:

> *Competitive information or knowledge management is practised in the conglomerate taking best practices and benchmarking activities of conglomerates that are operating in model countries such as Korea, Japan and China. The conglomerate makes benchmarking in different dimensions including process, management, quality inspection, standardisation and other aspects when necessary. For example, a crew made a visit to Toyota conglomerate to learn from its just-in-time practices and plant management. This benchmarking was made mainly to uplift the factory management and production process of Sub-A.*

Internal benchmarking practice (benchmarking among subsidiaries): Benchmarking can also be employed from within. A conglomerate has numerous divisions. Perhaps one of these subsidiaries is very successful in a particular area; under these circumstances, its performance may provide a useful benchmark to assess the performance of other corporate divisions (Walle III, 2001).

Deputy Director of the Corporation and Director for Commercial Operations mentioned a recent benchmarking and experience sharing with industries in one engineering industry (which was organised under the Military Operations Division of the conglomerate) for its successful reverse engineering success.

He further noted that the industries of the conglomerate were integrated industries that work hand in hand in order to carry out many mega projects for the government. Experts from each industry were pooled out to work together on a certain project. He also mentioned an instance that about 50-60 factories of the industries had been working together to make the ten sugar factories operational. Thus, project staff who came from the industries were also required to gather both formal and informal intelligence from other actors of the supply chain so that this supply chain intelligence would be used to improve the supply chain during joint-project task-accomplishments and for future benchmarking purpose.

CI practice in industry networking and local coopetition strategies: The corporation's high-ranking officials frequently expressed the view that the corporation would not compete with local private firms unless they kept importing foreign made metal and engineering products which would add no value to the country's industrialisation. Rather, the conglomerate's

philosophy stated the need to create a production network with both internal (subsidiaries) and external actors in its different markets or industries. Thus, the corporate and market philosophy of the conglomerate was to work in partnership with all local producers by establishing an industry network throughout the country (Corporate Strategy and Organisation Manual, 2010).

A few years before, the conglomerate actually initiated and intelligence-sharing forum with the aim of sharing knowledge, technology and skill development. Members of this Forum were its subcontractors (including MSEs and private companies) and production partners (foreign conglomerate and state alliances). This knowledge sharing forum had largely helped both the conglomerate and forum members to learn from limitations and bottlenecks they had encountered during joint project executions and to share best practices. Connected to this forum, the conglomerate even developed a System Auditing and Consortium Manual so that best practices and problems would be stored for capacity development and learning (Corporate Magazine, 2013). In relation to the present practice in industry networking, an official from the Corporate R&D Unit admitted that the conglomerate had not gone far enough to collect and use CI to realise this industrial networking mainly with the private sector operating in metal and engineering sector. This might be because the conglomerate and its industries had been too busy carrying out government projects.

CI during local coopetition: CI was also vital when each industry looked for local strategic alliances and during the negotiations with these production alliances. Such deals were made when it was necessary to meet the extra orders by making partner co-production agreements and for employee leasing. In order to select the right partner, the industries used already developed sub-contractor and partner selection criteria.

According to R&D and Marketing and Sales Heads of Sub-F, CI was vital for decisions that the industry with regard to selecting production partners and entering into successful negotiations with them. For instance, participation in one exhibition had helped Sub-F in finding two production partners from private companies to engage in successful joint-production. The production partner intelligence gathering continued even during the actual production and it also involved making visits (including surprise visits) to the facilities of the partner whenever necessary. Even during joint-production, CI could help the organisation in developing a coopetition strategy to work with similar companies especially during peak times and when the industry received large orders from its clients.

6.5.2 CI collection (quantitative data)

The discussion here mainly focuses on the data obtained by administering the questionnaire. After discussing the findings on the practices of CI collection by the main case and sub-cases, the use of CI for SDM will be discussed. In order to understand to what extent the collected CI would be used to make tactical and other business decisions by the case, analysis is also made under two other decision-making variables—TBDM using CI (tactical and business decision-making using CI) and Decision-making using CI (overall decision-making using information or CI).

Since the focus of the study is on the value of CI for SDM, the focus of the empirical analysis is also on this construct. Nevertheless, before considering the correlation between CI and SDM, it is good to look at participants' evaluation of their conglomerate's CI collection practice one by one under the following four independent variables (IVs) first.

1) *Technology (and new products) intelligence* ***(Variable 1)***
2) *Stakeholder intelligence* ***(Variable 2)***
3) *Competitive market intelligence* ***(Variable 3)***
4) *Marketing research or feasibility study* ***(Variable 4)***

1) Technology (and new products) intelligence (IV 1): In supplementing the qualitative data obtained from interview and content analysis on technology intelligence, questionnaire respondents were asked whether their organisation had been continuously and systematically monitoring technologies globally to determine whether new products, competitors or technology substitutes were emerging.

Table 6.15 (Appendix 2) displays participants' degree of agreement to their conglomerate's practices in conducting technology (or new product) intelligence. Looking at the last row, 61.8% of the participants either agreed or strongly agreed with the item. Except the respondents from the Sub-B and Sub-C who highly rated the 'partially agree' choice (respectively 46.7% and 55.6%), respondents of the rest sub-cases confirmed that their industry conducted technology intelligence.

Corp-HQ was included as a sub-case since it shared a number of facts and common features with the industries as a unit of the conglomerate and in order to serve as a reference point so that comparisons could be made between the HQ and the subsidiaries (other sub-cases) when necessary. Results show that Corp-HQ seemed to feel that they perform technology intelligence better than the other sub-cases (the industries). Respondents from Corp-HQ

agreed (60.9%) and strongly agreed (17.4%) with the item (78.3% in total agreeing with the statement) while respondents of Sub-A and Sub-E (respectively 73.4% and 73.7%) followed.

While the largest proportion of respondents from Corp-HQ, Sub-A, Sub-D and Sub-E replied 'agree', the rest two sub-cases (Sub-B and Sub-C) 'partially agree' to the item.

ANOVA test results: Variance analysis made by both sub-cases and respondents department revealed insignificant mean differences among the responses of the participants.

Overall, it is possible to conclude that the case conglomerate did technology intelligence in line with its strategic focus—technology transfer and product customisation. This result also confirms the findings from qualitative data on issues of technology transfer, technology strategic alliances and joint production as in the previous section.

2) Stakeholder (customer) intelligence (IV 2): According to the conglomerate and the industries, both internal (customers of other industries of the conglomerate) and external customers are named as stakeholders. Thus, conglomerate's term 'stakeholders' was used in the same context.

Customer intelligence was collected on the performance of the products (for example, performance of Sub-A buses and Sub-D power cables) using both informal intelligence sources and formal customer feedback analysis format (Source: Sub-A and Sub-D).

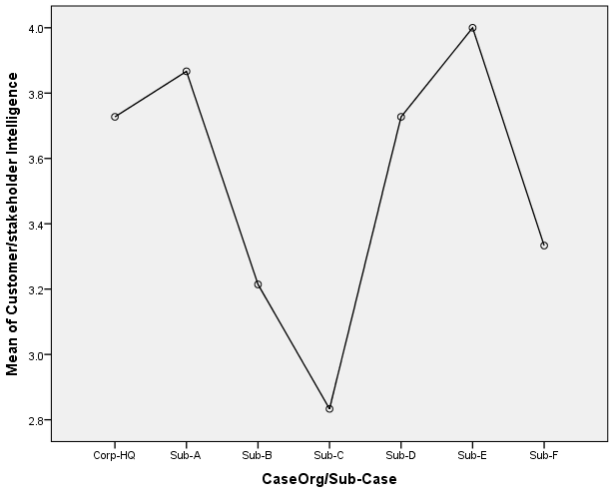


Figure 6.4 Customer intelligence practice (compared by sub-case)

Head of Marketing and Sales Department of Sub-F also confirmed that Sub-F usually conducted customer intelligence and gathered feedback on its products from all stakeholders. Regarding production intelligence, the industry has a practice of collecting feedback from customers so that it can do production planning before the beginning of the new fiscal period. However, as the demand for the products and orders vary from time to time, the industry continuously interacts with its customers to update their orders and to revise its production plan and capacity regularly. There is also a practice of receiving an email report on issues of demand and product requirements of the industries at least monthly. For instance, continuous information exchanges and updates about plastic covers for cables Sub-F produces take place throughout

the year. This interaction also involves actual visits to the different plants of Sub-F, other industries and contracted projects of the conglomerate and other industries.

ANOVA results (by sub-case): ANOVA was conducted to compare the responses of the sub-cases regarding whether there is a practice to collect CI from different sources such as consumers, suppliers, competitors, industry experts and own employees in order to enhance conglomerate competitiveness. There is a significant mean variation at F (6, 121) = 2.870, p = 0.012. Levene's test is not significant; F (6, 121) = 1.046, p = .399—at the .05 alpha level. Further review of the *descriptive and Tukey HSD post hoc multiple comparison test* tables reveal that the Sub-E (M = 4.00) is significantly different from the Sub-C (M = 2.83), with a mean difference of 1.17 and a p value of .014.

ANOVA results (by respondents' department): The mean comparison among responses from departments (i.e., R&D, Marketing and Sales and Planning and MIS) reveal insignificant differences.

Looking at the result with reference to the DV (in the upcoming analysis), this result may indicate that although all industries collect stakeholder or customer intelligence, the degree and frequency of use for SDM might vary from industry to industry.

3) Competitive market intelligence (IV 3): A one-way between subjects (by sub-case) ANOVA was conducted to compare to what extent each organisation continuously collects useful information about its service, the services of competitors and its markets. The ANOVA for this item reveals a significant mean variation at F (6, 118) = 2.632, p = 0.020. Levene's test is significant; F (6, 118) = 2.773, p = .015—at the .05 alpha level. The Tukey post hoc multiple comparison test reveals mean variation between the responses of Corp-HQ and Sub-F. The Corp-HQ (M = 3.80) is significantly different from the Sub-C (M = 3.05), with a mean difference of .75 and a p value of .044. Except Sub-F, the rest six sub-cases made competitive market intelligence better.

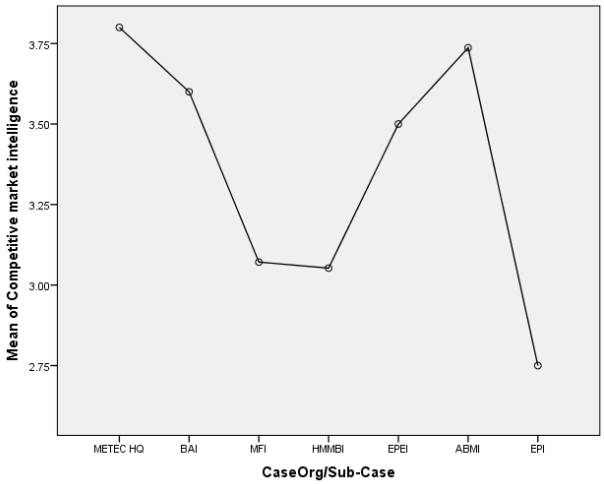


Figure 6.5 Marketing intelligence practice (compared by sub-case)

4) Marketing research or feasibility study (IV 4): A quite different item was presented to the respondents for cross-referencing purpose. This variable measured whether their industry did formal marketing research or feasibility studies other than CI.

The frequency results on Table 6.16 (Appendix 2) reveals that while 24.4% of the valid (n=127) respondents either disagreed or strongly disagreed with this item, 37.8% of them partially agreed. Similar percentage of responses to the 'partially agree' choice was provided by participants who responded either 'agree' or 'strongly agree' to the item (37.8%).

The line chart on the right is quite similar to the normal curve. Most of the respondents from the four sub-cases (Corp-HQ, Sub-A, Sub-B, Sub-C and Sub-E) responded average or chosen 'partially agree'.

The responses for this item are quite different from the responses for the rest of the items that are grouped in the CI collection variable just because of the nature of the question and the realities that are explained by the qualitative data below.

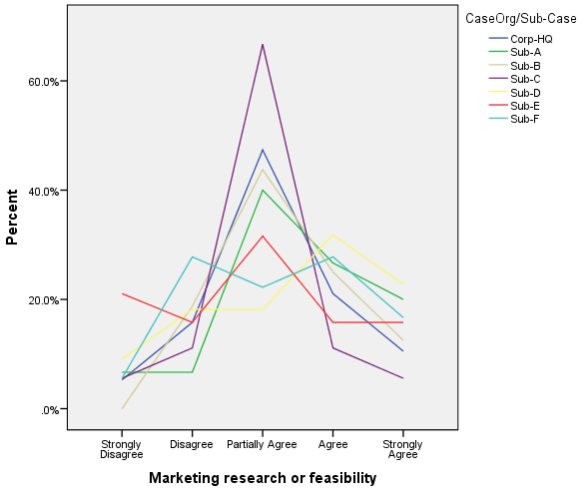


Figure 6.6 Practice of doing marketing research/feasibility study (compared by sub-case)

Feasibility study and market gap assessment or intelligence for new business/project: Conducting feasibility study and national demand-supply gap assessment were vital for the initiation of new businesses and mega projects in the conglomerate. Each industry in the conglomerate and the conglomerate as a corporation, had experience of conducting feasibility studies when a need existed to establish a new factory or product. However, the studies were usually not done because they were too costly and time consuming (Source: Director, Corporate Commercial Operations).

Even though new project ideas were conceived by taking into consideration the government's Industrialisation Policy and Growth and Transformation Plan, the conglomerate had to conduct feasibility studies on national market failures (market gaps, or demand-supply gap analysis), technology and customer need assessments. Deputy Head of the Corporation and Director of Commercial Products Operations explained this mentioning specific examples the conglomerate made to establish sugar plant projects and fertiliser complex plants. The conglomerate also conducted CI and feasibility study mainly on issues of market gap,

technology analysis on import substitute products and geo-physical situations of the country and customer demand in determining the specification for products such as the city and school buses.

CI collection and availability (Grouped Independent Variable): This variable group involves the preceding four variables in combination, namely: *1) Technology (and new products) intelligence (Variable 1); 2) Stakeholder intelligence (Variable 2); 3) Competitive market intelligence (Variable 3); and 4) Marketing research or feasibility study (Variable 4).*

CI collection and availability (ANOVA results for grouped independent variable): The mean for this group variable is computed from the above four independent variables (IVs). ANOVA results for the combined variables reveal that the F ratio is *marginally* significant at F (6, 126) = 2.2116, p = .056. Levene's test is not significant; F (6, 126) = 1.081, p = .378.

Although, the p value is marginally significant, *Least Significant Difference (LSD) post hoc test* table reveals that: the Corp-HQ (M = 3.58) is significantly different from the Sub-C (M = 3.01), with a mean difference of .57 and a p value of .026; the Sub-A (M = 3.73) is significantly different from the Sub-C (M = 3.01), with a mean difference of .72 and a p value of .011; the Sub-C (M = 3.01) is significantly different from the Sub-D (M = 3.59), with a mean difference of .58 and a p value of .024; and the Sub-C (M = 3.01) is significantly different from the Sub-E (M = 3.64), with a mean difference of .63 and a p value of .018.

The ANOVA run by respondent's department for each of the four CI collection variables and for the grouped variable revealed significant mean variations. Overall analyses indicate the existence of differences in CI collection practice. Therefore, equal emphasis was not given in collecting CI for decision-making by the industries and Corp-HQ. Sub-C barely collected technology intelligence, stakeholder intelligence and competitive market intelligence to support its decision-making.

Following the above findings, variance and regression analysis was conducted for the different decision-making areas (strategic decision-making, tactical and business decision-making) and the independent variables (i.e., CI collection variables discussed in 6.5.2). (They are discussed in sections 6.6, 6.7 and 6.8).

6.6 Decision-making using CI

The independent variable (IV) and dependent variable (DV) groups listed in the table are used to conduct regression and variance analyses in this and following sections.

DV Groups	Variables in Dependent Variable (DV) Group	IV Group	Variables in Independent Variable (IV) Group
SDM using CI **(Main Model 1)***	1. CI to make decisions that affect long-term survival of the Co. 2. CI to introduce new products and select new markets 3. Industry and external environment CI dictates and shapes company's strategies	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 4. Marketing research or feasibility study **(IV 4)**
Tactical and business decision-making using CI **(Main Model 2)***	1. Information usage for company's decision-making 2. CI to introduce new products and select new markets 3. CI to inform tactical measures such as price changes, promotion 4. CI has increased the effectiveness of managerial decision-making	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 4. Marketing research or feasibility study **(IV 4)**
Overall usage of CI or information for decision-making **(Main Model 3)***	1. Information usage for company's decision-making 2. CI to make decisions that affect long-term survival of the Co. 3. CI to introduce new products and select new markets 4. CI to inform tactical measures such as price changes, promotional effort 5. Industry and external environment CI dictates and shapes company's strategies 6. CI has increased the effectiveness of managerial decision-making	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 1. Marketing research or feasibility study **(IV 4)**
* Since there are other regression models (including the models in the CI Implementation Challenges Variables), it is necessary to differentiate the three models as 'main models' which are directly related to the focus of the study. ** As mentioned before, this term was used by the conglomerate to name both internal customers (other industries of the conglomerate) and external customers. Thus, it shall be used for the study as it is, too.			

In the first instance, the overall decision-making using CI practices of the case are discussed.

6.6.1 Use of CI for decision-making (individual variable analysis)

The following decision-related variables were included in the study:

1) *Information usage for conglomerate's decision-making*
2) *CI to make decisions that affect long-term survival of the conglomerate*
3) *CI to introduce new products and select new markets*
4) *CI to inform tactical measures such as price changes, promotional effort*
5) *Industry and external environment CI dictates and shapes conglomerate's strategies*
6) *CI has increased the effectiveness of managerial decision-making*

1) Information usage for conglomerate's decision-making: In this question, respondents were asked to indicate to what extent information is vital for their conglomerate's decision-making.

ANOVA results (sub-case): F ratio is significant at F (6, 126) = 2.352, p = .035 < .05. Levene's test is significant; F (6, 126) = 3.182, p = .006—at the .05 alpha level. Thus, the

assumption of homogeneity of variance is violated for this variable. The mean variance for the item "information is valuable for our conglomerate's decision-making" can be observed between the responses of Sub-A and Sub-C. Post hoc test results in Games-Howell multiple comparison table reveals that the Sub-A (M = 4.60) is significantly different from the Sub-C (M = 3.37), with a mean difference of 1.23 and a *p* value of .038.

Like CI collection practices, information usage for decision-making was also less practised in Sub-C.

2) CI to make decisions that affect long-term survival of the conglomerate: Respondents were asked whether their conglomerate had a practice of collecting information (CI) from its industry and markets in order to make strategic decisions. Looking at the last two columns of Table 6.17 (Appendix 2), it is possible to understand that each sub-case seemed to have a practice of making decisions that affected its long-term survival using CI. More than half of the respondents from each case either agreed or strongly agreed with the statement. Summary results for the case conglomerate revealed that 60.8% of the entire participants either agree or strongly agreed with the item saying that their organisation did CI to make decision that affected long-term survival of their organisation, which is taken as a SDM issue. Considering the two options again (i.e., Agree and Strongly Agree), respondents from Sub-A (75%) and Corp-HQ (71.5%) believed more strongly that their organisations made strategic decisions based on CI (75%).

ANOVA test results: Variance analysis made by both sub-cases and respondents department revealed insignificant mean differences among the responses of the participants.

The overall results indicate the case conglomerate (as a whole) had moderate level of decision-making using CI when it encountered decision problems that might impact its long-term survival.

3) CI to introduce new products and select new markets: This question asked to what extent the CI function assisted their organisations in selecting new market ventures for existing offerings and in the successful introduction of new products or services. This item was included in order to determine whether it correlates with the technology intelligence practices in the case.

		1
CI to selecting new market for existing offerings and in introducing new products	*r*	1.000
	p	.
	n	128
Technology (and new products) intelligence	*r*	.281**
	p	.001
	n	126
*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).		

Overall, correlation between the two technology/new product intelligence variable and decision-making using the same intelligence to introduce new product and new market showed a fairly positive correlation at p=.000 and β=.281. However, this statement could be considered by participants either as a tactical decision-making issue or a strategic-decision-making issue or both. Thus, the item shall be grouped in both the SDM using CI variable and TBDM using CI variable. Clear differences in usage of this CI for either of the two or both decision-making issues could better be understood using regression statistics. The discussion is provided in the upcoming sections.

ANOVA test results: Variance analysis made by both sub-cases and respondents department revealed insignificant mean differences among the responses of the participants.

4) CI usage for tactical decision-making: A one-way between subjects (by sub-case) ANOVA is conducted to compare among responses whether CI is mostly used to inform tactical measures than SDM or not.

ANOVA results: F ratio is significant at F (6, 123) = 2.072, p = .025. Levene's test is not significant; F (6, 123) = .677, p = .668—at the .05 alpha level. Thus, the assumption of homogeneity of variance is met for this variable. Further review of the descriptive and multiple comparison (LSD test) tables reveal that the Sub-A (M = 4.22) is significantly different from the Sub-B (M = 3.39), with a mean difference of .83 and a p value of .005. Also, the Sub-A (M = 4.22) is significantly different from the Sub-C (M = 3.56), with a mean difference of .66 and p value of .021.

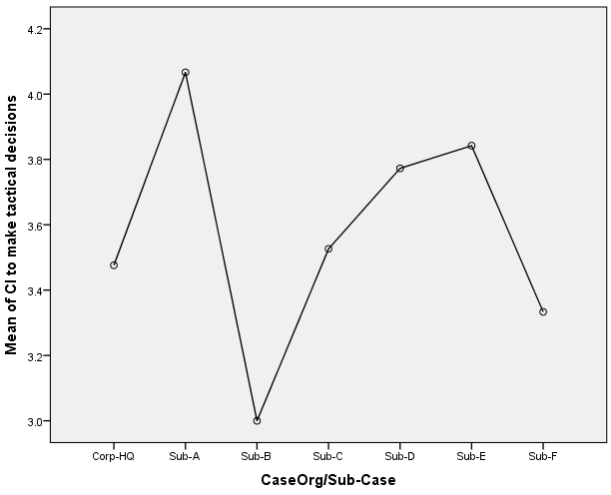


Figure 6.7 CI usage for tactical decision decision-making (compared by sub-case)

The mean plot suggests that Corp-HQ, Sub-B and Sub-F used CI for tactical decision purposes to a lesser extent than other sub-cases. This might suggest that they tended to use CI more for SDM.

5) Whether industry and external environment CI dictates and shapes conglomerate's strategies: Respondents were asked whether the competitive information their organisation gathers from the industry and the external environment dictates and shapes their strategies.

Corp-HQ, Sub-A and Sub-E seemed to feel that the CI they gathered from the industry and external environment play a greater role in dictating their strategies than the rest sub-cases. However, overall results indicate that competitive information from their respective industry/market and information from the external environment had an influence in shaping and dictating all sub-cases' strategies.

ANOVA results (sub-case): F ratio is significant at F (6, 119) = 2.306, p = .038. Levene's test is not significant; F (6, 119) = 1.358, p = .237—at the .05 alpha level. Further review of the descriptive and multiple comparison (LSD test) tables revealed that: the Corp-HQ (M = 4.05) is significantly different from the Sub-F (M = 3.21), with a mean difference of .84 and a p value of .010; the Corp-HQ (M = 4.05) is significantly different from the Sub-C (M = 3.24), with a mean difference of .81 and the p value of .015; the Sub-A (M = 3.93) is significantly different from the Sub-F (M = 3.21), with a mean difference of .72 and p value of .043; the Sub-C (M = 3.24) is significantly different from the Sub-E (M = 3.94), with a mean difference of .70 and p value of .038; the Sub-E (M = 3.94) is significantly different from the Sub-F (M = 3.21), with a mean difference of .73 and p value of .027.

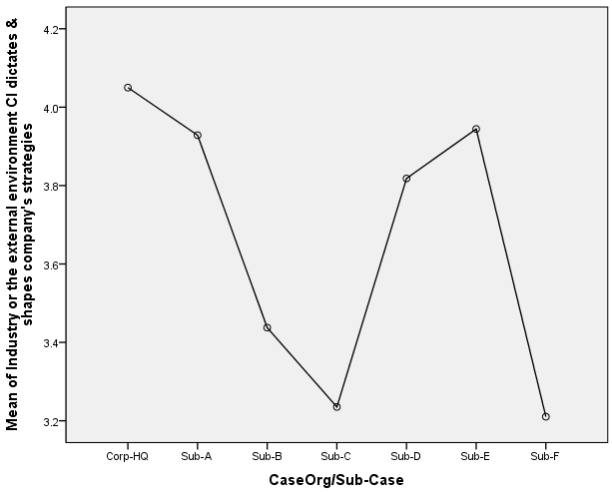


Figure 6.8 Industry or external environment CI for SDM (compared by sub-case)

Sub-C and Sub-B seemed to feel that CI had little effect in dictating and shaping their strategies or SDM. From the discussions in 6.5.2, it seems that the lesser influence of CI in dictating and shaping the strategies of the two sub-cases could be related to the lower use of CI.

6) CI for effectiveness of managerial decision-making: Respondents of the sub-cases were asked whether the availability and use of CI had increased the effectiveness of managerial decision-making.

ANOVA results showed as there is a significant mean variation at F (6, 122) = 3.144, p = 0.007. Levene's test is not significant; F (6, 122) = 1.406, p = .218—at the .05 alpha level. Further review of the *descriptive and multiple comparison (LSD test)* tables reveal that the Sub-A (*M* = 3.87) is significantly different from the Sub-C (M = 2.89), with a mean difference of .98 and a p value of .007. Also, the Sub-A (M = 3.87) is significantly different from the Sub-B (M = 2.94), with a mean difference of .93 and a p value of .012.

The mean plot indicates that Sub-B and Sub-C do not perceive that the collection and use of CI helped their managerial decision-making. This could, once again, be because of the lack of CI in these subsidiaries (see 6.5.2).

6.6.2 Overall use of CI for decision-making

ANOVA and regression results are presented here for the dependent variable group—overall usage of CI or information for decision-making.

Overall usage of CI or information for decision-making (ANOVA for grouped variables by sub-case): F ratio is significant at F (6, 126) = 2.81, p = .013. Levene's test is not significant; F (6, 126) = 1.318, p = .254. The *descriptive statistics and multiple comparison (LSD test)* table reveals that: the Corp-HQ (M = 3.91) is significantly different from the Sub-C (M = 3.37), with a mean difference of .54 and p value of .018; the Corp-HQ (M = 3.91) is significantly different from the Sub-B (M = 3.34), with a mean difference of .57 and p value of .018; the Corp-HQ (M = 3.91) is significantly different from the Sub-F (M = 3.40), with a mean difference of .51 and p value of .026; the Sub-A (M = 4.04) is significantly different from the Sub-B (M = 3.34), with a mean difference of .70 and a p value of .008; and the Sub-A (M = 4.04) is significantly different from the Sub-C (M = 3.37), with a mean difference of .67 and p value of .008.

Summary results indicated that decision-making using CI seemed to be less prevalent in Sub-B and Sub-C.

The ANOVA for each of the six decision-making topic variables and for the grouped variable has revealed significant mean variations. This result also holds true for the four CI collection variables discussed in 6.5.2.

Surprisingly, overall CI usage for decision-making variable category (DV) seem almost similar dimensions of variation to CI collection variable category (IV). In the next section, the

relationships between the independent or explanatory variables (IVs) and the predicted or dependent variables (DVs) are explained.

Overall usage of CI or information for decision-making (regression report): Doing regression for the independent variables (CI collection) vs the dependent variable (overall usage of CI or information for decision-making) may also help to compare the two main models tested for SDM using CI (Main Model 1) and TBDM using CI (Main Model 2).

DV Groups	Variables in Dependent Variable (DV) Group	IV Group	Variables in Independent Variable (IV) Group
Overall usage of CI or information for decision-making (Main Model 3)*	1. Information usage for conglomerate's decision-making 2. CI to make decisions that affect long-term survival of the Co. 3. CI to introduce new products and select new markets 4. CI to inform tactical measures such as price changes, promotional effort 5. Industry and external environment CI dictates and shapes conglomerate's strategies 6. CI has increased the effectiveness of managerial decision- making	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 4. Marketing research or feasibility study **(IV 4)**
* Since there are other regression models (including the models in the CI Implementation Challenges Variables), it is necessary to differentiate the three models as 'main models' which are directly related to the focus of the study.			

Main Model 3 is presented first.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Main Model 3	.759[a]	.576	.560	.47890	2.062
a. Predictors: (Constant), Marketing research or feasibility study , Stakeholder intelligence , Technology (and new products) intelligence, Competitive market intelligence					
b. Dependent Variable: Overall usage of CI or information for decision-making					

This model explains the CI or information collection (IVs) and overall decision-making in the case (DV) results an R square of .576, which is higher than R squares for the first two main models (SDM using CI and TBDM using CI). This indicates that 57.6 of the variation of CI use in overall decision-making is explained by the explanatory variables.

Although the two main models have very similar R square values, the variability for this model is largely explained by a larger R square (R^2=.576). This may indicate that there is no clear distinction between the use of SDM and TBDM in view of the respondents.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
Main Model 3	Regression	34.825	4	8.706	37.962	.000[b]
	Residual	25.686	112	.229		
	Total	60.511	116			
a. Dependent Variable: Overall usage of CI or information for decision-making						
b. Predictors: (Constant), Marketing research or feasibility study , Stakeholder intelligence , Technology (and new products) intelligence, Competitive market intelligence						

The ANOVA table reports a significant F statistic (37.96) and significance value of 0.000, indicating that using the model is better than guessing the mean. All the explanatory variables are jointly significant since p-value is less than 0.001. As a result, all the explanatory variables included in the model can jointly explain variations in perceptions of decision-making using the collected CI.

Coefficients[a]								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.167	.227		5.148	.000		
	Technology (and new products) intelligence	.304	.058	.386	5.247	.000	.701	1.427
	Stakeholder intelligence	.233	.057	.304	4.056	.000	.673	1.486
	Competitive market intelligence	.178	.058	.256	3.059	.003	.542	1.844
	Marketing research or feasibility study	-.024	.043	-.037	-.558	.578	.859	1.164
a. Dependent Variable: Overall usage of CI or information for decision-making								

Similar coefficient values are observed to the first two main models on all the independent variables. From the coefficients table, the Variance Inflation Factor (VIF) also results less than five for all the predictors. The last independent variable has a negative beta coefficient, which may be explained by the qualitative data in 6.5.2, which indicated that market research or feasibility studies were seldom done, typically only when the need arose to launch new projects or establish factories. The coefficients of standardised estimation result indicate that, out of the four independent variables considered in the model, *technology intelligence* has the highest beta coefficient, which is (β=.386). This confirms that it has higher level of sensitivity to the case's overall decision-making using CI or information. As clearly indicated in the case's strategy, this result confirms the high priority conglomerate of technology transfer and technology intelligence. This finding was also observed in main model 1 (i.e., SDM using CI) and in the qualitative data. The scatter plot and the normal curve of the model do indicate that as there is normality in data distribution and absence of multi-collinearly problems in the model.

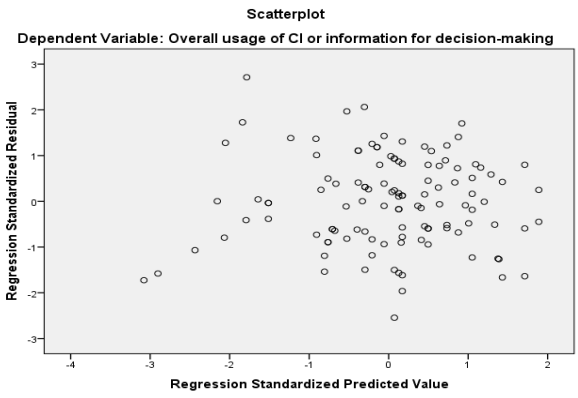


Figure 6.9 Satterplot (overall usage of CI for decision-making)

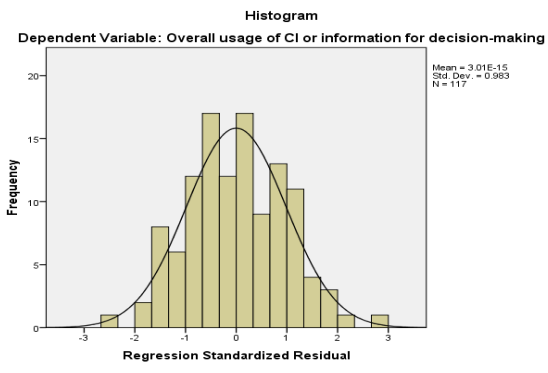


Figure 6.10 Normal curve (overall usage of CI for decision-making)

6.7 SDM using CI

Boikanyo (2016: ii-iii) suggests that SI involved the convergence and synergy of knowledge management, business intelligence, marketing intelligence and competitive intelligence. The data showed statistically and practically significant positive relationships between strategic management dimensions, different intelligence constructs and perceived business performance. The results of the regression analysis showed that SI can be situated as a function of business intelligence, marketing intelligence, competitive intelligence and knowledge management as proposed to help the mining organisations to develop competitive strategies, adapt to changing circumstances and have sustainable business performance.

The inferential statistics results in this section consists of ANOVA and regression analysis for the main construct of this study. Multiple regressions were conducted to determine the explanatory power of the independent variables with regard to SDM. Further explanations focus on an interaction term considering two additional moderators/variables—*CI structure and coordination* and *CI sharing.*

But, before presenting the regression discussion to the CI Collection (IV) and SDM Using CI, it is good to make a simple line regression to see to what extent management's request had initiated the collection of CI in the case first.

6.7.1 Demand for strategic intelligence

Decision-makers place considerable value on CI in terms of its contribution to strategy development, decision-making, gaining advantage over competitors and enhancing the financial performance of the organisation (Du Plessis & Gulwa, 2016).

Demand for strategic intelligence (SI): For purposes of regression analysis, this variable was computed in one category involving the following two items: *(1) CI request by management for SDM; and (2) CI demanded for SDM purpose.*

DV Group	Variables in Dependent Variable (DV) Group	IV Group	Variables in Independent Variable (IV) Group
CI collection and availability	1. Technology (and new products) intelligence 2. Stakeholder intelligence (getting intelligence from different sources) 3. Competitive market intelligence 4. Marketing research or feasibility study	Demand for strategic intelligence (SI)	1. CI request by management for SDM 2. CI is demanded for SDM purpose

CI request by management for purpose of SDM: From the two single variables, CI request by management for SDM purpose has revealed variations in the means of sub-cases. ANOVA by departments has shown insignificant variation.

The F ratio is significant at F (6, 116) = 2.476, p = .027. Levene's test is not significant; F (6, 116) = .867, p = .521—at the .05 alpha level. Further review of the *descriptives and multiple comparison (Tukey HSD)* tables reveal that the Sub-E (M = 3.89) is significantly different from the Sub-C (M = 2.79), with a mean difference of 1.10 and p value of .022.

As can also be seen from the mean plot, however, the *LSD* post hoc results revealed more variations among the sub-cases: the Sub-E (M = 3.89) is significantly different from the Sub-C (M = 2.79), with a mean difference of 1.10 and p value of .001; the Sub-A (M = 3.89) is significantly different from the Sub-C (M = 2.79), with a mean difference of 1.10 and p value of .005; the Sub-B (M = 3.53) is significantly different from the Sub-C (M = 2.79), with a mean difference of .74 and p value of .036; and the Sub-D (M = 3.79) is significantly different from the Sub-C (M = 2.79), with a mean difference of 1.00 and p value of .004. Certainly, of all the sub-cases, SI was requested less by the management of Sub-C to make strategic-decision-making.

The binary regression results (for grouped DV and grouped IV) show that CI collection correlates with demand for strategic intelligence (SI). The ANOVA table for the model also reports a significant F statistic (56.377) and sig. value 0.000, indicating that using the model is better than guessing the mean.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.550[a]	.302	.297	.70189	1.649
a. Predictors: (Constant), Demand for strategic Intelligence (SI)					
b. Dependent Variable: CI collection and availability					

The model has R square value of .302, suggesting that only 30.20 percent of the variation in CI collection (practice) is explained by the demand for CI products for SDM purposes.

The independent variable (IV) has a strong beta coefficient (β=.550). This confirms that it has higher level of sensitivity to the case's CI gathering based on the executive's demand for it.

6.7.2 SDM using CI

CI is primarily a strategic management tool (Ghannay & Mamlouk, 2015 & 2012; Strauss & Du Toit, 2010; Saayman, Pienaar, De Pelsmacker, Viviers, Cuyvers, Muller & Jegers, 2008;

Strauss & Du Toit, 2010; Odendaal, 2004). Strategic Intelligence (SI) focuses on the longer term, looking at issues affecting a conglomerate's competitiveness over the course of a number of years. The actual time horizon for SI ultimately depends on the industry and how quickly it's changing. This type of intelligence generally supports the senior management for the overall strategy. CI or SI focuses on the longer term, looking at issues affecting a company's competitiveness over the course of a couple of years. Therefore, companies should link a company's strategy with its CI function and focus on strategic situations, since CI's greatest impact is delivering intelligence on competitive advantage (Kruger, 2003). Thus, under the SDM (SDM using CI) category, the following variables were computed into one variable for the quantitative data analysis.

DV Groups	Variables in Dependent Variable (DV) Group	IV Group	Variables in Independent Variable (IV) Group
SDM using CI (Main Model 1)	1. CI to make decisions that affect long-term survival of the Co. 2. CI to introduce new products and select new markets 3. Industry and external environment CI dictates and shapes conglomerate's strategies	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 4. Marketing research or feasibility study **(IV 4)**

The four variables which are listed in the second column of the above table are used in the variance analysis and regression analyses.

SDM using CI vs. collected CI correlation (Table 6.19, Appendix 2): It is advisable to begin by looking at the relationship between the individual independent variables (CI collection variables) and the dependent variable (SDM using CI) using Spearman rho's correlation for ordinal scales.

In comparing the degree of correlation strength between the four independent variables and the dependent variable (SDM using CI), the last line (5th row) shows a weaker relationship (at r=.210 and p=.018) than the other independent variables. All the other correlations show high significance(p=.000<.001) and strong positive relationships with the dependent variable. This result confirms the qualitative and quantitative explanations for this in 4.2. The result could further be justified by the nature of the statement itself (i.e., doing formal marketing research and feasibility study *than CI*). This correlation effect is directly reflected in the multiple regressions made for the DV.

SDM using CI (ANOVA report by sub-case for the DV): F ratio is significant at F (6, 126) = 2.241, p = .043. Levene's test is not significant; F (6, 126) = .918, p = .484. Thus, LSD multiple comparison explains that the Corp-HQ (M = 3.86) is significantly different from the

Sub-B (M = 3.30), with a mean difference of .56 and p value of .029; the Corp-HQ (M = 3.86) is significantly different from the Sub-C (M = 3.31), with a mean difference of .55 and p value of .024; the Corp-HQ (M = 3.86) is significantly different from the Sub-F (M = 3.28), with a mean difference of .58 and p value of .017; the Sub-A (M = 3.85) is significantly different from the Sub-C (M = 3.31), with a mean difference of .54 and p value of .047; and the Sub-A (M = 3.85) is significantly different from the Sub-F (M = 2.88), with a mean difference of .55 and p value of .036.

As can also be seen from the mean plot, the means vary for SDM using CI. This indicates that there are variations in using CI for SDM and CI gathering for SDM. This difference is prevalent between Corp-HQ and the three industries (i.e., Sub-B, Sub-C and Sub-F). This finding further indicates that the CI collection for SDM (explained by a marginal ANOVA p value of .056) and SDM are practised slightly differently practice in Corp-HQ and the industries of the conglomerate.

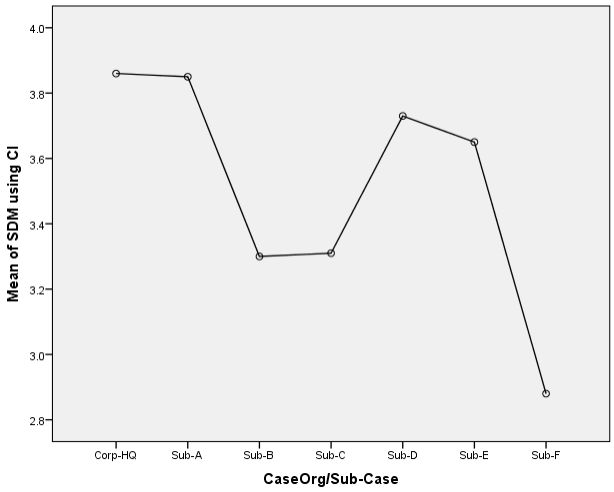


Figure 6.11 SDM using CI (compared by sub-case)

SDM using CI (Regression report, Main Model 1): This regression model is named Main Model 1 since it is the essence of the study; it should be read in conjunction with the qualitative discussions in the previous parts to reach at an overall conclusion.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Main Model 1	.736[a]	.542	.525	.53807	2.007
a. Predictors: (Constant), Competitive market intelligence, Marketing research or feasibility study , Technology (and new products) intelligence, Stakeholder intelligence					
b. Dependent Variable: SDM using CI					

The table summarises the model. The model R square is .542, suggesting that 54.20 percent of the variation in the measurement of SDM using CI is explained by the independent variables (Technology/new products intelligence, Stakeholder intelligence, Competitive market intelligence, Marketing research or feasibility study). To check for serial correlation among the independent variables in a classical linear regression model, the study used the Durbin-Watson estimation. The result from Durbin Watson estimation shows a value of 2, which means that the explanatory variables has low serial correlation among the explanatory

variables and that independent variables are exogenous. This finding reduces the likelihood of biased estimation based on spurious regression.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.309	4	9.577	33.080	.000[b]
	Residual	32.426	112	.290		
	Total	70.736	116			
a. Dependent Variable: SDM using CI						
b. Predictors: (Constant), Competitive market intelligence, Marketing research or feasibility study , Technology (and new products) intelligence, Stakeholder intelligence						

The ANOVA table reports a significant F statistic (33.08) and sig. value 0.000, indicating that using the model is better than a random estimate of the mean. Based on ANOVA estimation result, all the explanatory variables are jointly significant since the significance value (p-value) is less than 0.005. As a result, all the explanatory variables included in the model can jointly explain variations in SDM using the collected CI.

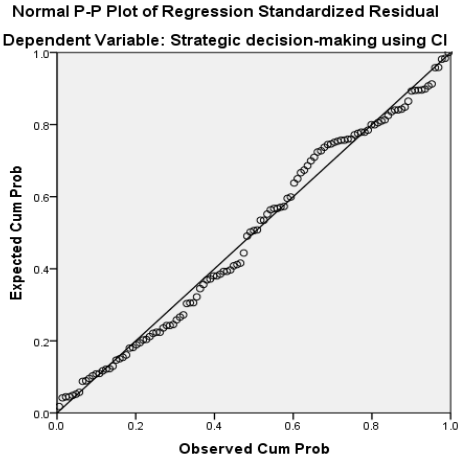
Coefficients[a]								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.954	.255		3.744	.000		
	Technology (and new products) intelligence	.328	.065	.385	5.041	.000	.701	1.427
	Stakeholder intelligence	.195	.064	.237	3.033	.003	.673	1.486
	Competitive market intelligence	.211	.065	.281	3.230	.002	.542	1.844
	Marketing research or feasibility study	-.005	.049	-.008	-.110	.912	.859	1.164
a. Dependent Variable: SDM using CI								

From the coefficients table, the Variance Inflation Factor (VIF) is less than five for all the predictors (including the insignificant value *doing formal marketing research or feasibility study than CI*). According to Wooldridge (2015), if the value of VIF is less than 5, the data among the explanatory variables is considered to have low correlation among each other. This finding again indicates a low likelihood of the regression model estimation being biased and based on spurious results. The coefficients table reveals the contribution of each independent variable to the multiple linear regression model and its statistical significance. From these results it is possible to see that *technology intelligence (for new product development)* has a significance value of .000 (p-value = 0.000 < 0.01), *stakeholder intelligence* (which involves both other industry clients and external customers) has a p-value = 0.003 < .005 and *competitive market intelligence has a* p-value = 0.002 < 0.05. All the three variables make a significant contribution to the model prediction.

The coefficients of standardised estimation result indicate that, out of the four independent variables considered in the model, *technology intelligence* has the highest beta coefficient,

which is (β=.385), this confirms that it has higher level of sensitivity to the case's SDM using CI. As clearly indicated in the case's strategy, this result confirms the high priority the conglomerate attaches to technology transfer and technology intelligence.

For the multiple regressions, overall, while *doing marketing research and feasibility study than CI* has no significant influence on SDM using CI; the rest predictors highly influence the case's SDM using collected intelligence on technology, customers and the competitive market.



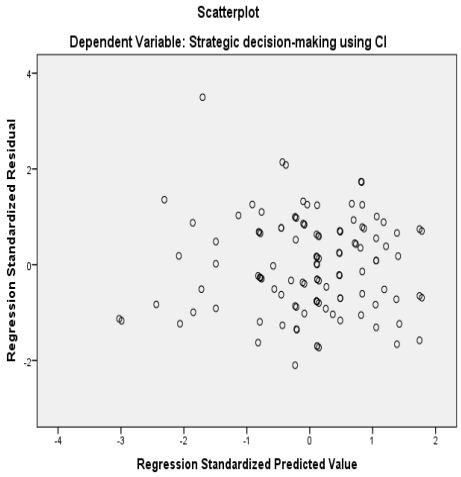


Figure 6.12 Normal curve (SDM using CI) *Figure 6.13 Scatterplot (SDM using CI)*

The normal curve and the scatter plot of the model indicate normality in data distribution and absence of multi-collinearly problems in the model.

Simple linear regression for SDM using CI independent variables: In order to identify the point of difference or influence of the independent variable on the predicted variable (SDM using CI), a simple regression shall be run for each of the independent variables vs the dependent variable.

The simple regression (summary table) for the rest three variables also revealed a good model for SDM using CI dependent variable.

Simple regression for IVs and DV (SDM using CI)

	Model Summary			ANOVA Results		Coefficient	
a. Dependent Variable: SDM using CI	R^2	R^2 Change	Durbin-Watson	F	Sig.	Beta	Sig.
b. Predictors: (Constant), Technology (and new products(intelligence	.331	.326	2.277	F (1,129)=63.904	.000	.576	.000
b. Predictors: (Constant), Stakeholder intelligence	.290	.285	1.986	F (1,126)=51.513	.000	.539	.000
b. Predictors: (Constant), Competitive market intelligence	.392	.387	2.177	F (1,123)=79.242	.000	.626	.000
b. Predictors: (Constant), Marketing research or feasibility study (i.e., Doing formal marketing research or feasibility study than CI)	.045	.037	2.070	F (1,125)=05.853	.017	.212	.017

As can be referred from the above partial simple regression summary table, of all the independent variables, competitive market intelligence the highest explanatory power with regard to SDM using CI at F (1, 123) = 79.24, p=.000<.000 and β=.626. However, both technology intelligence and stakeholder intelligence predictors also have an acceptable variation degree on the DV (SDU using CI) in the simple linear regression, with Rβ-coefficients of .576 and .539 respectively.

While *Doing marketing research or feasibility study other than CI* only explains 4.5 percent of the variability (R^2 = .045) at F = 5.853, p = .017) on the DV (SDM using CI); and has no significant effect on the other dependent variables. For this reason, this variable was not used in further analyses.

CI collection (for categorised variable, not for the independent IVs) and SDM using CI (DV) (Simple regression, moderated for Demand for SCI): A moderator (Z) is a variable that affects the strength and/or direction of the relationship between an independent variable (X) and a dependent variable (Y). Moderation is also known as an interaction. Furthermore, the researcher is also interested in whether the model for variation on SDM using CI (the DV) is affected by an interaction effect of additional independent (categorised) variable to CI collection variables (i.e., *Demand for strategic intelligence).*

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.847	1	33.847	87.325	.000[b]
	Residual	50.388	130	.388		
	Total	84.235	131			
2	Regression	43.213	2	21.607	67.946	.000[c]
	Residual	41.022	129	.318		
	Total	84.235	131			
a. Dependent Variable: SDM using CI						
b. Predictors: (Constant), CI collection and availability						
c. Predictors: (Constant), CI collection and availability, CIDemandXCIcollection						

Model 1 (without the interaction term) is significant at F (1, 130) = 87.325, p = .000; and Model 2 (with the interaction term) is significant at F (2, 129) = 67.946, p = .000. As can be seen from the new model (with interaction effect, Model 2), the amount of variance accounted for in Model 2 (R square of .513, with the interaction included) is significantly more than Model 1 (R square of .402).

Model Summary[c]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.634[a]	.402	.397	.62258	.402	87.325	1	130	.000	
2	.716[b]	.513	.505	.56391	.111	29.454	1	129	.000	2.124
a. Predictors: (Constant), CI collection and availability										
b. Predictors: (Constant), CI collection and availability, CIDemandXCIcollection										
c. Dependent Variable: SDM using CI										

Model 2 with the interaction between CI collection and CI sharing accounted for significantly more variance than just CI collection alone, R^2 change = .111, p = .000, indicating that there is potentially significant moderation between the Demand for SI and CI collection on SDM using CI (the DV).

Thus, it can be concluded that users' demand for strategic intelligence as a moderated variable has better explanatory power than greater variation in affecting the SDM using CI.

In 6.9.3, an extended regression analysis is presented moderating CI Structure and CI Sharing with CI Collection independent variable. The interaction terms of these variables can indicate whether CI Structure Grouped Variables and CI Sharing Grouped Variables would have resulted variability on the predicted variable (SDM Using CI).

6.8 Tactical and business decision-making using CI

CI can also be seen as tactical intelligence or strategic intelligence. Tactical intelligence is usually shorter term, (winning battles or skirmishes), compared to strategic intelligence (winning the war). CI can be seen at functional management levels, or at corporate or group levels. Thus, CI may also be represented as "market intelligence" or "technology intelligence" (Hall & Bensoussan, 2007).

Madden (2001) notes that strategic intelligence is, often, overemphasised to the detriment of tactical intelligence or vice versa. Tactical intelligence comes from the day-to-day operation of an organisation. Best practice companies realise the trade-off between the two types of intelligence and work to keep them in balance.

From the qualitative data, it emerged that the determination of specific KITs and the actual collection of CI were at the discretion of the semi-autonomous industries since they were largely guided by each industry's context, market and strategy implementation approach. Moreover, since the industries were required to draft their own strategy implementation plans, tactical plans and operational plans, they were given freedom to decide on the specific KITs that meet their decision-making needs. Thus, the collected CI or information could also be used either for strategic, tactical and/or business decision-making purpose or both by the case organisation and the sub-cases.

Based on the literature review and the above discussion, it is necessary to see what extent the four independent variables (predictors) explain variance in the predicted variable (TBDM using CI).

DV Groups	Variables in Dependent Variable (DV) Group	IV Group	Variables in Independent Variable (IV) Group
Tactical and business decision-making using CI (Main Model 2)	1. Information usage for conglomerate's decision-making 2. CI to introduce new products and select new markets 3. CI to inform tactical measures such as price changes, promotion 4. CI has increased the effectiveness of managerial decision-making	CI collection and availability	1. Technology (and new products) intelligence **(IV 1)** 2. Stakeholder intelligence ** **(IV 2)** 3. Competitive market intelligence **(IV 3)** 4. Marketing research or feasibility study **(IV 4)**

TBDM using CI (ANOVA report): F ratio is significant at F (6, 126) = 2.647, p = .019. Levene's test is not significant; F (6, 126) = .847, p = .536. Since the equal variance assumption is met, Tukey HSD test is used for multiple comparisons. The post hoc result for this grouped variable reveals between the mean variation that significantly observed between the Sub-A (M=4.13) and the Sub-B (M=3.27), a mean difference of .86 and p value of .038. There are no significant mean differences observed for the ANOVA run by respondent-departments.

TBDM using CI (Regression report, Main Model 2): This model is named as Main Model 2 because the collected CI could also be used by the case to make tactical-decision- making.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Main Model 2	.704[a]	.495	.477	.54874	1.910
a. Predictors: (Constant), Marketing research or feasibility study , Stakeholder intelligence , Technology (and new products) intelligence, Competitive market intelligence					
b. Dependent Variable: Tactical and business decision-making Using CI					

The above table summarises the model with an R square value of 0.495. Similar to the previous model regarding SDM using CI, this model suggests that almost 50 percent of the

variation in tactical and business decision-making (TBDM using CI) is explained by the independent variables. To check for serial correlation among the independent variables in a classical linear model, the study used Durbin-Watson estimation. The result from Durbin Watson estimation shows a value that is less than 2 (1.91), which means that the explanatory variables are not strongly inter-correlated.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.086	4	8.272	27.470	.000[b]
	Residual	33.725	112	.301		
	Total	66.811	116			
a. Dependent Variable: Tactical and business decision-making Using CI						
b. Predictors: (Constant), Marketing research or feasibility study , Stakeholder intelligence , Technology (and new products) intelligence, Competitive market intelligence						

The ANOVA estimation result indicates that all the explanatory variables are jointly significant since the p-value is less than 0.001. As a result, all the explanatory variables included in the model can jointly explain variations in TBDM using the collected CI.

Coefficients[a]								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.248	.260		4.804	.000		
	Technology (and new products) intelligence	.273	.066	.331	4.124	.000	.701	1.427
	Stakeholder intelligence	.254	.066	.317	3.871	.000	.673	1.486
	Competitive market intelligence	.171	.067	.234	2.568	.012	.542	1.844
	Marketing research or feasibility study	-.029	.050	-.043	-.592	.555	.859	1.164
a. Dependent Variable: Tactical and business decision-making Using CI								

From the coefficients table, the Variance Inflation Factor (VIF) is less than five for all the predictors, which confirms that the data set is not correlated.

The ß coefficients technology *(new product) intelligence* has the highest beta coefficient, which is (.331), confirming that it has the greatest effect on the case's TBDM using CI. *Doing marketing research and feasibility study than CI* has no significant influence of TBDM.

As can be seen from the following table (coefficient summary for the independent variables of the three main models), the influence of doing marketing research or feasibility study other than CI (IV) has shown no effect in any of the models tested.

Independent variables in the multiple regressions of the three main models (CI collection)	Standardised Coefficients (Beta)			Sig. Value		
	Main Model 1	Main Model 2	Main Model 3	Main Model 1	Main Model 2	Main Model 3
Technology (and new products) intelligence	.385	.331	.386	.000	.000	.000
Stakeholder intelligence	.237	.317	.304	.003	.000	.000
Competitive market intelligence	.281	.234	.256	.002	.012	.003
Marketing research or feasibility study	-.008	-.043	-.037	.912	.555	.578

For all three models, *technology (and new products) intelligence* has the highest beta coefficient, suggesting that it is the most important category of CI for the conglomerate. Doing marketing research and feasibility study than CI (IV), has a negligible effect on the three dependent variables (DVs).

Correlation for the IVs (CI collection) vs the three main decision-making topics or DVs** (Table 6.20, Appendix 2)**: The Spearman correlation table displays the correlation between the DVs (SDM using CI, TBDM using CI and Overall decision-making using CI or information) and the independent variables.

While the three main dependent variables show a high degree of positive correlation among one another and the first three independent variables (technology intelligence, stakeholder intelligence and competitive market intelligence) also show strong positive correlation with the dependent variables (that ranges from r value of .425 to r value of .575), the market research or feasibility study than CI variable shows a weak but positive correlation with the DVs and the other independent variables.

Paired-sample t-test for the decision-making categories** (Table 6.21, Appendix 2)**: It is good to determine whether the means of the dependent variables differ.

The *t* statistic, (1.94) and its associated significant p-value ($p = .061<.10$) indicates that there is a difference only between SDM using CI and overall usage of CI or information for decision-making.

Conclusions (sections 6.6, 6.7 and 6.8): The regression models' comparison between SDM using CI, TBDM using CI and overall decision-making using CI, which are regressed for the same independent variables revealed the following findings and the corresponding conclusions.

- Though they have different R square values, all three regression models indicate that their variability could be explained by the four predictor variables together. Except for *doing marketing research or feasibility study than CI* predictor, the remaining independent variables have a strong beta effect on the predicted variables (SDM, TBDM and Overall decision-making).
- Since all of the CI collection variables did a good job for the three models (SDM using CI and TBDM using CI), which have similar R square coefficients, technology and/or new product intelligence, stakeholder intelligence and competitive market intelligence were used in both SDM and tactical and other business decision-making.

- In light of the results, it would seem that the independent variable *marketing research or feasibility study* was not seen by the case conglomerate to support either strategic or tactical (or other business) decision- making.
- Overall results (both R-square and beta coefficient) of the three main models imply that each of the four collected CI could generally contribute to each of the three decision-making categories.
- The similarities of the effect of CI collection issues on the three decision-making categories indicate an absence of demarcation of CI for either SDM or other decision-making levels. This finding seems to support the argument that the level of CI is determined by its use, rather than by its nature. This further initiates the need to give special consideration to strategic intelligence because giving such special attention and demarcation may enhance the strategic value of CI whereas CI is strategic by nature. This is also the main concern of the study.

6.9 CI in the conglomerate—structure, coordination and sharing

First, it is necessary to briefly explain the sub-cases and the contexts in which they operate since this had a direct and indirect influence on the structuring, organising, coordinating and sharing of CI.

Since the industries were formed by the decisions made by the HQ, report to and controlled by the parent conglomerate, they had almost similar administration, operational and marketing practices and strategic scope and framework. The industries were very similar in their management practices, since they operate within the same values, cultural and operational contexts. Despite their differences in duration of establishments (for example, some formed as new businesses, others were run in partnership with foreign companies and some were acquired from local and foreign business entities), they were part of the conglomerate and as such they were required to practice and cultivate the formally outlined organisational and cultural values of the corporation. The industries were mainly established to meet the huge demand gaps and markets which otherwise could not have been met by the private sector.

Flexibility in restructuring: During the data collection and presentation of this study report, the conglomerate was undertaking structural revision following the new strategy and formats of a conglomerate structure. Officials also appreciated this study since it contributed to and magnified the need for restructuring the case conglomerate (Source: Expert from the Structure Revision Task Force).

The study traced CI activities or function from different units in the HQ and from the industries particularly and mainly as linked to SDM. The subsequent discussions present the ***functions, location, structure, coordination*** *and* ***sharing*** of CI which were being practised in 'quasi-formal' and 'informal' ways altogether. Coupled with the other findings that are presented in preceding and subsequent sections, these findings are vital to ultimately suggest a CI implementation framework for CI organised in order to improve the SDM of the conglomerate and its industries.

6.9.1 The CI function and organisation issues (qualitative data)

At the outset of the present study, a phenomenon that was expected to be a challenging exercise of the study was also the issue of tracing and isolating CI activities in the case and the sub-industries. It would be challenging to isolate CI activities or issues from other functional activities for there was no formally defined CI structure in the case conglomerate and the little understanding the respondents might have on the concept of competitive intelligence.

Based on the findings of the preliminary study, the researcher believed in the need to exploring CI's role for SDM and the existence of CI (as function) in both direct and indirect ways. Thus, assuming CI being practised in a haphazard way or not in a relatively perfect manner in Corp-HQ and in the semi-autonomous industries; the study had tried to trace CI as directly or indirectly linked to the concept of CI or as related to those issues which might denote CI-related functions, processes, units, personnel or group. Nevertheless, CI activities already existed in the case conglomerate in an informal and quasi-formal way. However, prior discussions revealed that the major CI-related activities or functions were being performed by different departments in different industries (or the sub-cases) just because the function was located in different departments of the industries. Besides, since the conglomerate had no CI policy manual, the function was not clearly stated and communicated to concerned units or groups in all the industries.

6.9.1.1 CI in the corporate headquarter

As reflected in the corporate organisation structure (document), which followed the conglomerate's strategy, the following PCUs and other organs had either *dual* or *duplicated* responsibilities to gather intelligence and make formal studies on different or similar issues.

Below only CI-related activities and/or CI functions that were traced from the following units at the HQ are outlined.

CI in the Corporate Strategy and Controlling Principal Corporate Unit (PCU): Since the Strategy and Control PCU collects useful information from both the external and internal sources (including the industries) to develop and present the plans for approval by the CEO's Office, the section has dual roles that are connected to this study—CI collector (CI responsible unit) and CI user. Thus, this PCU could be considered as both CI gatherer and processor and CI user.

Pertaining to CI-strategy (specifically CI-SDM) linkages and strategy development, the PCU develops long-term and normal strategic plans and proposes this to the CEO office and the Board. It scans existing realities of both local and international environments and markets in order to develop a strategy documents which can be improved and approved as Corporate Strategy. The PCU also makes follows up on the implementation of the strategies; collects and presents reports to the CEO's office about their implementations and justifies reasons for failures in implementation (if any). The PCU studies both local and international situations and emerging realities and proposes ways for proper strategy implementation or otherwise strategy modifications

In playing its coordination role, the PCU brings together the strategies of the industries; discusses the strategy of each subsidiary; and lastly develops a consolidated strategy in conjunction with the industries. It also creates awareness and disseminates information on current prevailing instances and situations that are related to strategy implementation, changes or revisions to different internal stakeholders and the industries.

CI in the MIS Section: According to the conglomerate's Road Map, the BI Competence Centre would be a long-term organ which shall perform BI and CI functions for the conglomerate and its subsidiaries as a central coordination unit. The MIS section has replaced this organ for the time being (See Figure 2.1 in Chapter 2).

From both content analysis (organisation manuals and strategy of the corporation) and field research (interview), it was possible to learn that there was no formal and separate 'CI' Unit at the HQ or the industries. According to the Head of the BI Competence Centre, the section performed mainly MIS activities of the Corporation and were mainly inwardly focused It had little interaction and functional integration with the other sections.

Since the Corporate Strategy and Controlling PCU had dual roles to play as both CI provider and CI user, the Management Information System (MIS) was organised under this PCU. Although named the MIS section, the section was confined to performing routine or technical ICT support services to the PCU and other PCUs and departments at the HQ.

According to the section head, the section did not perform intelligence on its own. It was not actively engaged in collecting, storing, analysing and supplying CI products/inputs for SDM. Rather, the unit performed largely IT support services. Its services were also extended to the industries upon their request. In partnership with other technology suppliers, the office also would be called upon to install ICT infrastructure for mega-projects in the field.

Regarding the location of the office and CI, the MIS section head mentioned one critical point that requires corrective measures:

> *If the management of the corporation believes in the strategic use of information and CI for SDM, this section should be organised as a separate PCU. By doing so, competitive information can be organised, stored and retrieved for SDM, which can be used by top management, other PCU and the industries. However, this required integration of the industries and the corporation with the industries both vertically and horizontally by implementing a suitable ICT infrastructure and software. Thus, the newly established units will make detail information requirement audit with reference to each units and industry's information need for strategic and other decision-making purposes. This study would base its starting point by reviewing the already made study on the issue by the Corporate Inspection and Audit Unit.*

Thus, in practice there wasn't a separately dedicated CI unit in the corporate structure that has actively engaged in providing intelligence services and whose core function was to support strategic decision-making.

CI in Corporate Marketing and Sales PCU: This unit also seems to have a number of dual and duplicated duties mainly in relation to contract administration, product development and marketing research.

This PCU gives strategic support to the CEO's office mainly on marketing strategies and CI that would help the conglomerate make portfolio management decisions. Under this PCU, the Research and Business Development section has a responsibility to perform marketing research and marketing intelligence activities. The intelligence would be presented directly to the CEO's office.

During the time of data collection, the researcher learnt of the addition of a new section named Project Study and Follow-up under this PCU. In relation to the topic of this study, this section would be responsible to perform CI related activities before and after realisation of new projects.

The PCU develops marketing strategies for the conglomerate and it aids the industries in designing their marketing plans and product development strategies. Concerning CI sharing,

the Unit leads and brings together the Marketing & Sales Departments of the industries for capacity development, information and intelligence and best practice sharing.

This PCU conducts market studies, does market identification and assessment, scans different industries in order to find the right positioning for corporation's products as a conglomerate, identify market gaps and carry out import substitution strategies for both the case conglomerate and the government of the Federal Democratic Republic of Ethiopia.

The unit has the responsibility to develop and expand the marketing frontier of the conglomerate in global markets. Presently, these markets are mostly African markets such as Somalia, Uganda, Djibouti, Rwanda, Tanzania, South Sudan, Sudan and even the UN Peace Keeping Mission in South-Sudan and other African countries. While the conglomerate is a military-owned conglomerate, the unit was under reorganisation to create an efficient marketing system by learning from global benchmarking companies (Source: section head in the PCU).

In playing its coordination role, the PCU leads and brings together the Marketing & Sales Departments of the industries for capacity development, intelligence and best practice sharing.

Corporate Research and Development PCU: The R&D Principal Corporate Unit is the largest unit in terms of both its pool of experts and department size (including infrastructure). The PCU was actually located in a separate compound in a different location in the city, a hotel acquired by the conglomerate in 2008.

Since all the bigger PCU (like Transformation and Capacity Building and New Business Development PCUs) of the conglomerate had a large number of employees, they decentralised administrative and finance offices. This also holds true to the R&D PCU which was hosted in a big facility. The size of the unit might necessitate its own CI function, which might be integrated with the other units and industries' CI functions.

This unit has core activities/responsibilities in facilitating the technology transfer of the conglomerate. Its primary purpose was to develop the technology capability of the conglomerate and the sustainable development of industrial management skills in the country. The Corporation's R&D works towards transferring different technologies to the industries and other companies by undertaking engineering design work and developing prototypes of the required technologies and transferring these to the industries for batch production. (Source: Higher Official in the PCU).

This unit seems to have a number of dual and duplicated duties similar to the Industry Marketing & Sales Department; Industry R&D Department, Corporate Marketing and Sales PCU and Corporate New Business Development PCU. Similar to these functions, the Corporate R&D Unit scans technology in the global market to identify those technologies that are suitable to the country. It is also responsible to identify e engineering and research gaps across the nation. In relation to this, it then focuses on finding and developing state-of-the-art technology, production methods, product design and development, project implementation methods and processes.

Connected to the mission of the corporation, the PCU develops and enhances domestic production and engineering capacity for product design, manufacturing technology and production technology capability designs manufacturing machines to the fabrication industry and other factories owned by the private sector and public enterprises. It studies the suitability of available technologies and evaluates the feasibility of existing technologies and suitability of already adopted technologies. Furthermore, it carries out technology introduction, transfer, management, institutionalisation and localisation to the conglomerate.

In playing its capacity development and coordination role, the PCU builds the capacity of R&D Departments of the industries in technology transfer and development. It finds and shares best practices in technology development and engineering benchmarking.

CI in Corporate New Business Development PCU: This PCU provides CI support during the acquisition process. It facilitates technology acquisition and project performance information in a formal and structured way in order to present it to decision-makers. Project inception and design through feasibility studies and identifying demand gaps and market failures is another key role of this unit. It further gathers intelligence on the performance and behaviour of sub-contractors, captures and records best practices benchmarking organisations, makes improvements on programmes based on national data and developmental changes and provides after-sale services and follow-up support to buyers.

CI in Corporate Public Relations and International Affairs Office: In addition to its role in communicating major events and project news to both internal employees (using, for example, monthly newsletters) and external stakeholders, this unit. The office also collects feedback using different channels including word-of-mouth, customer and employee intelligence. It analyses intelligence from external and internal stakeholders and disseminates factual information to its target audience (both inside and outside) as and when necessary.

Corporate Advisory Forum (Corporate Think-Tank and Knowledge Management): This is an informal advisory organ which may involve key individuals outside of the conglomerate's formal structure. It functions as a think-thank and knowledge management facilitator. This structure clearly shows how important CI is for key SDM of the conglomerate.

Although not enough attention was given by top management, there existed an organ which could possibly perform, rather discuss intelligence issues and perform knowledge management in the earlier years of the conglomerate's formation. Positioned itself in the upper echelon of the conglomerate, the *Think-Tank and Knowledge Management* organ involves experts from the conglomerate and outside advisors from the government. But, as mentioned by the Corporate Public Relations and International Affairs Head, the Think-tank was only operational from 2011 to 2013.

6.9.1.2 CI in the industries (subsidiaries)

Firms supporting a specific CI function, with staff working full-time on monitoring competitors and the competitive environment at the SBU or corporate level. Also involved in addressing particular issues specified by the strategy unit. Staff have easy access to decision-makers and status is not a barrier to effective communication (Wright et al., 2002).

The Corp-HQ (as a parent company) already provided a generic organisation structure to all industries. In relation to the study's problem area, thus, the industries have similar structures and practices. Like the distributed existence of the CI function in Corp-HQ, the CI function was found to be dispersed in more than three departments of the industries. The identified departments and outlined CI-related functions for the HQ are also cascaded in the industries. Thus, the CI function shall be described following this pattern of structure.

1) MIS and/or Planning (Organised under the CEO's Office)
2) Marketing & Sales Department
3) Research and Development Department
4) Manufacturing Clustering Department (since this department is only found in the industries, only qualitative data is presented)

1) CI in MIS and/or Planning Office or Sections: Higher officials attested that since the conglomerate's dynamism was also cascaded to each industry and functional unit levels, but the MIS office might not perform quite the same function in all the industries. The MIS Section or the Planning Section reported to the Executive's Office but could be structured either as separate functional units or as one functional office.

MIS Section (Separate from the Planning Section): The MIS Section was found as a separate functional office in Sub-C, Sub-B, Sub-A and Sub-F. But, like the other industries, the MIS section in these departments was placed under the CEO's office and performed information-related functional tasks.

During the time of data collection, the MIS and Planning Department was under the General Manager's Office in Sub-F. According to the section head of this office, the MIS office was reorganised as a single unit separate from the planning section. This was done because the MIS section was not active in supporting the information needs of the different units and officers of the industry. Its function was mainly confined to meeting facilitation (agenda listing), writing of executive committee's meeting proceedings and updating management on sales and financial data. The information collection for developing the annual plans was carried out by the planning officers of the planning section. In addition, the Marketing & Sales Department provided daily and weekly sales report to the CEO's office. The need for human resource requirements and recruitment were also reported from the HRM department directly to the Operations Department.

MIS and Planning Office (as joint-functional offices/section): Similar to the other industries, the MIS and Planning Office was located under the CEO's Office in the Sub-E and Sub-D. Its main responsibility, as related to the CI function, was to collect, organise and report information to the CEO and the Management Committee for decision making. The proceedings of meetings and decisions by the Committee are also recorded and disseminated by this unit.

The logic to group the MIS section with the Planning Section was because the former was expected to collect and present CI products for industries' planning and decision-making. Strategic and other key decisions were made by the Executive Committee. This higher decision-making organ in the industries is similar in both organisation and power to the Executive Committee found at the HQ. It comprises d of department heads and was led by the CEO of the industry.

Generally, where the MIS section was structured as a separate functional unit in the industries, it seemed to play a stronger CI storage and dissemination role than when it was merged with the planning function.

2) CI in the Marketing & Sales Departments: The Marketing & Sales Department of the industries involves the following three sections: (1) Marketing Research and Pricing; (2) Sales and After-Sales; and (3) Customer Service and Promotion.

The state's (Ethiopian government's) policy of import substitution in strategic industries is best reflected in the military-owned Corporation. Together, these two sectors capture the Ethiopian state's project of export promotion and import substitution and the state's role as both referee and player in the transformative project (IMF, 2014). Filling market gaps or domestic market failures was one of the major strategic objectives of the corporation. To state it differently, the initial point of doing market research and intelligence was market failure in the local market. The prevalence of products that were imported from abroad at high cost spurred the need to produce substitute products for local consumption.

Related to this, the Head of the Marketing & Sales Department of Sub-D said, "Successful introduction of an electric transformer was the case to mention to what extent CI was vital for our decision-making" The Marketing & Sales Department usually collected intelligence on IPP (import price parity) on imported products and conducted local pricing studies in order to set prices for its electrical product lines. Customer intelligence was collected through a pilot test questionnaire and oral feedback customers about the performance and acceptance of its new products. For regular customers, the Customer Service and Promotion section usually collected feedback via a Customer Analysis Worksheet.

Overall, the industries' Marketing & Sales Department was required to conduct customer, competitor, product and market intelligence from different sources, using both formal and informal means. Detailed illustrations regarding CI sources were given in 6.4.2.

3) CI in the R&D departments: Formerly the R&D Departments of the industries were named Design and Development Operations Units. The units were confined to 'Level two' design and the actual production; whereas the first prototype and design would be done by Corporate R&D. In case of the industries initiating their own design ideas, it had to get approval by the corporate unit. According to interviewed officials from the R&D Departments of the Industries, 'Level two' design involved modifications based on the 'Level one' designs and prototypes developed by the R&D Principal Corporate Unit.

Over the last two years the conglomerate gave same focus to the Corporate R&D PCU in technology transfer, localisation and customisation was also given to the R&D departments of the industries in terms of budget, facility and staff allocation.

Following the restructuring, the R&D Departments could make product blueprints and basic designs/modification whenever the need arises for its own industry and market. This enhanced the capacity of the industries in terms of idea generation (including CI gathering), product development and testing. Moreover, while the Corporate New Business Development was the

main organ to provide intelligence and feasibility studies for corporate-wide use, the R&D units in each industry had the right to provide intelligence and feasibility studies to its own industry.

A section head in the Transformation Centre, however noted that since the conglomerate had recognised the importance of establishing a separate section that would be solely responsible for each industry's technology acquisition, product design and prototype development, the R&D Department had the same priority given to the Corporate R&D PCU. Presently, most technology intelligence and technology ideas come from the R&D units of the industries.

For instance, Sub-E R&D Department was now organised into three major sections: (1) New Products and Plant Development; (2) Prototype and (3) Excellence Centre. The prototype section performs different functions including the conception of product ideas, product prototype development and even trial production. The detailed specifications or information in product development prototype and product development, reverse engineering, design improvements and methods of production were carefully recorded for later use.

Industry Excellence Centre (in R&D): The partial organisation chart in Figure 2.1 shows a unit that would be responsible to perform the CI function (i.e., Business Intelligence Competence Centre) in the long-term Roadmap of the case under consideration. Although this Centre was not operational at the HQ, the recent establishment of an Excellence centre in the industries' R&D Department was taken as the first step to implement the long-term roadmap. This new section under the R&D Departments of the industries was required to perform localisation of technologies and capacity building. The centre would also provide training in the acquisition of technology to any industry in need of it. The centre was further expected to perform technology intelligence gathering and knowledge acquisition activities.

According to the Head of R&D of Sub-E, this section was being organised to perform two major functions—technology customisation and development and capacity development. Since the centre was expected to become a centre of technology excellence in the industry's core businesses, the centre would need to conduct extensive technology intelligence and research.

4) CI in Industry Clustering Departments: The Manufacturing Clustering Department of the industries is responsible to integrate the factories within each industry and share information such as CI among the factories. The Industry Clustering Department was required to facilitate intelligence and information sharing among the factories of the Industry and sister companies. Information on issues of outsourcing, partnership, technology acquisition and product

integration (within and outside of the industry's supply chain actors) is compiled and shared by this unit.

It emerged from this study that CI activities and functions were found in different parts of the organisation and performed in different ways, using different practices. It can be concluded that the responsibilities and activities of CI are performed more informally than formally. However, many CI and CI related duties and functional descriptions were already outlined in the formal structure of the corporation. Surprisingly, although not actively engaged in performing CI tasks, it was possible to find a separately dedicated section that could perform the CI function—Business Intelligence. The study also identified and examined the prevalent 'informal' and 'quasi-formal' CI as it happens in the HQ and the industries.

CI should be embedded in the company as a whole (Fouche, 2006). Yap and his colleagues also concluded that the CI system should be integrated with other enterprise-wide information systems in order to achieve long-term benefits from the CI efforts, specifically in enhancing the quality of SDM (Yap et al., 2012). "Until and unless, all functions within the firm learn to co-operate, cross-fertilise and engage in collaborative learning, a fully-fledged CI function will struggle to emerge" (Wright, Fleisher & Madden, 2008: 11).

6.9.2 Competitive intelligence coordination

Core competence and resource-based strategic approaches rely on measures of firm's competence relative to the competitors, and this comparison is in essence an issue of intelligence (Powell & Bradford, 2000). The conglomerate follows a core competency perspective that promotes shared competencies among its industries so that overall competency of the conglomerate improves as the result of this synergy. Thus, all business units should work synergistically to improve the core competencies of the conglomerate. The core competencies accordingly should be used and leveraged as much as possible across all the firm's business units. It is clear from the empirical findings and the strategy of the conglomerate that the conglomerate follows more of a core competence perspective than the portfolio perspective. Thus, coordinating CI activities in the entire conglomerate is the key to the success of CI programme and overall success of the conglomerate. CI should be a coordinated-across-the-entire-organisation activity of keeping under surveillance whatever parts of the entire environment the organisation decides to monitor, in order to bring about a systematic collection and analysis of CI to serve the CI needs of the organisation as a whole (Strauss & Du Toit, 2010: 304-305).

6.9.2.1 Practices in centralised CI management and storage (qualitative data)

Coordinating CI in the conglomerate (at the HQ): As per the interview with the section head of strategic issues, the case conglomerate had reporting formats designed for technology acquisition, administration and management to be used by the industries and the responsible units of the corporate headquarter (i.e., the R&D and New Business Development PCUs). Issues of intelligence that the industries assessed and reported to this section had involved relevant industry and market-related issues on technology intelligence, technology capability, competition in the form of imported substitute items that were prevailing in the local market, market gaps and demand in their respective markets. This information would be stored centrally at the Corporate Strategy and Control PCU for purposes of referencing and sharing with internal stakeholders.

Strategic issue intelligence accumulation was carried out by the Strategy and Control PCU. Although not practically functional, this PCU had a Business Intelligence Excellence Centre within it. However, this unit had no functional description in the Corporation's Organisation Manual.

The interview questions forwarded to the head of MIS Section (which would grow to become the BI Competence Centre in the long-run plan of the conglomerate) mainly focused on information management/administration and structural issues of CI and MIS and the role of this section had been playing in storing and supplying information for SDM.

Asked about the section's (also conglomerate's) experience in CI and information management, the MIS section head mentioned the existence of the following tools: VPN (cloud to the conglomerate), ERP (enterprise resource planning); Fleet System, FTP and Email sharing. By virtue of their office and position, each official of the Corporation at the HQ was given security privileges to access files. Although such initiatives were taken, staff of the conglomerate and the industries even used their private email accounts to exchange data and information.

There was no uniform information and software administration policy in the conglomerate. Each unit in the HQ and each industry were responsible to collect and organise information for their own purpose using different tools. Thus, there was a practice of separate acquisition of ICT infrastructure and software. This incurred unnecessary costs and duplication, as most of the purchased software were the same.

Regarding networking of industries and central ICT or BI administration, the section head replied that the industries had not been networked to the HQ and amongst one another so far. The informational role of this section was confined to integration of the industries in coming up with a consolidated plan. Internally, the section was also confined to disseminating information to departments and employees at HQ when it received instructions and directions from the top management.

According to the Section Head, the conglomerate had not established a centralised system of information management. As soon as the design for industry integration and reporting schemes were finalised (including financial and sale reporting issues), all the industries would be networked.

During the data collection phase, it emerged that the section was working to integrate the existing IT facility so that information would be administered from one centre or at HQ.

Knowledge accumulation practice at HQ: According to the section head of the Transformation and Capacity Building PCU, the co-production agreement the conglomerate entered into with a foreign partner will involve activities ranging from machine joint design, capacity building of local experts, training on engineering aspects of the technology through to the final technology transfer and ownership. Thus, whether the agreements included information exchange on the software or not, the conglomerate will exert the utmost effort to collect and store each and every bit of information on the technology from the contracted partner.

Higher Technology Expert from the Corporate R&D Unit said the following about the technology transfer and technology intelligence storage practices of his Unit:

> *The conglomerate has a practice to assign or attach the right engineers to each foreign personnel who will undertake the joint production or technology transfer from start to end of machine installation. The corporation's engineers will be instructed to collect, store and transfer the intelligence obtained to a designated leader of the project. The information collected during partnership and/or acquisition activities are documented daily in STD formats or collected in picture or video form for future reference purpose and as an input to assess similar or related activities in the future. However, except the instruction given to the engineers in making intelligence gathering and reporting issues, there is no formal and structured way of technology intelligence gathering.*

Knowledge accumulation was also done through training, from technology manuals that were received from technology transferors, by recording every step found in the product prototype development process and by reverse engineering.

Coordinating CI in the Industries: The MIS sections that were structured as separate functional units in the industries generally had a stronger CI capability than those merged with the planning function. This observation supports the need for a dedicated MIS unit which can also perform CI collection, storage, analysis, dissemination and sharing with the industry's management, departments and the factories found in each industry. However, detailed studies need to be conducted on how this unit as MIS Unit or CI Unit should be integrated with the other three CI roles in Marketing & Sales Department, Industry Clustering Department and R&D Department.

Although the three departments had a different focus in CI collection or the topic they collect CI on, there was a need to integrate this intelligence in some way, perhaps through a separate, dedicated unit with a coordination role.

Not only would the MIS or a newly formed CI (dedicated or coordination) unit perform the above activities in the industries, but also had to play a significant role in networking the factories within the industry it was located and in bringing together the other sister subsidiaries (which were integrated industries) through effective CI exchange and sharing in different topics. Further, this CI dedicated unit shall be integrated with the Central CI Coordination and Administration Unit which would better be established at the HQ. This way of CI organisation might largely help the case conglomerate and its industries in enhancing their decision-making and meeting the purposes of a conglomerate which followed a core competence perspective.

Knowledge accumulation practice at one industry: The following response was obtained from the Head of R&D from Sub-E regarding practices of technology knowledge accumulation,

> *… It is important to note that each technology transfer is done by making design documentation….Institutionalisation of knowledge is one major duty of the Technology Excellence Centre….We have not actually made technology transfer in appropriate ways in our earlier experiences of partnership agreements…We were even unable to copy technologies and we just simply sub-contracted foreign suppliers…To mention all but the least, we had no capacity to make our own castings…but now we could replace the steam technology for casting technology. This is possible for we have built our capacity in both design and making technology transfer (also technology intelligence) in an effective way…. To your surprise, one of our engineers could come up with a product concept idea by the help of the intelligence he gathered from the Internet about the present state-of-the-art iron ore extraction method. When we are evaluating our potential in terms of our learning and customisation capacity, Sub-E will not go far to extract iron ore by itself. We are preparing to do a formal feasibility study for presentation at Headquarter…* (R&D Head of Sub-E).

From the interview made with R&D Head of Sub-E, it is possible to see the potential for enhancing the strategic value of CI for SDM and starting up the formal intelligence system using an existing Technology Excellence Centre and Department's existing potential and experience in gathering and processing technology intelligence.

With regard to the already available and discussed CI structuring and coordination, it is useful to supplement the qualitative findings with the quantitative data so that specific points of differences could be revealed by comparing variance analysis among the sub-cases.

6.9.2.2 CI coordination (quantitative data)

CI structure and coordination: The two variables that can explain this category are the following:

1. *CI coordination across-the-entire-organisation activity; among the industries and Corp-HQ; and*
2. *Performing intelligence by respective departments to meet specific key intelligence needs (KINs).*

CI coordination across the entire organisation (ANOVA for single variable): ANOVA was conducted to compare the sub-cases with regard to CI coordination.

F ratio is significant at F (6, 122) = 4.095, p = .001. Levene's test is not significant; F (6, 122) = 1.170, p = .327—at the .05 alpha level. Thus, the assumption of homogeneity of variance is met for this variable. Further review of the *descriptives and multiple comparison (Games-Howell)* tables reveal that the Sub-A (M = 4.13) is significantly different from the Sub-C (M = 2.67), with a mean difference of 1.46 and p value of .001; and Sub-A (M = 4.13) is significantly different from the Sub-B (M = 3.07), with a mean difference of 1.06 and p value of .020. Also, the Sub-C (M = 2.67) is significantly different from the Sub-E (M = 3.89), with a mean difference of 1.22 and p value of .007. The variance comparison by respondents' department reveals insignificant variation.

Performing intelligence by respective departments to meet specific KINs: Variance analysis for both sub-cases and departments revealed insignificant mean differences among the responses of the participants.

CI structure and coordination (ANOVA for grouped results): F ratio is significant at F (6, 125) = 3.714, p = .002. Levene's test is not significant; F (6, 125) = .536, p = .78. Thus, Tukey HSD multiple comparison is referred here: Sub-A (M = 4.03) is significantly different from the Sub-B (M = 3.12), with a mean difference of .91and p value of .039; the Sub-A (M =

4.03) is significantly different from the Sub-C (M = 2.98), with a mean difference of 1.05 and p value of .005; and the Sub-C (M = 2.98) is significantly different from the Sub-E (M = 3.84), with a mean difference of .86 and p value of .023. The comparison by respondents' department reveals insignificant variation.

Like the results obtained on CI collection and usage of CI for strategic and other decision-making purposes, sub-case comparison results again indicated that sub-cases Sub-B and Sub-C were less effective in coordinating CI within their respective industries.

Decentralised collection of CI (CI challenge variable): This and the next variable were located under the CI implementation or application challenge category on the questionnaire. Since the variables are related to the issue of CI organisation and location, results are presented here.

A summation result of the two columns (i.e., 'Pressing' and 'Most Pressing') in the last column of Table 6.22 (Appendix 2) clearly shows that decentralised CI collection by different functional departments was a prevalent challenge for the respondents. Sixty percent of the respondents indicated that the decentralised collection of CI by different departments might have impeded the value of the collected CI, a finding supported by the qualitative findings on CI coordination.

The negative effects of decentralised CI collection were even more prevalent at Corp-HQ.

ANOVA among departmental responses: Analysis of variance was conducted to determine differences among the different departments identified for the study — R&D, Marketing and Sales, Strategy, Planning and/or MIS Office (reporting to the CEO's Office). F ratio is significant at F (2, 125) = 5.004, p = .008. Levene's test is not significant; F (6, 125) = .573, p = .565. Further review of the *descriptives and multiple comparison* (Tukey HSD) tables reveal that the R&D Department (M = 3.85) is significantly different from the Strategy/Planning and/or MIS Department (M = 3.13), with a mean

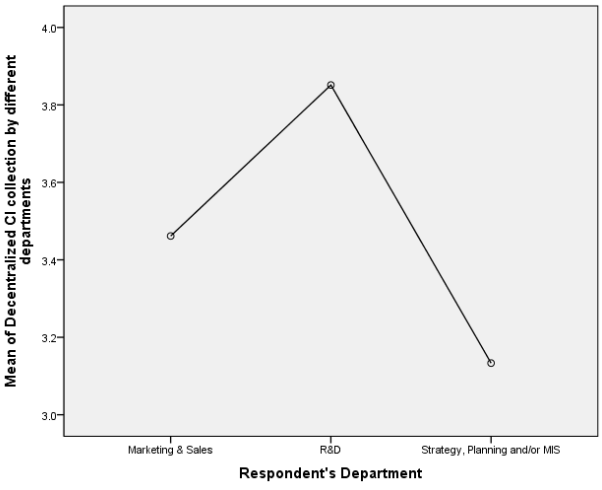


Figure 6.14 Decentralised CI collection (compared by departments)

difference of .72 and p value of .018. Also, the R&D Department (M = 3.85) is significantly different from the Marketing & Sales Department (M = 3.65), with a mean difference of .20 and p value of .033.

However, the ANOVA for sub-cases reveals insignificant differences for the six industries and the HQ. Thus, opinion differences about decentralised collection were mainly among employees in the different functional departments of the industries.

Appropriateness of CI location in organisation's structure: A summary of the two columns (i.e., 'Pressing' and 'Most Pressing') in the last column of Table 6.23 (Appendix 2) shows that decentralised CI collection by different functional departments was a challenge for more than half of the respondents (54.7%).

Unlike the responses for decentralised CI collection, which was more prevalent at the HQ, the results for the CI location problem variable indicate the problem was less prevalent in Corp-HQ than in the industries.

To conclude, both quantitative and qualitative data suggest that decentralised CI collection (by the four departments including the Clustering Department in the Industries) was more pressing than the problems related to CI's location in the organisations.

6.9.2.3 Competitive intelligence sharing (qualitative and quantitative data)

After describing the CI sharing practice of the case and its subsidiaries from the qualitative data, quantitative results will be presented next.

This section of the analysis can be better understood if read in conjunction with the previous discussion **(**CI Coordination).

1) **CI sharing (qualitative data)**

The case conglomerate believed in collective leadership, where each employee conglomerate contributes innovative ideas, shares knowledge and takes part in decision-making. This collective decision-making was cascaded from the top (CEO's Office) to the bottom (workshop teams). As clearly noted in the Case's Organisation Manual, free thinking and idea sharing were encouraged in Corp-HQ and the subsidiaries. Policy further stated that one of the means to evaluate the success of leaders (at any level) was the degree of participation they allowed their subordinates. According to those interviewed, the conglomerate's approach in creating a problem-solving staff and environment is one of its core competencies. This

approach was highly aided by the corporation's participatory leadership approach that promoted two-way communication, knowledge sharing and free thinking.

Role of Corporate R&D Unit in Intelligence Sharing: One of the core functions of the Corporate R&D Unit is to find and share best practices in technology development and engineering benchmarking. According to an interview from the Corporate R&D Unit, except for instructions given to the engineers about intelligence gathering and reporting, there was no formal intelligence sharing guidelines. However, staff of the department usually were engaged in active intelligence sharing regarding their projects.

The accumulated technology intelligence gathered by Corporate R&D unit and other industries was usually shared among industries. One issue that was mentioned as a problem in technology transfer by the representative of Corporate R&D was the delay in technology transfer and intelligence sharing. He explained this problem as, "One thing that our R&D should improve is by speeding up technology adaptation and technology transfer to the industries by creating effective communication and experience sharing during the time ranges between prototyping and production process"

The other information exchange issue in the conglomerate was supply chain intelligence sharing. Supply chain intelligence was also done vertically among the industries of the conglomerate, mainly when they were carrying out joint projects. This intelligence sharing was not formal, since most information exchange was done using letters, telephones or oral exchanges.

However, as other external stakeholders had also participated or are sub-contracted to carry out most of the mega projects of the government, not only participant industries in the supply chain, but also other outsourced players in the supply chain take part in this intelligence sharing through regular project meetings (Source: Higher Official from Corporate R&D). Although it was a discontinued activity, there was also a practice of organising idea sharing forum in the case conglomerate with supplier and value chain actors in the earlier years of its establishment.

***Role of Corporate Marketing and Sales Unit in Intelligence Sharing*:** With regard to CI sharing, this Principal Corporate Unit develops marketing strategies for the conglomerate and assists the industries in designing their marketing plans and product development strategies. The Unit leads and brings together the Marketing & Sales Departments of the industries for capacity development, intelligence and best practice sharing. So far, the best practice sharing ranges from intelligence sharing on issues ranging from pricing, customer satisfaction,

customer handling and intelligence, competitor intelligence, sales and after sales services, product performance, to new technology and the prevalence of import-substitute products in the local market.

Intelligence and information sharing in the Industries: As per the 'joint leadership and decision-making' philosophy of the case conglomerate, the corporation formed a Leadership Committee. This committee, also formed at industry level, was also the highest decision-making unit in the industries. Similarly, intelligence and information sharing in the industries and the conglomerate had followed the same format and practice. Since major decisions were made by this committee, intelligence related discussions and information exchange were mostly made at the committee's regular and extraordinary meetings.

As was explained during thein interviews with the industries' R&D and Marketing and Sales Heads, there was a practice of intelligence and information exchange mainly among four departments of the industries, which were the R&D, the Marketing and Sales, Industry Clustering and the Operations departments. According to the responses obtained from R&D Heads in Sub-D, Sub-F and Sub-E, the R&D department has been working closely with almost all departments and shared intelligence with them on a number of aspects including materials, product prototypes and processes that were applied in producing products.

The Industry Clustering Department also did a lot of intelligence and information sharing among the factories of the industries and their sister industries. Information on issues of outsourcing, partnerships, technology acquisition and product integration (within and outside of the industry's supply chain actors) are compiled and shared with the help of this department. The Industry Clustering Department has the responsibility to establish an efficient supply chain in permanent business activities and in carrying out specific projects. The Department also did supply chain benchmarking using different sources of intelligence, for example by identifying ways to improve the whole supply chain during urgent joint projects and rush orders.

Beyond within-industry department intelligence exchange and sharing, similar departments of the different industries had also a practice of sharing intelligence whenever the need arose. But this information exchange was usually coordinated by the main (similar) department found at the HQ. For example, Head of the Marketing & Sales Department of Sub-D said the following:

> *... In addition to the intelligence sharing the departments make within the Industry, the Marketing & Sales Department of the Industry usually meets same departments of the*

other industries quarterly, bi-annually and annually. There are also extraordinary meetings that might be called by the Corporate Marketing and Sales Unit or by the CEO, even. The annual general meeting is usually organised by the Corporate Marketing and Sales PCU. On the meeting, detail discussions and experience sharing were made on almost all issues such as demand/market gap realities, selling techniques, sales success and failure, customer relationships, customer satisfaction/dissatisfaction, need for trainings, exhibitions, promotion and even suggestions to develop new products or business.

2) CI sharing (quantitative data)

The three variables that can explain this category are the following:

1. *Interdepartmental meeting to discuss strategic market trends and development*
2. *CI sharing among departments about customers and competitors*
3. *Factories under each industry adequately share CI (data excludes Corp-HQ)*

Interdepartmental meeting to discuss strategic market trends and development: Respondents of the sub-cases were asked whether they had interdepartmental meetings at least once quarterly to discuss strategic market trends and developments. ANOVA results reveal a significant mean difference at F (6, 119) = 2.553, p = 0.023. Test of Homogeneity of Variance is insignificant. Further review of the *descriptives and multiple comparison (Tukey HSD)* tables reveal that the Sub-A (M = 4.07) is significantly different from the Sub-B (M = 2.88), with a mean difference of 1.19 and p value of .046. Also, the Sub-A (M = 4.07) is significantly different from the Sub-C (M = 2.89), with a mean difference of 1.18 and p value of .041.

Information sharing among the factories of each industry: This item was directed to only to the six industries since it asked whether the factories under each industry practice shared intelligence among each other. According to the policy of the conglomerate, each industry was organised to run a maximum of seven factories.

ANOVA results (six sub-cases or industries): F ratio is significant at F (5, 87) = 2.422, p = .042. Levene's test is not significant; F (5, 87) = 1.310, p = .267. The LSD multiple comparison illustrates that the Sub-A (M = 3.60) is significantly different from the Sub-C (M = 2.79), with a mean difference of .81 and p value of .038; Sub-A (M = 3.60) is significantly different from the Sub-F (M = 2.79), with a mean difference of .81 and p value of .026; Sub-C (M = 2.79) is significantly different from the Sub-E (M = 3.67), with a mean difference of .88 and p value of .020; and Sub-E (M = 3.67) is significantly different from the Sub-F (M = 2.79), with a mean difference of .88 and p value of .012.

CI sharing (ANOVA results for grouped variable): F ratio is significant at F (6, 124) = 3.003, p = .009. Levene's test is not significant; F (6, 124) = 1.598, p = .153. Thus, Tukey HSD multiple comparison explains that the Sub-A (M = 3.82) is significantly different from the Sub-C (M = 2.88), with a mean difference of .94 and p value of .028.

Spearman Correlations									
Group variables		CI structure and coordination							
		CASE	Corp-HQ	Sub-A	Sub-B	Sub-C	Sub-D	Sub-E	Sub-F
CI sharing	*r*	.612**	.730**	.340	.432	.395	.578**	.564*	.615**
	p	.000	.000	.215	.095	.094	.005	.012	.005
	n	131	21	15	16	19	22	19	19
*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).									

Overall, correlation between CI structure and coordination and CI sharing group variables show a positive strong correlation in the case conglomerate at p=.000 and β=.612. For the sub-cases, CI structure and coordination and CI sharing are strongly correlated at Corp-HQ (p=.000 and β=.730); Sub-D (p=.005 and β=.578); and Sub-F (p=.005 and β=.615) than the other sub-cases.

To conclude, generally, a culture of intelligence sharing is observed to exist in the case conglomerate and in its industries. However, this intelligence sharing was not a continuous and organised one since it was limited to intelligence sharing mainly during regular meetings. There was also a practice of sharing information among same departments of the industries with the help of the main departments found at the HQ. This intelligence sharing too was done during general assembly and did not occur regularly. It happened only when it was initiated by a coordinating PCU at the HQ.

Best-practice organisations transfer CI and best practices through such mechanisms as: periodic forums, knowledge fairs, road shows, discussion groups, e-mail and distribution lists, CI champion teams, rotation of staff in and out of CI and using CI databases and intranets (Williams, 2002) and even on CI forum of divisions.

6.9.3 Effect of CI structure and coordination on SDM using CI (regression report)

One major point of discussion in CI literature is on issue of finding the right position for CI and the degree of centralisation of the CI function in the structure of an organisation. The problem of CI centralisation and structure becomes more complicated when the organisation is large and complex like the conglomerate.

The chapter on the literature brought practical examples that most conglomerates could become effective in organising their CI after they had gone a number of restructuring steps

and continuous improvement programmes/activities learning from their day-to-day business activities and situations they had encountered.

Literature also indicate that defining the right CI sharing channels and networks among the interconnected subsidiaries or SBUs could result in more effective decision-making and better overall parent conglomerate performance. Sharing of information between units of a large firm allows knowledge gained in one business unit to be applied to problems being experienced in another unit. Especially for companies relying heavily on technology, the reduction of R&D costs and the time needed to develop new technology may give larger firms an advantage over smaller, more specialised firms. The more similar the activities are among units, the easier the transfer of information becomes (Lyon & Ferrier, 2002).

However, finding the right degree of CI centralisation and business intelligence architecture for effective CI gathering, storage and sharing activities between the parent conglomerate and its subsidiaries and among the subsidiaries are vital for a conglomerate, especially one following the core competence perspective as opposed to the than the portfolio perspective.

CI sharing is vital to the case conglomerate because its subsidiaries are highly integrated and working to improve the overall value chain of the conglomerate. According to Seitovirta (2011), SI is a practice that aims to assist decision-making through providing information on the business environment. (Vaidyanathan & Sabbaghi, 2010), which may also involve supply chain intelligence (Jaharuddin, 2014; Jaharuddin, Mohamed & Sambasivan, 2014).

In short, it can be said that CI structure and CI sharing between and within the subsidiaries and in the case as a conglomerate have direct influence on the usage of CI and the effectiveness of managerial decision-making. Thus, taking these factors into consideration, an extended regression is useful (an extension of the regression in 6.7.2 for SDM Using CI). This extended regression is presented here for moderating CI Structure and CI Sharing with CI Collection as independent variable. The interaction term (product) of these variables can indicate whether CI Structure Grouped Variables and CI Sharing Grouped Variables (interacted with CI Collection) would have resulted variability on the predicted variable (SDM Using CI).

CI collection (for categorised variable, not for the independent IVs) and SDM using CI (DV) (Simple regression, moderated for CI structure and coordination): This thesis is interested in the effect of an additional independent (categorised) variable to CI collection variables (i.e., *CI structure and coordination* on SDM using CI (DV).

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.847	1	33.847	87.325	.000[b]
	Residual	50.388	130	.388		
	Total	84.235	131			
2	Regression	37.188	2	18.594	50.982	.000[c]
	Residual	47.048	129	.365		
	Total	84.235	131			
a. Dependent Variable: SDM using CI						
b. Predictors: (Constant), CI collection and availability						
c. Predictors: (Constant), CI collection and availability, CI collection X Structure						

Model 1 (without the interaction term) is significant at F (1, 130) = 87.325, p = .000; and Model 2 (with the interaction term) is significant at F (2, 129) = 50.982, p = .000. As can be seen from the new model (with interaction effect, Model 2), the amount of variance accounted for in Model 2 (with the interaction) explains significantly more of the variance in the DV than Model 1 (without the interaction).

Model Summary[c]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.634[a]	.402	.397	.62258	.402	87.325	1	130	.000	
2	.664[b]	.441	.433	.60391	.040	9.159	1	129	.003	2.140
a. Predictors: (Constant), CI collection and availability										
b. Predictors: (Constant), CI collection and availability, CI collection X Structure										
c. Dependent Variable: SDM using CI										

In this model, the R square change tells whether or not variables entered at that point (in this case CI structure and coordination) add anything over and above variables previously used (i.e. CI collection).

Model 2 with the interaction between CI collection and CI structure and coordination accounted for significantly more variance than just CI collection alone, R^2 change = .040, p = .003, indicating that there is potentially significant moderation effect between CI structure and coordination and CI collection on SDM using CI (the DV).

CI collection (for categorised variable, not for the independent IVs) and SDM using CI (DV) (Simple regression, moderated for CI sharing): The study is also interested whether the model for variation on SDM using CI (the DV) is affected by an interaction effect of an additional independent (categorised) variable to CI collection variables (i.e., *CI sharing).*

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.693	1	33.693	86.292	.000[b]
	Residual	50.369	129	.390		
	Total	84.062	130			
2	Regression	38.395	2	19.197	53.808	.000[c]
	Residual	45.668	128	.357		
	Total	84.062	130			
a. Dependent Variable: SDM using CI						
b. Predictors: (Constant), CI collection and availability						
c. Predictors: (Constant), CI collection and availability, CI collection X CI sharing						

Model 1 (without the interaction term) is significant at F (1, 129) = 86.292, p = .000; and Model 2 (with the interaction term) is significant at F (2, 128) = 53.808, p = .000. As can be seen from the new model (with interaction effect, Model 2), the amount of variance accounted for in Model two (with the interaction) is significantly more than Model 1 (without the interaction).

Model Summary[c]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.633[a]	.401	.396	.62487	.401	86.292	1	129	.000	
2	.676[b]	.457	.448	.59731	.056	13.178	1	128	.000	2.168
a. Predictors: (Constant), CI collection and availability										
b. Predictors: (Constant), CI collection and availability, CI collection X CI sharing										
c. Dependent Variable: SDM using CI										

Model two with the interaction between CI collection and CI sharing accounted for significantly more variance than just CI collection alone, with an R^2 change = .056, p = .000, suggesting t that there is significant moderation between CI sharing and CI collection on SDM using CI (the DV).

Thus, it can be concluded that CI sharing as a moderated variable has greater variation in affecting the SDM using CI. Overall results indicated that CI use for SDM was negatively affected by the ineffective organisation of CI in both the industries and the HQ.

6.10 Challenges in applying and using CI (quantitative data)

One of the major variable categories that appeared on the questionnaire was a category that presented statements that requested respondents to assess the degree of challenge prevalent in implementing or applying CI in the sub-cases.

6.10.1 CI quality and decision usefulness for SDM (challenges)

Even though it was possible to obtain responses for 14 CI implementation challenge variables, this sub-section presents problems associated to CI quality, decision-usefulness; challenges related to defining users' key intelligence needs; and problems related to top management in using and applying CI for SDM. The analyses for the last two variables are made using group results (i.e., by transforming individual variables into grouped means).

The following constructs were used for the regression, which was intended to show if ineffective, irregular and fragmented CI gathering would affect CI quality and the usefulness of CI products for SDM.

Challenges related to CI quality and decision usefulness (DV):

1) *Decision-makers suffer from information stress, receiving too much information*
2) *Difficulty of interpreting competitive information for SDM purpose*
3) *The CI generated is too general; most of it is either already known, or is not needed by users*
4) *Users of CI have difficulty in interpreting competitive information they receive*

Challenges related to continuous (systematic) scanning or CI gathering (IV):

1) *Inadequate scanning of the market, with inadequate staff and resources*
2) *Fragmented and irregular gathering of CI make managers refrain to make decision-making based on CI*
3) *Top management often neglects continuous and systematic scanning of the competitive environment*

Challenges related to CI quality and decision usefulness for SDM and challenges related to (continuous/adequate) CI scanning *(Table 6.24, Appendix 2)**:*** Table 6.24 displays the three independent variables which were taken to be challenges that were related to continuous and systematic scanning or gathering of CI in the HQ and the other sub-cases.

Within the 'CI scanning' group variable, the first item in the table asks whether there was a problem from the management side in making continuous and systematic scanning of the competitive environment. While one-third (44.6%) of staff respondents expressed that the problem was either 'pressing' or 'most pressing'; about one-third (33.8%) of the designated responses indicated that the problem was 'less pressing' in the case organisation. A very similar patterns of responses can be seen for the second item in the table.

In order to cross-check the responses given to the issue of inadequate scanning (or CI gathering), a negative question was presented to the respondents which asked them whether

managers or decision-makers had suffered from information stress, receiving too much information (i.e., a variable in CI quality and decision-usefulness challenge group variable). Respondents replied that this was not a challenge in their respective organisations, which could be the resulted of an inadequate continuous CI scanning practice. Closely related to this second group item, respondents were also asked whether the collected and processed CI products were useful for decision-making. The largest proportion of the respondents (42%) replied to this item as either a 'most pressing' or 'pressing' problem.

Altogether, the responses for these two groups (i.e., CI quality/decision usefulness challenge group variables and CI scanning challenge group variables) imply that the quality of the CI products affected users' usage of the products for decision-making.

As is presented in the subsequent discussions, this relationship could be explained more fully with a regression between the two grouped variables — CI quality/decision usefulness challenge group variable (DV) and CI scanning challenge group variable (IV).

CI quality and decision usefulness challenge (ANOVA results for grouped variables): A one-way ANOVA tests run by both sub-case respondents and respondent department revealed insignificant mean differences.

Challenges related to continuous (systematic) scanning or CI gathering (IV) versus Challenges related to CI quality and decision usefulness (DV) (Simple regression): Both the simple regression for the grouped or transformed individual variable (*Challenges related to continuous, systematic scanning or CI gathering*) and individual independent variables result almost equal R square values on the grouped or transformed dependent variable (challenges related to CI quality and decision usefulness)—R^2=.450 for the multiple regression for the independent individual variables and R^2=.456 for the multiple regression for the grouped/transformed independent variable (the model summary table below).

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.675[a]	.456	.451	.54752	1.978
a. Predictors: (Constant), Challenges related to continuous (systematic) scanning or CI gathering					
b. Dependent Variable: Challenges related to CI quality and decision usefulness					

The ANOVA table for the above model reports a significant F statistic (107.949) and sig. value 0.000, indicating that using the model is better than a random estimate of the mean. Though the variation in CI quality and decision usefulness problems/challenges can be explained by many other factors, inadequate, fragmented and discontinued CI collection or scanning could explain 45.6 percent of the variance in the perceived quality or decision

usefulness of CI for SDM purpose (DV). "CI is never meant to be a one-shot activity; as the company changes so will its intelligence needs" (Campos, 2006:150).

Challenges related to continuous (systematic) scanning or CI gathering (IV) versus Challenges related to CI quality and decision usefulness (DV) (Simple regression, moderated for Challenges related to defining KINs of users): The study is also interested in whether the model for variation on CI quality and decision usefulness challenges (the DV) is affected by an interaction effect of an additional independent variables to the continuous CI scanning challenges (i.e., *challenges related to defining KINs of users).*

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.361	1	32.361	107.949	.000[b]
	Residual	38.672	129	.300		
	Total	71.033	130			
2	Regression	36.220	2	18.110	66.585	.000[c]
	Residual	34.813	128	.272		
	Total	71.033	130			
a. Dependent Variable: Challenges related to CI quality and decision usefulness						
b. Predictors: (Constant), Challenges related to continuous (systematic) scanning or CI gathering						
c. Predictors: (Constant), Challenges related to continuous (systematic) scanning or CI gathering, CI Scanning Collection X Defining KINs Challenges						

Model one (without the interaction term) is significant at F (1, 129) = 107.949, p = .000; and Model two (with the interaction term) is significant at F (2, 128) = 66.585, p = .000. As can be seen from the new model (with interaction effect, Model two), the amount of variance accounted for in Model two (with the interaction) is significantly more than Model one (without the interaction).

Model Summary[c]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.675[a]	.456	.451	.54752	.456	107.949	1	129	.000	
2	.714[b]	.510	.502	.52152	.054	14.187	1	128	.000	2.054
a. Predictors: (Constant), Challenges related to continuous (systematic) scanning or CI gathering										
b. Predictors: (Constant), Challenges related to continuous (systematic) scanning or CI gathering, CI Scanning Collection X Defining KINs Challenges										
c. Dependent Variable: Challenges related to CI quality and decision usefulness										

Model two with the interaction between challenges related to continuous CI scanning/gathering and challenges related to defining key intelligence needs (KINs) of users accounted for significantly more variance than just challenges related to continuous CI scanning/gathering by itself;R^2 change = .054, p = .000, indicating that there is potentially significant moderation between defining KINs of users (challenges) and continuous/systematic scanning of CI (challenges) on quality or decision usefulness challenges (the DV).

Thus, it can be concluded that adding challenges related to defining KINs of users as a moderated variable affects the perceived challenges CI users encounter with regard to CI quality and decision usefulness.

Spearman Correlations									
Group variables		Challenges related to understanding CI products							
		CASE	Corp-HQ	Sub-A	Sub-B	Sub-C	Sub-D	Sub-E	Sub-F
Challenges related to defining KINs of users	*r*	.547**	.937**	.280	.569*	.489*	.671**	.246	.321
	p	.000	.000	.312	.021	.034	.001	.296	.181
	n	131	20	15	16	19	22	20	19
*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).									

For the case conglomerate as a whole, there is strong positive correlation between the challenges in defining key intelligence needs of users and challenges in understanding/interpreting CI products at p=.000 and β=.547. For the sub-cases, CI this correlation result higher in Corp-HQ (at p=.000 and β=.937); and Sub-D (at p=.000 and β=.671) than the other sub-cases. This means, unless the CIPs have a closer understanding of the needs of CI users, they may not bring useful CI for SDM; and CI users will certainly have difficulty in interpreting the intelligence because the 'intelligence' brought could be just crude information to the users. According to an empirical study made by Du Plessis and Gulwa (2016), a closer study made to this study, identifying the actual CI needs of decision-makers entails knowing their preferred frequency intervals of obtaining intelligence on diverse topics (Du Plessis & Gulwa, 2016). "The value of CI in decision-making begins with establishing the relationship between strategic management and CI based on a thorough understanding of the specific CI needs of decision makers" (Du Plessis & Gulwa, 2016: 2).

6.10.2 CI implementation challenges

Almost all responses obtained from participants of each sub-case revealed that all the presented possible CI-related challenge issues were prevalent in each sub-case. The challenges were evident in all sub-cases because the case organisation and its subsidiaries were not in a full capability to execute a formal CI system or programme in this early stage – the conglomerate was formed only seven years ago.

The correlation table (Table 6.25, Appendix 2) also signifies the close association of responses amongst almost all of the 14 possible CI implementation challenges.

Except for the two lesser-correlated challenges (CI generated is too general; most of it is either already known, or is not needed by users and Difficulties to clearly identify and ascertain the exact intelligence needs (KINs) of users of CI) which have p value of .057 and r

= .169, the rest of the challenge variables display positive correlation. This means that most of the challenge variables are interdependent as they might be sharing similar causes.

A Spearman correlation analysis between two CI implementation challenges is very strong: 'difficulty of interpreting competitive information for SDM purpose' and 'information is gathered in a fragmented and irregular way which makes managers refrain to make their decision-making based on this information.' The results revealed a significant and strong positive relationship (r = .550, N = 128, p = .000, 2-sided). Unless CI is collected in a continuous and consistent way, its usefulness for SDM in meaningless.

The other two variables that have displayed strong positive correlation are 'top management often neglects continuous and systematic scanning of the competitive environment' and the 'top management is unable to think about the application of CI in the organisation.' The results revealed a significant and strong positive relationship (r = .580, N = 129, p = .000, 2-sided). Obviously, if the top management is unable to think about the application of CI in the organisation, it neglects continuous and systematic scanning of the competitive environment or the reverse is true. Therefore, management perception in the usefulness of CI will directly influence the CI collection and support to CI.

ANOVA results for the grouped variables: The following are the group variables that summarised the 14 individual CI implementation challenge variables:

1) *Challenges related to CI quality and decision usefulness*
2) *Challenges related to continuous (systematic) scanning or CI gathering*
3) *Challenges related to defining KINs of users*
4) *Challenges related to understanding CI products*
5) *Challenges related to top management's perception*
6) *Challenges related to CI location/positioning*

Analyses of variance run by both sub-case and respondent's department on the above six grouped variables revealed insignificant results (i.e., p > .05).

As can be seen from the above ANOVA table, however, it is surprising to find an insignificant mean variation amongst the responses of the sub-cases with reference to CI implementation challenges. No mean variation had also been observed on all of the 14 individual variables which were found in the dataset and were considered as possible CI implementation challenges.

ANOVA for the 14 CI implementation challenges: ANOVA was also run to determine if mean variations could exist among the responses provided for the 14 individual CI implementation challenge variables. The variance analysis made by sub-case for the mean

responses given for the 14 items have demonstrated insignificant p-values indicating the absence of major mean differences. Except for the first item shown in Table 6.25 and discussed in 6.9.2.2 (i.e., Decentralised CI collection by different departments), the ANOVA made by respondents' department have also indicated insignificant mean variations.

Analyses of variance for CI implementation challenge individual as well as category variables indicate as there are no significant differences among the mean responses (ANOVA run by sub-case). Similarity of the responses or low standard deviation among the means for the responses obtained from the sub-case participants also revealed this insignificant result.

The existence of no significant mean variations among the CI related challenges explains that all the sub-cases, including Corp-HQ, share these challenges.

To conclude, it is not surprising to find almost all possible CI implementation challenges in an organisation which is a novel but had high potential to implement a formal and systematic CI to enhance its SDM and other business decision-makings.

6.11 CI recommendations for implementation

The closing items on both the questionnaire and the semi-structured interview guides focused on the issues of implementing CI in a formal and systematic way in the case. In the end of the questionnaire, participants were asked to express their opinion regarding the value of CI for decision-making in their respective organisations and the case conglomerate as a whole. Table 6.18 (Appendix 2) lists their reflection and perception to a formally run CI role or function for decision-making.

6.11.1 CI implementation recommendation (quantitative data)

Participants were also asked how they would launch CI in their organisation (Table 6.27, Appendix 2). The frequency shows that the two largest suggestions in how to implement a new CI programme are found in the two responses—either implementing CI by all departments (disbursed CI function in all departments) or by a separate central department/unit. The two high frequency responses are found in either of the two suggestions because there was no other alternative that provides the possibility of implementing the function by all departments while coordinating the activities by a central unit and/or because of respondents' limited experience on CI practice, structuring and programming (there were 50 system missing cases). However, some respondents gave good suggestions regarding the

importance of collecting CI by all departments which shall be coordinated by a centrally dedicated unit.

Such suggestions were gathered using the open-ended item that asked explanations for their choices. A few of the suggestions are listed below:

- 'We must implement CI in all departments of the industries and professionals trained in social networking are important…these professionals should assist management by interpreting information for use in decision-making.' (Sub-E, MIS Manager)
- 'The separate department can connect with other departments that collect different information about customers and others so that it can deliver to the management for decision-making.'
- '…As a separate department but all departments must take part, but first CI users must be trained how to use CI in a systematic way.'

The recommendations given by participants about CI implementation ways could be viewed from the following perspectives, which most of which were discussed in the beginning sections of this chapter.

1. CI Practice and Presence
2. CI Responsibility Centre
3. Respondent's Department
4. Sub-Case
5. Respondents Association to CI

Table 6.28 (Appendix 2) presents the frequencies for the four CI implementation options provided to participants at the column headings which are again categorised by five associated variable categories (i.e., variable put in the rows). Since the table is a complicated one, the only highest results from each category options are discussed.

CI Practice and Presence: Looking at the row of this category, 45% of those who responded the item previously saying 'the CI activity in our organisation is comprehensive/systematic' and 50% of those who responded the same (row) item saying 'No Systematic CI Approach' existed in their organisation suggested that CI should be launched in their organisation by all the departments (a dispersed CI function); 37% of those who responded saying 'Ad Hoc or Temporary Use' suggested that CI should be implemented as project activity.

CI Responsibility centre: Looking at the row of this category, half (50%) of those respondents who responded the item previously saying, 'most CI products are supplied by the Marketing & Sales Department' and 50 % of them who mentioned 'most CI products are supplied from the MIS Office' have recommended that CI should be run as a separate central department. Half (50%) of the participants who mentioned 'most CI products are supplied by Planning/Strategy Department' suggested the execution of CI function by all departments.

Two-third (66.7%) of those who responded previously saying 'most CI products are supplied from the Operations Department' wanted the launching of CI activity as a project activity.

Respondent's Department: Almost half (52.2%) of the respondents from the Marketing & Sales Department and 36.2% of the respondents from the R&D Department suggested the importance of establishing a separately dedicated unit which is responsible to perform CI activities. A different response was obtained from the respondents from the Strategy/Planning and MIS Office, where 57% of the respondents suggested a dispersed CI functions by all departments.

Sub-Case: While 46.2% of respondents from Corp-HQ and 56.2% of the respondents from Sub-F suggested the execution of CI as a project activity; half (50%) of the respondents from Sub-B and Sub-C and 60% of the respondents from Sub-D suggested the accomplishment of CI activity by all or in all departments. The response from Corp-HQ might imply that CI at the HQ was performed as a one-time project activity when a need existed to do so such as to establish a new industry segment or plant.

Respondents Association to CI: The overall results from these two groups revealed insignificant differences in all of the given options. This similarity of answers by the two groups might be resulted because the majority of respondents identified themselves as both CIPs and CI users. However, the largest proportions for the responses of the two groups are found in the second column (i.e., running CI by a separately dedicated unit).

The following conclusion implies the need to 'crafting CI for SDM' in the conglomerate (see also Illustration 6.1 for the crafted CI model developed to the case conglomerate in 6.15). The overall results presented for the five categories inclined towards the first two options of the columns— "By All Departments and As Separate Central Unit." By noticing in conjunction with the qualitative results, these two choices are not mutually exclusive. The reason being, from the qualitative results and overall findings of the study (or taking references from discussions of CI structuring, location, coordination and sharing), it is possible to learn and even suggest the importance of carrying out CI by all departments while coordinating and administering the CI efforts by a centrally managed unit at both industry and corporate levels. Meanwhile, it is only possible to effectively create networking among the subsidiaries of the conglomerate and between Corp-HQ and subsidiaries using this central coordination unit. Most literature and best practices also suggest this approach of organisation for conglomerate entities. This organisation is said to be even more effective for conglomerates where the focus of operation is on developing a core competency. conglomerate This approach seems quite

similar to the approach the case conglomerate uses.

6.11.2 CI implementation recommendation (qualitative data)

In the end of the data collection instruments, participants were asked the following question so that they would suggest ways to implement a formal CI in their organisation: *What importance will CI present if it is implemented in your organisation in a formal, structured and/or systematic way? How? Why?*

Reflections of the participants for the closing questions are presented in Table 6.29, Table 6.30 and Table 6.31 in Appendix 2. Respondents were asked clarifications on the options they selected how a formal CI programme would be launched in their organisation.

Finally, respondents were asked whether this study is relevant to the problems of the case organisation. They were also asked to provide any useful comments and suggestions related to this study. Their reflections are presented in Table 6.30.

The conclusion is quite clear. Without exaggeration, it was possible to summarise the feedback obtained from the questionnaire and the interviewed higher officials in one sentence in almost all sub-cases. All staff respondents and the interviewed officials were very concerned and interested in starting a formal and systematic CI programme in their organisation. In the case conglomerate as a whole, the application of CI concepts and practices were found to be critical for their conglomerate. Because of this, the respondents were highly interested in taking part in the interview and had provided all the necessary support and cooperation for the study.

6.12 Sub-case comparison conclusions

This section mainly focuses on the overall conclusions on the issues of differences amongst the sub-cases (which are subsidiaries/industries) of the study.

Both qualitative and quantitative data revealed the following overall results that indicate relative differences on the performance of each sub-case (including Corp-HQ) in collecting, organising and using CI for strategic and other business decision-makings.

6.12.1 Difference in CI collection practice

CI collection practice was relatively better in Sub-A, Corp-HQ, Sub-E and Sub-D than in the rest three sub-cases. CI for strategic and other business decision-makings was less available in

Sub-B, Sub-C and Sub-D. A lesser availability of CI in these sub-cases had direct impact on management's practice of CI products to support its decisions in these industries (sub-cases) than in the other industries.

The main differences in practising CI collection were found in making stakeholder intelligence and competitive market intelligence. CI collection was consistent to the core strategy of the case, which was evidenced by CI collection on technology intelligence for the main purposes of technology partner selection, technology transfer and product customisation core businesses of the conglomerate.

6.12.2 Difference in using CI for SDM

In respective performance order, Corp-HQ, Sub-A, Sub-D and Sub-E, were found in a better position in using CI for SDM. CI products were better used for tactical and other business decision-making in the four sub-cases too. CI usage/practice for tactical and other business decision-makings was most prevalent at Sub-A than at the other sub-cases. While Sub-F's least used CI for SDM than any other sub-unit or industry; Sub-B least used CI for tactical and business decision-making. The collection and availability of CI in Sub-A, Corp-HQ, Sub-E and Sub-D was also directly related to decision-makers' request for CI products and their corresponding interested in initiating and using CI to support their decision-making.

There were also variations in using CI for SDM and gathering CI for same decision-making purpose. This difference was more prevalent between Corp-HQ and three industries namely, Sub-B, Sub-C and Sub-F.

The overall results indicate that CI collection and availability had significantly affected the usage of CI for strategic-, tactical-, business- and general decision-making. Demand for CI and user's request for strategic intelligence for SDM had also influenced the collection of CI in the sub-cases and at the HQ. But this relationship was not equally evident and true in all the sub-cases.

6.12.3 Differences in locating CI responsibility centre and CI functions

The parent company (the corporation) already provided generic structure and organisation to all industries. Thus, the industries had almost similar structure and practices related to the study's problem area (CI function and location). Likewise, the distributed existence of the CI function or CI location at the Headquarter, the CI function was found scattered or dispersed in the following four departments at the industries; (1) Research and Development Department;

(2) Marketing & Sales Department; (3) MIS and/or Planning; and (4) Manufacturing Clustering Department. According to the understanding of participants, the major CI-related activities or functions were being performed by different departments in different industries (or the sub-cases) just because of the function was located in different departments of the industries. A recent uniform technology intelligence performing organ in the industries was the establishment of technology excellence centre. One of the primary tasks of this centre was to perform technology search or intelligence so that industry-specific technologies would be tapped, used, learned and further improved or customised and would be used as catalysts for innovation by the industry and its sister companies.

Sub-case empirical data analyses revealed significant differences on issues of locating the CI responsibility centre. There were variations in responses for the sub-cases regarding the departments from which the largest contribution of CI products came for SDM purpose. This difference in observation of respondents from sub-cases clearly indicates that the CI function could come from any of the three departments that were included in the quantitative study (which were R&D, Marketing and Sales and Planning/MIS departments) and the Industry Clustering Department (which was identified later during the interview sessions). This might be resulted because of failure to clearly define a CI responsibility centre and its functions at the HQ and the industries.

Participants' response differences in identifying CI responsibility centre had also resulted in differences with regard to their recommendation to launch CI in the future. There existed a difference among the opinions of the respondents who were found in the R&D, Marketing and Sales and Planning/MIS departments regarding their preferences in launching a formal CI activity or programme. Furthermore, these respondent groups favoured their own departments by replying that most of the CI generated was sourced from their respective departments than from their counterparts.

The above two results (i.e., issues of locating CI responsibility centre; in conjunction with the suggestions to launch a formal CI function), clearly implied as employees found in these departments were not properly communicated about the location, roles and duties of a particular unit which was obliged to supply CI for SDM in the industries. Otherwise, management was using CI in a haphazard way and wherever the CI was available from any either of the departments.

6.12.4 Differences in CI coordination and impacts on CI usage

There were opinion differences among the sub-cases in CI restructuring, CI coordination and suggesting the CI centre in their respective organisation. However, the majority of the respondents from the sub-cases believed that the challenges related to CI location and positioning in the structure of their respective organisation and in the HQ had influenced proper utilisation of CI for SDM. Decentralised CI collection would result in getting fragmented CI outputs for decision-making purpose.

With regard to CI coordination and sharing, consistent results could be observed on the facts of CI collection and usage for SDM. As per evaluation of the respondents from Sub-A, Corp-HQ, Sub-E and Sub-D, CI was relatively better coordinated and shared in the four sub-cases than in Sub-C, Sub-B and Sub-F. Despite the practice of sharing intelligence and other information on the weekly or bi-weekly departmental meetings (Executive Committee Meetings) in each industry, there was uneven way of sharing intelligence from industry to industry. There were also differences from industry to industry in terms of the topics of KIT presented for discussion. This was mainly affected by the differences in the interests and readiness of sharing and exchange of information among members of the committee which comprises departmental heads in each industry. This CI sharing opinion difference was more prevalent in the industries' practices in sharing intelligence among the factories found in each industry. Here the CI sharing such as in creating industry value chain was largely dependent on the activities and devotions the Industry Clustering Department made on the CI coordination and information sharing.

6.12.5 CI usage and application challenges

All the CI implementation challenges (or CI usage and application problems) were prevalent in all the sub-cases. The existence of no significant mean variations among the CI related challenges explain the existence of all possible challenges in all the industries of the conglomerate and the HQ. Most respondents witnessed the CI implementation challenges could be taken as 'pressing problems'. Looking at the CI implementation challenges in conjunction with the level of performance (i.e., performance in terms of CI collection and usage), a direct relationship was observed for each sub-case. Within sub-case comparisons reveal that while CI implementation challenges in Sub-F, Sub-E, Sub-C and Sub-B were more prevalent; these challenges seemed to have lesser effects on collection and use of CI in the rest three sub-cases (Sub-D, Sub-A and Corp-HQ).

Nevertheless, it is not surprising to find almost all possible CI implementation challenges in an organisation which was novice but had high potential to implement a formal and systematic CI. The challenges were evident in all sub-cases because the case organisation and its subsidiaries were not utilising their full capability to execute a formal CI system or programme at this infancy stage of the conglomerate's duration (i.e., it was only seven years that the case conglomerate became a conglomerate).

6.12.6 Overall sub-case results conclusion

The overall sub-case comparison results from the quantitative data confirmed the qualitative data results indicating the status (level of maturity), formality, collection and usage of CI for decision-making were found or practised at moderate level in the industries. Putting performance of CI collection and usage for SDM in ranking order, while Sub-A, Corp-HQ and Sub-E have recorded relatively higher performance; Sub-D, Sub-F, Sub-B and Sub-C (in rank order) have recorded lower performance than the first three sub-cases. As regard to the issues raised on CI collection, CI coordination, CI sharing and CI usage for decision-making, Sub-C was the least user or implementer of CI, which was followed by Sub-B.

Overall results indicated the existence of differences between the industries and HQ on level of CI practice (CI collection, CI coordination, CI sharing and CI effort) and usage of CI for SDM. Although management of Sub-A requested CI for SDM like top management at the HQ, overall results indicate that the management of Corp-HQ demanded CI for SDM purpose than the management of the industries. This clearly implies that most strategic and critical decisions were made by the HQ so was the strategic intelligence collection.

Following, a middle-range theorising approach an interplay was made between the empirical findings (the differences in applying CI among the sub-cases) and theory/literature review, inferences are made to develop two middle-range theories, which further led the researcher to converge theories of the two disciplines (CI and SDM) into another integrated theory.

The following are specific topics from which the MRTs are developed: Empirical findings (6.12 "Sub-case Comparison Conclusions) and Literature reviews (3.6.2 "SDM is contextual" and 3.7.2 "CI is contextual").

6.13 The constructed middle-range theories

The secondary research question was the following**:** *What contextual factors influence the application of CI for SDM in the case conglomerate?*

In this last section of this chapter, the middle-range theories, can be taken as propositions too, which are developed through synthesis of theoretical discussions, literature and empirical findings will be presented. However, for easy presentation, limitations and future study directions for the middle-range theories and the whole study need to be presented in the last section of the next chapter (Conclusions & Recommendations).

Though the constructed middle-range theories (propositions) are conclusions by themselves, they however, require separate presentation so that the nature of the theories, the theory development approaches and reasons for developing the middle-range theories in CI-SDM can be understood easily. This way, they are also not buried in the short conclusion section but shall stand out clearly for future research/testing and theory development, too.

6.13.1 Overviews of middle-range theories

Although some grand theories and models specify theoretically rigorous formulations, in general, these models are too abstract or too general (Flyvbjerg, 2006; Kim, 2004). The critics of grand theorising have stressed the need to demonstrate sensitivity towards context specificity, which in turn has led to the abundance of fine-grained in-depth empirical case studies which are, by and large, atheoretical (Kang, 2014). Rueschemeyer (2009) argues for the need to work towards building a cumulative knowledge at the 'middle-range' as a way of deriving useful knowledge that sits between all-encompassing universal truths that leads to a 'one solution fits all' approach, on the one hand and empirically rich atheoretical context-specific details, on the other. MRTs are more relevant and applicable to practise because such theories provide more specific and systematic knowledge about particular work settings (Abner, Kim & Perry, 2017) and specific case context.

Subject matter context specificity: Regarding the content specificity of MRTs, Smith (2008) attests that each discipline has a unique focus for knowledge development that directs inquiry and distinguishes it from other fields of study. MRTs deal with delimited aspects of social phenomena, which means, MRTs have theoretical delimitation or scope (Merton, 1968). Bounded by subject matter (i.e., heavily contextualised), MRTs are the result of in-depth specialisation in a specific subject matter (Hassan & Lowry, 2015). The purpose of a MRT is not to attempt to explain everything about a general subject (e.g. how markets function or how

to manage markets). Rather it has a focus on a subset of phenomena relevant to a particular context.

A MRT has the possibilities of focusing on a subset of phenomena relevant to a specific context. In contrast to a "grand" theory, which is by nature broad in scope and more abstract, a MRT is more concrete and applicable for empirical studies. The interplay between a grand theory and the actual empirical setting may be facilitated by a middle-range context of discovery and justification (Kolbaek & Snis, 2016).

6.13.2 Functions of middle-range theories in CI

MRTs were developed because they initially found a gap between theories and empirical facts (Bryman, 2008; Merton, 1967) and the theories fail to explain the application of the developed models in specific contexts and realities of each organisation.

CI is a growing discipline with no stand on a firm general theoretical foundation. There are theoretical and knowledge gaps that clearly explain the universal application of both disciplines, meanwhile, theories that unswervingly link CI and SDM in all organisations. Hence, inspired by a 'middle-range thinking' which emanate from SDM and CI context specific studies, the researcher logically thought a synthesis can be made with the empirical findings so that theoretical convergence (i.e., theory extension) might be found in the two disciplines in terms of contextual issues.

According to Bang (2017), intelligence is bureaucratically produced as well as socially constructed and created in a distinct cultural context. In order to be able to understand intelligence analysis, one must know how it is socially constructed, how it is bureaucratically produced and how the distinct culture influences the process and the outcome. Similarly, after making extensive literature analysis on CI studies, Du Toit concludes the following:

> *The domain of competitive intelligence is broad and competitive intelligence is an interdisciplinary subject field...Competitive intelligence as subject field deals with relativistic, complex and dynamic social constructs that influence a variety of contexts. More empirical surveys published in peer-reviewed journals provide the possibility to best understand and make assumptions about the complex problems of competitive intelligence as subject field. This will enable competitive intelligence researchers to address all the facets of the complex problems they investigate and will provide a potential for theory building since existing theories may not sufficiently provide a framework to understand, explain and predict the new developments in a unique context*. (Du Toit, 2015: 19-20)

The need for the development of MRT on CI can also be implied from what Garcia-Alsina, Ortoll and Cobarsí-Morales (2013) noted, namely that CI practices have featured as a specific goal in a wide range of scholarly and practitioner works. However, few specific sectors have been studied to find out how their particular features influence CI practices and the literature makes only a few mentions of which factors facilitate or inhibit these practices.

The concept of CI application in SBUs (subsidiaries) and possible variations in collection, usage and implementation of CI in SBUs (specifically in vertically integrated conglomerates, whose subsidiaries are guided by one grand strategy, similar structure and management) is hardly recognised. There are no many empirical studies which assessed and tested the contextual factors, but on the enabler and inhibitor factors of CI, which the later can be common in most businesses. That is why this case study has come up a MRT or proposition which will be tested in the subjectivity and contextual nature of CI application among subsidiaries of a vertically integrated conglomerate.

The proposed MRTs are the major theoretical contributions of this study since few studies (rather projects) have been done on CI and SDM in big conglomerate, which is composed a number of vertically integrated subsidiaries. The researcher was unable to find any MRT developed on the concepts and theories of competitive intelligence and SDM and which were initially intended to develop MRT following clearly defined ways of MRT construction. Thus, the development of the MRTs also indicates the literature gap on the issue of CI implementation and utilisation for SDM on conglomerates which are made up of multiple subsidiaries. In relation to this fact, the MRTs of the embedded multiple units single-case study can initiate future studies on the concepts and its validation, which will ultimately prove/disprove and/or build-up on the developed concept.

6.13.3 Middle-range theory approach

The approaches in the MRTs are about the methods that are used in constructing the theories. Regarding development, MRTs can commonly follow inductive or deductive orientations. Sometimes they can have aspects of both (Brandão, Martins, Peixoto, Lopes & Primo, 2018; Mgbekem, Ojong, Lukpata, Armon & Kalu, 2016). Approaches to MRT development may be classified into four groups: (a) inductive, (b) deductive/analytic, (c) reconstructive and (d) interpretive. Which method or approach to adopt in theoretical work has to be determined both by the nature of phenomena and the philosophical assumptions held by researchers (Kim, 1993). Both deductive and inductive approaches were employed in this study by making interplay between SDM and CI theories, literature evidences and empirical data analysis.

Theory integration: One of the key features of MRTs is integration of theories from different disciplines—like SDM and CI. "Approaches to theory integration are based on the assumption that synthesising two or more theories or aspects of theories can result in more comprehensive or heuristically superior theories" (Flyvbjerg, 2006: 29). The integration of theory from across disciplines is made possible by working at the middle-range level and viewing each theory as contributing interesting causal components (Smith, 2008; Bennett & George, 2005; Kim, 1993). However, theory-integration requires extensive multi-disciplinary exposure (Smith, 2008).

MRTs as logically interconnected sets of propositions lie between concrete hypotheses and all-inclusive systematic efforts to explain all observed phenomena (Merton, 1968). In developing the MRTs that extends on SDM and CI linkage literature, the study employed relational proposition so that the two disciplines could be integrated in terms of commonly shared contextual factors. Relational propositions express associations, connections, patterns of covariance, or correlation between two or more concepts. These relational propositions could vary depending on whether the proposition claims an existence of a relation between two concepts, suggests a positive or negative relation, or asserts a certain shape or pattern of relations between several concepts (Hassan & Lowry, 2015).

Theory synthesis: Regarding theory synthesis, Strauss and Corbin (1994: 273) state the following: "Theory evolves during actual research through continuous interplay between data collection and analysis." In MRT development, theory synthesis is an approach for theory development by integrating and synthesising information from empirical evidences, one's own fieldwork and theoretical literature into a theoretical network (Walker & Avant, 1995). Therefore, the use of theories is not limited to problem formulation and the literature review—they also guide the study throughout the research all the way through to development of a theory that is a contribution to knowledge concerning the phenomenon under investigation (Smith, 2008).

The MRTs (propositions) are developed through synthesis of theoretical discussions, literature (reviewed under sub-sections SDM in Context & CI in Context) and empirical findings. The theoretical and literature bases to the theory extension (MRTs) are also given in the discussions under 3.6 "SDM in Context and 3.7 "CI in Context" Specifically, related theoretical bases for the MRTs extension or propositions, however, are provided in 3.6.2 "SDM is Contextual", 3.7.2 "CI is Contextual" and the middle-range theories for last two subsections are also summarised under 3.8).

Iteration: As regards to 'iteration' approach of MRT development, Eisenhardt (1989) notes that theory integration is made from both the literature review and empirical data. Particularly, the process of building theory from case study research is a strikingly iterative one. Thus, constant comparison is required between the data and analysis for emerging issues related to the issues of investigation (Kolbaek & Snis, 2016). Jørgensen, Dorland, Pel and Wittmayer (2015: 12) emphasise the need for 'iteration' as follows: "The key principle of the MRT development is the iteration between empirical findings and emergent theorisation. This is a careful way of theory building that strongly anchors theory in empirical investigation."

In relation to the above facts, the famous author on embedded single case study, Scholz (2002) notes that, in an embedded case study, the starting and end point is the comprehension of the case as a whole in its real-world context. However, in the course of analysis the case will be faceted either by different perspectives of inquiry or by several sub-units. Aligned to this fact, development of MRT was a secondary objective of the current study. The MRTs or propositions have actually satisfied the conditions of MRT development and igniting new concept discovery on the facts of CI utilisation realities and the relationship between SDM and CI contexts in the conglomerate which is composed of vertically integrated subsidiaries. Meanwhile, the final stage of the middle-range theory development is an understanding of the interaction of SDM and CI in their contexts and whether there exists convergence between the two theories in terms of contexts.

6.13.4 The study's middle-range theories

The second output of this study is the construction of two propositions (mid-range theories) from the empirical investigation and existing CI and SDM theories.

Middle-range theory one: This MRT can be labelled as *"CI implementation is very subjective even in a conglomerate, whose semi-autonomous subsidiaries are vertically integrated."* In a broader way, it can also be labelled as *"CI application is very contextual & subjective in any particular firm."*

The study revealed the following theoretical proposition for future study and validation (MRT): *The existence of similar strategy, management structure and decision-making process and strategic orientation in subsidiaries* ***does not significantly enhance a uniform*** *application and usage of CI (for SDM) across a conglomerate. This means that CI application is very subjective and contextual even in a vertically integrated conglomerate!*

The subsidiaries exercise certain discretion on SDM, which is in the scope of their autonomy. Meanwhile, the subjectivity in implementing CI for SDM by the subsidiaries might have resulted because of situation/decision-specific contexts, internal and external environmental factors/contexts such as industry, market nature or volatility dynamism. More specifically, the study shows that CI is very contextual because of the nature of the industry in which each subsidiary operated. Therefore, it seems that the industry context may be more influential than the mentioned conglomerate-wide or organisational commonalities of the subsidiaries in determining the collection and use of CI for SDM.

Middle-range theory two: This MRT can be labelled as *"In terms of their sharing of similar contextual factors, SDM and CI application are two faces of the same coin."* The second MRT was developed in the course of writing up the thesis unexpectedly. **"**Perhaps after engaging in research one theory will provide sufficient explanatory power through identification of a big-effect; that is, a large causal influence that overrides most of the other contextual causal mechanisms" (Smith, 2008: 8). This statement is also true for this study. As connected to the intension of developing 'middle-range theory one", however, the researcher also sensed new emergent issues to reveal themselves in the course of the study which would enable the researcher to state a series of MRTs (propositions) for future studies on CI-SDM issues. MRT 2 revealed itself in the course of finalising the study through the process of 'iteration'.

As can be referred from the empirical findings (6.12 "Sub-case Comparison Conclusions) and literature conclusion in 3.8 (detail analysis are provided in 3.6.2 "SDM is contextual" and 3.7.2 "CI is contextual"), *almost all of the identified contextual factors (i.e., personal, industry, external, decision-specific/situational and national context issues) that determine CI usage and application also influence SDM of organisations. Since CI application and SDM are almost affected by similar contextual factors, it is possible to say that in terms of the contextual factors, CI application and SDM are two faces of the same coin.*

Integration of SDM and CI disciplines (in their contextual domains): Theory-integration requires extensive multi-disciplinary exposure (Smith, 2008). Related MRTs may eventually be consolidated into more abstract general conceptual schemes (Rogers, 1983). Geels (2007) also notes that MRT consists of a limited set of interrelated propositions, aimed at understanding limited topics. In another aspect, middle-range theorising is inherently multidisciplinary (Green & Schweber, 2008) like phenomenon of this study—CI (information) linkage to SDM. For instance, "to overcome the inherent difficulty of interfacing empirical research with general theory, the disciplines of strategic management

and organisational theory have recognised that it is necessary to have an intermediary body of theory that is referred to as MRT" (Brodie, Saren & Pels, 2011: 80). Importantly, middle-range theories are not merely "contextualised" general theories. They also provide a basis for potential linkages to more general theories that could potentially extend knowledge into other domains (Stank, Pellathy, in Mollenkopf & Bell, 2017). Thus, MRTs offer a possibility for knowledge exchange across related disciplines like what this study is attempting to converge the CI discipline and the SDM discipline in terms of the contextual factors both share.

As related to these facts of MRTs, the two closely connected MRTs are the theoretical contributions of the study since little has been done on CI and SDM in a big conglomerate, which is composed a number of vertically integrated subsidiaries. Based on the two MRTs, the two disciplines or theories can further be integrated into one theory— "Convergence of CI context and SDM context." Thus, it is possible to propose the following: "SDM and CI application can be viewed in the contextual domains both share."

MRTs can be put as propositions, which are too general and concluded beyond the empirical data analysed. Concerning this fact, Smith (2008) notes that hypothesis-generating case studies aim to generalise beyond the data. They examine one or more cases for the purpose of developing more general theoretical propositions, which can then be tested through other methods, including Large-N methods.

Middle-range theories' issue of generalisation: MRTs are abstract enough to allow for generalisations and useful conclusions, but close enough to observe data to be empirically validated (Hassan & Lowry 2015). MRT through its systematic interaction with data takes the initial ideational hunches and constructs from prior empirical findings and transforms them into substantive theory. The broader the ambit for generalisation of MRT, the stronger is the case for its development into formal theory and potentiality to serve a role within a grand theory building. This stage involves a comparative analysis of competing middle-range explanations to seek out the most fitting and generalised explanation for the phenomena under investigation (Soltani, Pervaiz, Ahmed, Liao & Anosike, 2014: 1016-1017). Regarding the function of MRT, Bierstedt (1960), cited in Kim, Stump and Oh (2009: 385), says the following: "One may assume the term 'middle-range' means it is weak on both generalisability and specificity. But, a MRT is not a compromise between the two extremes. Rather, a MRT is 'stepping stones in the middle distance' that helps one accommodate both theoretical rigor and contextual relevance of one's research endeavor."

The present case study followed a structured research approach drawing on prior theory and empirical evidences which are dictated by the context of the case conglomerate. In spite of

limitations of a single-case study, an attempt was made to show ways how to reduce the criticisms of single-case study which are given by proponents of multiple-case study who compare and favour multiple-case approach with single-case approach mentioning two major qualities of a multiple-case study approach—*generalisability* and *replicability*. Therefore, by using this multiple units, single-case approach, the researcher believed in the possibility of reaching generalisation within the context of a conglomerate type of corporation.

6.14 Linkages between the conceptual framework and empirical evidences

A conceptual framework relates concepts, empirical research and relevant theories to advance and systematise knowledge about related concepts or issues (Rocco & Plakhotnik, 2009).

The empirical results obtained from the case study almost correspond to the theoretical discussions, the extant literature and the conceptual framework whose main strand is 'the value of a formal CI system in enhancing SDM.' The conceptual framework shown in Figure 3.2 mainly represents this main strand on which the case study is grounded. In short, this framework actually guided the empirical data analyses in this chapter.

As closely related to the guiding conceptual framework, the present study conceptualised that a systematic formal CI enhances SDM in the case conglomerate. To put it another way, establishing and integrating a formal structure will help to direct and align CI efforts in SDM in the conglomerate and its subsidiaries. Though it was not the purpose of the single-case to either confirm or not the beginning conceptual framework to the empirical results, from the final results, it is possible to conclude that the conceptual framework is empirically validated. However, additional empirical work must be undertaken in order to continue developing the conceptual aspects of the framework to have an empirical base for this study.

The goal of a conceptual framework is to categorise and describe concepts relevant to the study and map relationships among them. Rocco and Plakhotnik (2009) note that when searching for emergent theory, however, a conceptual framework is important for situating the study. During the study, the researcher also sensed that there was a ground to discuss CI application and SDM in terms of the contextual issues both share. With regard to CI contexts and SDM contexts, similar results were obtained from both theoretical discussions and actual findings in the case company. The empirical results have also their own contribution in enhancing the clarity of the conceptual framework while allowing theory extension (MRT) which converges the CI and SDM theories in terms of the contextual issues both share.

Limitations of and future studies from the middle-range theories will be presented in the following chapter along the conclusions provided for the whole study.

Based on the empirical results (i.e., present structure, strategy contexts, CI status, perceived value, implementation possibilities/capacities and challenges) of the case conglomerate and its industries) and CI-SDM theories and CI best practices (discussed in Chapter 3 & Chapter 4), it is possible to develop a CI programme implementation model to the case conglomerate in the following section.

6.15 The crafted CI programme implementation structure (model)

Before presenting the crafted model, it is necessary to understand case conglomerate's CI present status (factors considered in crafting the CI structure and introducing a start-up CI programme in the case conglomerate) first. The recommendation provided in Chapter 7 on 'key suggestions for the start-up program' in 7.2.1 and 'CI programme implementation-strategies to the case conglomerate' in 7.2.2 are better understood along this section.

6.15.1 Capacity assessment and CI enablers in the case conglomerate

Best-practice CI functions find the following critical in order to improve the speed and quality of their companies' decision-making: a request process, knowledgeable users, analytical framework, implications-focused analysis, a central position in the organisation's network, information technology enablers, value-adding vendor relationships and defined yet evolving product/ service portfolios (Marseille, 2008).

Generally, there is no single "best practice" that fits all companies in all competitive environments. However, there is common ground for defining structures and approaches that serve many companies well (Madden, 2001). Related to this fact, existing resources and improvable practices in CI collection, organisation and usage attempts needs to be taken into consideration in starting up the formal CI programme. Considering the importance of starting the CI implementation from small and simple system, thus, the case conglomerate is advised to make extensive analysis and adjustments on the following critical factors or dimensions that are vital for the start-up CI programme.

The following capabilities, experiences, infrastructure, resources, conglomerate philosophy and leanings from past failures could be usable and improvable resources and potential to easily introduce a relatively structured CI during the start-up phase of CI programme.

1) The case conglomerate is a knowledge-based conglomerate in terms of technology search, technology intelligence and technology transfer; the focus it gives to R&D; organic structure (which enables continuous crafting and improvement of its structure and organs); and the formally stated 'centre of dynamism' and 'do-learn-improve' motto; which all are implying CI search and usage in the conglomerate

2) Existence of an already in practice CI analysis methods the case conglomerate uses for strategy development such as SWOT, PESLE, Scenario Analysis and Strategic Gap analysis tools

3) Leadership, management and decision-making philosophies such as committee decision-making, information sharing in meetings, team working, promotion to innovation, free thinking and employee involvement

4) Strategies that require CI products such as technology transfer, custom production, coopetition, strategic alliance, joint-production, value chain integration, outsourcing and contracting, national capacity development, learning, import-substitution (market-gap analysis), new product and new business development, acquisition (buyout experiences in acquiring Chapter 11 plants from abroad using foreign consultants)

5) Existence of an already in practice CI tools and techniques such as reverse engineering, benchmarking (both industry benchmarking and external/foreign conglomerate benchmarking), strategic alliance, licensing and negotiations, supply chain and value chain strategy in integrating its subsidiaries which are all associated with and directed to CI search and usage

6) Although not clearly stated in terms of a well-structured CI system, CI-related functional descriptions have been provided to the different units and departments in both the HQ and in the industries. CI and CI related functional descriptions have been outlined to R&D, Marketing and Sales, MIS, Planning, Strategy and Controlling units, Technology Excellence Centre and Industry Clustering Department (in the subsidiaries), R&D and Project Study and Follow-up sections (the Marketing and Sales Principal Corporate Unit at HQ), New Business Development Principal Corporate Unit and Business Intelligence Competence Centre (though inactive, stated in the roadmap of the conglomerate)

7) Quasi-formal way of intelligence as described in the functional duties of the mentioned departments/units and intelligence gathering from informal sources such employees of partners, Ethiopian in Diaspora (to acquire factories, technologies and

find technology transferors), word-of-mouth communication, subsidiary meeting and information exchange on joint projects

8) Quasi-formal way of intelligence application using Customer Analysis Worksheets, VPN, strategy and annual planning checklist, plan implementation reporting formats, MIS support tools, VPN (Cloud of the conglomerate), ERP Fleet System, LAN/FTP and Email sharing, Materials Requirement Planning (MRP), Manufacturing Resources Planning (MRP) and Enterprise Resource planning (ERP)

9) Existence of formal documents and activities related to CI such as Technology Transfer and Management Manual, Capacity Building Manual, Think-tank and Knowledge Management (past initiations), System Auditing and Consortium Manual (for corporate organised forum with suppliers, partners, sub-contractors, joint-producers), Formal Strategy Document and Organisation Manual

10) Though inner directed, there are MIS sections at HQ and Industry levels to perform information processing and reporting activities such as daily sales, decision-reports, proceedings of meeting and IT support (for MIS found at the HQ)

11) Lessons gained from past transactions and operations including technology transfer and learning, technology acquisition, custom production, reverse engineering, alliance intelligence, negotiation tactics and licensing activities

12) Transferring military intelligence know-how into the formal CI system, which both apply almost similar methods of intelligence collection, analysis and intelligence cycle with similar concept (‘intelligence’)

13) High perceived usefulness, recognition and readiness of the management and especially staff (researchers and other experts) from CI responsible units in launching a formal and systematic CI in the case conglomerate and its industries at this dynamic and CI demanding stage of the business

14) Possibilities to use the above enabling factors and improvable CI practices and activities in CI programme improvement and systematisation

6.15.2 The crafted CI implementation model

Kahaner (1997) warns that despite the use of ‘best practices’, there are many variations on the CI models chosen by companies. For example, there is no ‘best practice’ in terms of centralised or decentralised functions or the location of the function. This is because

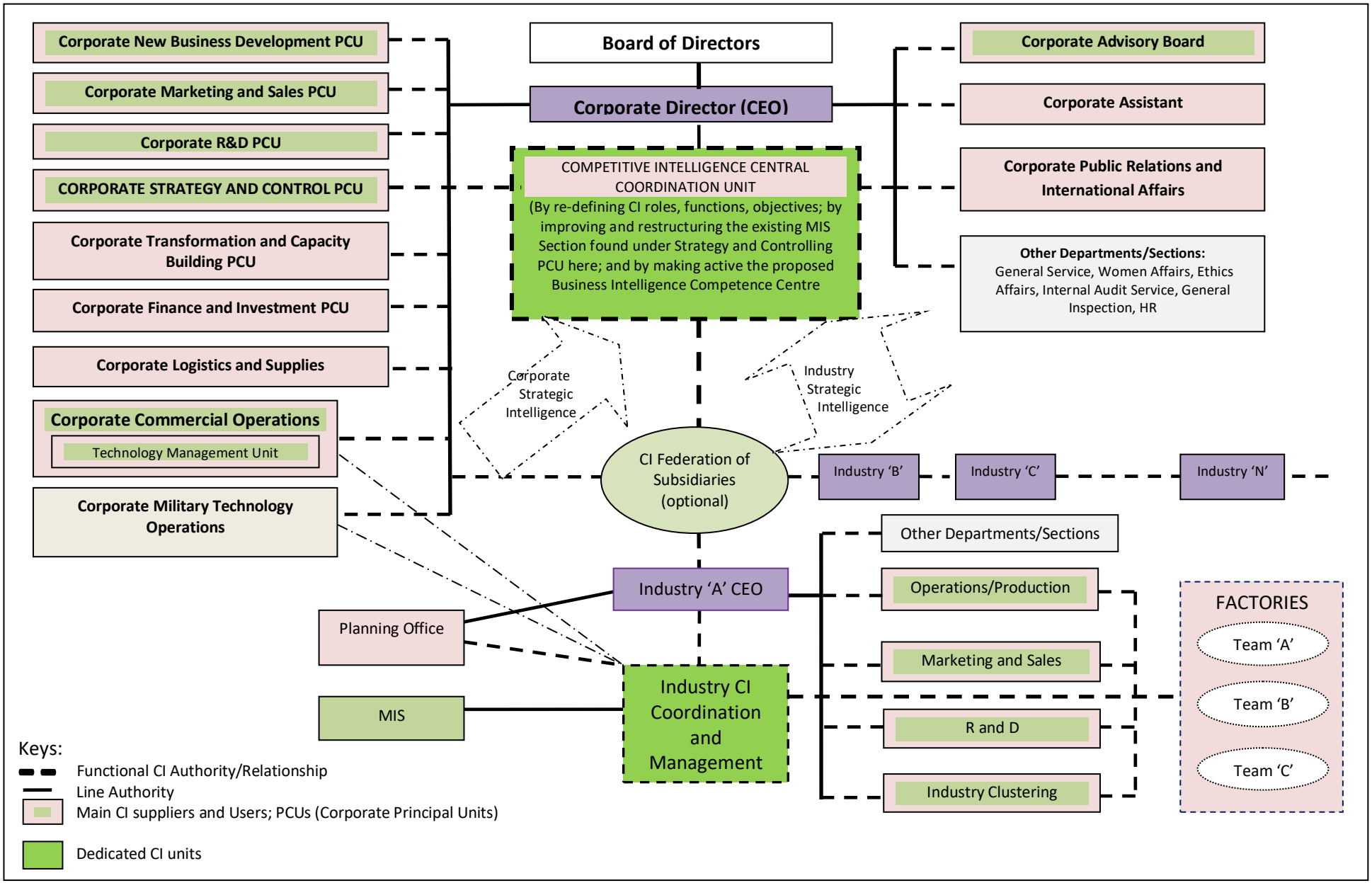
companies and industries differ from one another regarding attitudes, knowledge and values, as well as their environments. According to Viviers et al. (2005), there is no best practice in terms of centralised or decentralised CI units or regarding the subordination of the CI activities. This absence of a best practice is mainly due to the environmental differences between companies from different industries. However, "…the structuring and the stability of the CI organisation within a company definitely have an influence on the success of the CI process" (Jaworski et al., 2002: 6). It certainly depends on the overall sophistication of the CI process and the ascribed importance of CI within a specific company whether a separate CI unit and/or dedicated CI personnel exists (Roitner, 2008).

Illustration 6.1 on the next page illustrates the crafted/customised CI structure that is recommended to organise and coordinate CI in the case conglomerate. The suggested CI organisation (model) is intended to launch a simple formal CI programme at the start-up stage of CI implementation in the case and its subsidiaries. The design gives considerations for and emphasis on CI-related functions and in fitting the CI programme into the existing structure, corporate strategy, decision-making lines and overall context of the case conglomerate.

Explanations for the crafted CI Implementation structure (model) are provided hereunder and following the illustration. In designing the structure, conglomerate's existing situations/contextual issues (empirical data), studies made on similar companies and best practices are consulted. The major considerations are the following: strategy context; present structure; degree of vertical integration (core competency development issues); high perceived usefulness and actual intelligence needs; and conglomerate's present CI status and capacity such as CI-related activities/functions, infrastructure, maturity, employees awareness and resources at both the conglomerate and the industries (see 7.2.1).

In relation to the above facts, the new CI activities and functions shall be tailored by taking the following considerations and assumptions into account: (1) existing structure and levels of reporting with minor improvements in the existing business operation and managerial levels at both the HQ and the industries; (2) present decision-making lines, (3) existing resources, infrastructure, resources and the IT initiatives which are being undertaken by the conglomerate; (4) existing manpower and organisational culture; (5) expressed motivation and perceived usefulness of CI for SDM by both the management (CI clients) and CIPs and finally (6) assuming improvements will be made by the case conglomerate based on the proposed structure and the CI programme implementation strategy framework provided in Table 7.1 and the general CI platform as suggested in the last two suggestions (#5 and #6).

Illustration 6.1 The crafted structure (model) to organise and coordinate the start-up CI programme in the case conglomerate



1) Central CI Coordination Unit: This unit and the Industry CI Coordination and Management Units in the industries are the only new units that are added in the existing structure of the case conglomerate. This vital component is positioned at the upper echelon of the conglomerate so that it really supports the SDM of the conglomerate and the industries too. The new Central CI Unit can be established by re-defining CI roles, functions, objectives; by improving and restructuring the existing MIS Section found under Strategy and Controlling PCU; and/or by making active the proposed Business Intelligence Competence Centre (shown on the "As-Is" structure, Figure 2.1). The BICC can contribute to an understanding of the culture of the organisation and to leverage it for its best advantage, so that the strategic use of information becomes a core competency for the organisation (Bogza & Zaharie, 2009).

The CI system must be able to serve senior managers at corporate, business and divisional/regional levels (Farrell, 2007). Thus, there should be a dedicated CI unit as a central coordinating point for receiving competitive information and disseminate intelligence in the organisation (Fouche, 2006: 19-20). This CI structuring model recognises that the best place to take ownership of CI application is within the business unit.

The core activity of the Central CI Coordination Unit is creating CI and SDM synergy in the whole conglomerate. The synergy in aligning corporate and SBUs strategy is important because it provides a competitive advantage for the conglomerate at the corporate strategy level. The unit performs direct CI collection, evaluation, analysis and centralised CI storage for intelligence that will be received from the different CI collection networks of the subsidiaries. The networking, sharing and/or dissemination of CI is made between the central CI unit and network of subsidiaries (mainly through each Industry's CI Coordination and Management Unit).

In general, the central organisation will work closely with upper management of the conglomerate to identify specific intelligence requirements and translate these needs into tasking strategic intelligence collection operations that will be carried out by subsidiary organisations. In applying a central CI coordination unit, the intelligence coordinator has a multi-function role. It may include: acting as a catalyst (a change agent) in the development of the organisation-wide intelligence system; coordinating 'network' issues; directing and monitoring the intelligence function; ensuring that the intelligence needs of the CEO and other senior managers are being met; providing centralised resources (e.g. external research and consulting firms); training of intelligence personnel (Bernhardt, 1994); creating CI

networking and liaising with external stakeholders (including actors of the difference value chains, customers); and initiating strategic issues discussions and sharing among the industries.

Parent firm HQ play an important strategic and political role in facilitating knowledge flows to subsidiaries and newly acquired business units within the company (Martinkenaitė-Pujanauskienė, 2015). Furthermore, according to CI best practice literature, the parent company shall also help business units help themselves. This is possible by defining and publishing detailed guidelines—including processes, information sources and resources—available to all business unit professionals in need of CI (Williams, 2002).

2) Industry CI Coordination and Management Unit: The Industry CI Coordination and Management Unit may be re-organised taking the existing Manufacturing Clustering Department and the Industry Technology Excellence Centre and shall closely work with the other functional units (e.g., Planning/Strategy Office, Marketing & Sales Department and R&D Department) which have larger CI contribution to the industry and to the conglomerate at large. This unit liaises each industry with the Central CI Coordination Unit and other same units in other industries on issues of strategic intelligence and tactical intelligence, respectively. It also plays a hub to transmit and exchange CI among all the factories found under each industry and among the other industries.

***3) CI authority relationships*:** The functional CI authority is cascaded among the Central CI Coordination Unit, the Industry CI Coordination and Management and the Planning/Strategy sections that are found in the industries. These units can be called "CI dedicated units" because their core activities are connected to CI collection, sharing and networking.

The Industry CI Coordination and Management Units shall have direct line authority on the MIS sections. This is because the MIS section is already found in this unit and is already performing CI-related activities. Each team in each factory and each factory under each industry is responsible to collect grassroots CI and report same to each Industry's CI Coordination and Management Unit. The CI collected by the factories will be sorted, refined for their strategic purposes and then reported to the Central CI Coordination Unit or shared with the other industries using the IT or BI platform.

4) Strategic intelligence collection, reporting and sharing: Best practice in CI recommends the transfer of knowledge and best practices among divisions of a conglomerate. One means of CI actionable is the ability to share and transfer CI lessons learned and best practices throughout the corporation. Moreover, the CI sharing among the SBUs is also vital for

internal benchmarking, which allows network of SBUs share best experiences in technology transfer, customer handling, operations and even leadership (Williams, 2002). Thus, the industries require coordination from the Central CI Coordination Unit to align with the group's overall objectives this is because the best results for strategy formulation for business units are derived in companies with a collaborative approach (Sammut-Bonnici and McGee, 2015).

For companies that compose integrated SBUs like the case conglomerate, effective vertical integration strategies need to reflect both business unit and corporate level strategy requirements. To realis effective vertical integration in the value chain, the responsibilities and roles (in sourcing, processing, interpreting and reporting CI) of CI champions in SBUs and the CI Centre should be clearly stated in the CI Governance and Policy Manual of the Company. The activities that may be specified in either organisation structure manuals or CI Policy Guideline of the conglomerate may involve issues like: SDM and CI decision-making authority; boundaries of autonomy; levels of decision-making; CI responsibilities/activities; scope of CI collection for SDM and other decision purposes; CI sharing and integration among the industries and between the HQ and the subsidiaries. These guidelines should be created and made available across business units. Besides, the Central CI Coordination Unit and the Industry CI Coordination and Management Units shall establish formal strategic agreements on responsibilities of collecting and sharing strategic intelligence between corporate-level management and business-level management. Central control and governance of CI are essential in terms of providing policies, procedures, guidelines and standards for the process (Fouche, 2006). According to Fouche, responsibilities and roles (in sourcing, processing, interpreting and reporting CI) of CI champions in SBUs and the CI Centre should be clearly stated in the Governance and Policy Manual of the Company.

Each industry's CI Coordination and Management Unit, PCUs (at the HQ), Functional Departments and Factories (at each industry) should have their own responsibilities to collect and share strategic intelligence through the Central CI Coordination Centre. The subsidiaries have also a responsibility to source, analyse and disseminate any type of CI pertaining to their own area. For instance, each industry or factory under each industry may collect competitor intelligence for its own. This intelligence may not be shared to the Central Coordination Unit at the HQ just for the purpose of sharing. Tactical intelligence can be shared via this centre only when it is found to be useful to all or any one of the industries of the conglomerate. Each department or unit at both corporate level and industry level can do the same. For instance, research and development departments require technical and patent information while marketing and sales departments require competitor and/or market-driven intelligence.

5) General suggestions for the CI/BI platform: The CI structuring model which is found suitable for the conglomerate is a hybrid system that combines attributes of both centralised and decentralised systems. Decentralised, coordinated networks have to develop when the company wants to better address the company's diverse intelligence needs; capture the realisation that all employees are not knowledgeable about every area of the business and use of resources and personnel which exist throughout the company (Begg, 2007). In a hybrid form of CI structuring, intelligence methodologies for the collection and analysis of information are fairly consistent throughout the conglomerate. This structuring builds synergies across the subsidiaries in order to minimise IT duplication, increase IT standardisation and achieve economies of scale (Queiroz et al., 2018). This will eliminate the existing practice of separate acquisition of ICT infrastructure and software by the industries of the conglomerate.

Therefore, as a knowledge-based company whose industries/subsidiaries are vertically integrated, the conglomerate shall select the right conglomerate–shared data centre or BI structure. The CI/BI platform shall provide enough uniform data and systems to keep the CI resources from splintering into a thousand pieces, preserving an enterprise view critical to top executives (Eckerson, 2011). The developed CI platform or hub or IT/BI platform can be used for activities which involve routine report generation to an activity embedded in strategy development. The hub provides the common vision and roadmap across the company. On the IT/BI platform, the industries will populate the intelligence which they consider has strategic value or if the specific intelligence need to be shared with the needy subsidiaries. Each industry can also retrieve CI for either SDM or tactical decision-making purposes. The Central CI Coordination Centre is also responsible to refine the strategic intelligence which is useful for corporate SDM and tactical intelligence (that can be used by any industry) using the available platform.

The alternative "CI Federation of Subsidiaries" is presented if the conglomerate follows a portfolio model whereby each industry strives to maximise its profitability or financial returns. While the structure is same to the proposed main structure, it is used when each subsidiary has its own CI system but sell CI to the Federation so that the subsidiaries work synergistically to optimise sales across an overlapping customer base. In this model, the business units sell similar–but distinct– products, business units must work synergistically to optimise sales across an overlapping customer base. Here, the corporate CI team manages the entire CI stack and creates tailored reports for each business unit based on requirements (Eckerson, 2011). However, since the strategic approach of the conglomerate is not in the portfolio perspective, this option cannot be used in the present time. The crafted structure is

feasible to a conglomerate whose focus is on developing core competency of the whole conglomerate considering the conglomerate as one competitive object.

It should be noted that the optional CI Federation could be used to facilitate vertical integration between the subsidiaries and the conglomerate and among the subsidiaries serving as a platform to organise CI forums across the conglomerate.

6) CI programme initiative team (and virtual team): A CI Programme Initiative Team shall be formed to design the start-up CI programme (along the CI policy/guideline); select suitable CI software and primarily initiate and launch the start-up CI Programme. This team can later be reorganised into a Virtual Team so that it will facilitate, coordinate, perform CI sharing across the conglomerate, maintain and improve the CI programme in a continuous way. The virtual team may consist CI champions, CIPs from each industry's CI Coordination and Management Unit; CIPs from the Central CI Coordination Unit, CIPs from R&D PCU & CIPs from the Commercial Operations (Technology Management Unit) and CIPs from the Strategy and Control PCU.

The start-up CI team are also called CI champions. A CI champion driving the process is one of the fundamental issues which a CI programme should address (Havenga & Botha, 2003). A high-ranking champion of CI is essential (Barnes & Deans, 2007). Further, beyond creating champions, Muller (2005) suggests that companies should appoint CI coordinators throughout the company and should provide incentives for those who participate actively in the CI programmes (Farrell, 2007). Muller (2005:584) also suggests the following: "Establish a central pooling point of information in the company…Companies should appoint CI co-ordinators throughout the company."

Chapter Seven

Conclusions and Recommendations

For convenience in presentation, the conclusions are organised in line with the research questions.

7.1 Conclusions

This section presents overall conclusions for the case conglomerate and its subsidiaries.

General understanding, perceived usefulness and status of CI (Research Question 1)

The formal organisation manual already outlined different CI and CI related issues such as environment, technology and market scanning and the relevant strategic issues. Nevertheless, any of the functional descriptions had not stated the CI function using the exact 'competitive intelligence' term in the document, except an indication of a Business Intelligence Competence Centre in a long-term roadmap of the conglomerate. The Business Intelligence Excellence Centre, located under the Strategy and Controlling Principal Corporate Unit (PCU), had no functional description of its own that could guide its contribution and duties in collecting, storing, processing and producing CI for SDM or to serve the strategies of the case.

Qualitative results also indicated that there were duplication of efforts regarding CI collection and production since the CI-related activities and functions were outlined to Corporate R&D, Marketing and Sales, New Business Development and Strategy and Controlling PCUs to have dual responsibilities (dual roles with other functions) in performing this function.

Overall results show significant differences in observations or understanding or both respondents regarding the practice and status of CI in their respective organisations and in the conglomerate (as case company). Because participants had varying knowledge about the department whose major duty was to produce and supply CI for management's decision-making, they could not clearly indicate a specific CI responsibility centre/unit. Failure to specifically indicate or find a specific CI responsibility unit at the industries could be associated to a lack of clarity on the functions and roles of CI, which induced the management to use CI in an arbitrary way to support its decisions.

The ambiguity regarding the CI responsibility centre and CI roles for SDM purposes was also evident in Corp-HQ since there was no a formally defined and communicated CI role and/or

CI reference manual for use by CIPs (CI personnel/experts) and CI users. From the results, it can be concluded that CI was found and practised in an informal or quasi-formal way (as also perceived by higher officials).

SDM, based on CI, was affected by the lack of clear definition of the roles and objectives of CI in the case. Lack of clear description of purpose, functions, objectives and roles of CI in SDM and the failure to align CI objectives with the conglomerate's overall objectives and directions could be seen as a gap to consider in the case. The response variations among the sub-cases also resulted due to the absence of a formal document that clearly outlines the roles, objectives and functions of CI. Further, failure to communicate the what, why and how of CI might have its own influences on other CI-related issues or main constructs of the study (i.e., CI collection and CI usage for SDM). Thus, had it been employees well communicated the CI-related functional descriptions provided for more than four departments found at the HQ and the same number of departments at the industries, less variation among the answers of participants (sub-cases) would be observed.

Regarding perceived usefulness of CI, all the interviewed officials were very concerned and interested in starting a formal and systematic CI programme in their organisation and in the case conglomerate as a whole because the application of CI concepts and practices were found to be critical for their conglomerate. As a result, they were very interested in taking part in the interview and had provided all the necessary support and cooperation for the study. It is possible to conclude that there was a high degree of perceived usefulness in CI.

Finally, variations in understanding of CI concepts and the CI function, management's perception in application and usage of CI, CI collection (collecting CI in fragmented and irregular way of collection) and ambiguity in locating the CI responsibility centre, inconsistent way of CI usage to support either strategic, tactical or other business decision-makings had resulted because of lack of defining the CI role and practising CI in an informal and quasi-formal way by the conglomerate and its industries. However, it is clear that many factors (such as people/workers, management thinking/perspective and generally many other internal and external factors) can influence or affect the use of CI in different firms.

CI collection, scope and value in the conglomerate (Research Question 2)

Despite irregular, fragmented and non-systematic CI collection, the corporate strategy guided the collection and use of intelligence for both strategic and tactical decision-making; and it was taken as a single reference for CI collection and decision-making by both the conglomerate and the industries. Other than the conglomerate's strategy, no clear

determinants of environmental scanning behaviour had been found in the case and in each industry. CI collection was thus seemingly limited to certain key intelligence topics in the case and sub-cases, which were implied from conglomerate's grand strategy. Since CI collection was made in an arbitrary way and there was no a formal CI policy or guideline, equal emphasis was not placed on collecting CI for decision-making by the industries and Corp-HQ. For example, Sub-C barely collected technology intelligence, stakeholder intelligence and competitive market intelligence to support its decision-making.

Based on the core strategies of the case (technology transfer and learning), more emphasis was placed on collecting CI using different CI tools in order to make specific technology related decisions like technology selection, acquisition, transfer, custom production and new business/product development. Technology intelligence and search from informal and formal sources (using open sources, formal R&D, reverse engineering or knock-down, benchmarking, strategic alliances, licensing, joint-production, turn-key arrangements, foreign intelligence and direct acquisition of plans from abroad) were the priority CI activities practised at the HQ. This clearly implies that the scope of strategic intelligence was inclined to the collection of technology intelligence more than any other intelligence at corporate level.

In spite of the emphasis on technology intelligence, the available CI products were practically used to make both strategic decisions and tactical decisions. Regression analysis for the technology intelligence (explanatory variable) has almost equally impacted two separate predicted variables (SDM and tactical decision-making). Thus, CI was mostly used to make both tactical and strategic decisions concerning technology transfer and new product/business development.

Scope of CI at the industries: Since the sub-cases are industries of a conglomerate operating in their respective industries and markets and since technology transfer was given high priority in the strategy of the case, frequently collected CI and the associated key intelligence needs of the industries were mainly technology intelligence and industry intelligence.

In principle, the determination of specific key intelligence topics (KITs) and the actual collection of CI were at the discretion of the semi-autonomous industries since they were largely guided by their industry context, market and strategy implementation approach. Thus, according to the degree of autonomy the industries had and the present SDM process of the case, the industries focus on tactical intelligence and intelligence that would help them implement the grand strategies of the conglomerate. Due to this, in addition to technology intelligence, the industries were expected to perform industry/market analysis,

stakeholder/customer intelligence, supply chain and value chain intelligence, production/manufacturing intelligence. But the CI collection was not performed in a structured and continuous way; and CI was practised at different levels of focus based on the context of each industry and its management's understanding and usage of CI for decision-making.

Since the industries were required to draft their own strategy implementation plans, tactical plans and operational plans, they were given freedom to decide on the specific KITs to meet their decision-making needs. Thus, the collected CI or information could also be used either for strategic and tactical decision-making or both. However, for example, the technology intelligence that could be obtained from the HQ and the industries could be used to support tactical decision-making of a specific industry.

These findings clearly indicate the need to consider the strategy of the case conglomerate and industry context in defining CI roles and designing a formal intelligence system at the two levels (HQ and industry level). This might again affect the effort of each industry in collecting and using CI products.

Practically, both the case conglomerate and its industries tended to use both informal and quasi-formal intelligence much more than formal feasibility studies and market research. This attests to CI as being practised in the case without actually using the term 'competitive intelligence' and perhaps even unknowingly.

CI linkages to SDM and other decisions (Research Question 3)

As related to the above discussions on scope and value of CI for SDM, the three regression models (i.e., SDM using CI, TBDM using CI and overall decision-making using CI), wherein all were regressed for the same predictors revealed the following main findings and the corresponding conclusions.

- Technology and/or new product intelligence, stakeholder intelligence and competitive market intelligence were used in both SDM and tactical and other business decision-making. This finding supports the argument that the level of CI is determined by its use.
- Doing formal marketing research or feasibility study other than CI does not significantly support strategic nor tactical (or other business) decision-making.

- Overall results indicate that each of the four CI categories could generally be used to make decisions on each and every of the decision-making topics (strategic-, tactical-, business- and general decision-making).
- The closer effect of CI collection issues on the three decision-making topics may initiate the need for giving special considerations to enhance the strategic value of CI in the case since present studies explain that CI is strategic by its nature. This concern is also the main purpose of the study.

The similar R-square values for SDM using CI (R^2=.542), TBDM using CI (R^2=.495) and overall decision-making using CI (R^2=.576) explain the variability or impact of the explanatory variables (CI collection) have on the three decision-making topics. This clearly implies that CI collection moderately affected the three decisions. In other words, much has to be done to collect the right CI to support users' decisions and particularly strategic decision-making. This again means that CI should be systematised and structured to continuously support decision-making of users at both the HQ and the industries.

The above statistical results are consistent with the qualitative findings and thus, the results could be further explained by the following qualitative findings. Regarding CI usage for decision-making, it can be concluded that Corp-HQ was found to be in a better position in making strategic decisions than the industries. This could be because the Principal Corporate Units (such as Strategy and Controlling, R&D, Marketing and Sales and New Business Development PCUs) were formally required to collect strategic intelligence, as opposed to the industries and their departments which were not. The top-down SDM process also had its own contributions in the CI collection of the industries, which was more tactical intelligence. The centralised way of making decision by the HQ and the limited latitude given to the semi-autonomous industries to make major decisions had affected their SDM using CI.

There was a problem in using CI for SDM in relation to the degree of autonomy the semi-autonomous status the industries had. Although the industries had some degree of latitude to develop their strategic plans and plan implementation, most strategic decisions were either made by the HQ or required approval from the HQ. This in turn had influenced their CI collection effort and usage for SDM purpose. Regression results further indicate that while CI collection was directly affected by the management's demand or request for CI, SDM was again affected by the CI collection and availability in the case.

SDM and usage of CI for SDM was influenced by the practices of CI collection, CI formality, CI organisation, CI coordination and sharing and CI understanding of users for SDM in both

the case and the sub-cases. Further, CI collection for SDM or tactical/business decision-making was influenced by the degree of autonomy the industries had and the strategy of the conglomerate itself.

Lastly, absence of clear demarcation in making strategic and tactical decision-making between the HQ and the industries had also influenced the contribution of CI for making strategic decisions by the industries. Overall results imply that there was a lack of clarity on parity of CI collection and decision-making, which might have resulted in variations on the degree of CI collection and usage for SDM amongst the industries. In other words, the parity between decision-making and CI efforts should be considered as a factor in order to properly apply CI in the case conglomerate.

CI positioning and coordination to using CI for SDM (Research Question 4)

The conclusions given to this research question are better seen in conjunction with the conclusions drawn to the first research question.

Structure vs formality of CI: Since the industries were formed by the decisions made by the HQ, report to and controlled by the parent company, they had almost similar administration, operational and marketing practices and strategic scope and framework. The industries had been practising almost similar management and share both the pros and cons for they were operating within similar managerial, leadership, cultural and operational contexts.

The study traced CI activities or function from different units in the HQ and from the industries particularly and mainly as linked to SDM. CI was being practised in 'quasi-formal' and 'informal' ways altogether. Both formal and informal sources were used to collect CI. CI functions were described in more than four units of the corporation. Besides, though not actively performing CI tasks and despite its own functional description, there existed a separately dedicated section in the case's organisation manual that would perform the CI function — the Business Intelligence Competence Centre. Since there was no formally outlined CI policy, organisation and administration, CI collection, storage, retrieval and usage were made in an unstructured way. Thus, it is possible to say that CI was found in 'quasi-formal' way because many CI and CI related duties and functional descriptions were already outlined in the formal structure of the parent company but performed in an informal way. In order to effectively implement CI, it is necessary to build a formal aspect of the CI function through policies and procedures, while also promoting the more intangible aspect of conglomerate culture through managerial support. Instilling a formal CI procedure promotes employee awareness and a culture of sharing at an organisation-wide level (Maungwa &

Fourie, 2018; Freyn, 2017; Pugna & Boldeanu, 2013). "Appropriate governance should be introduced to set priorities and align the information use with the overall strategy of the organisation" (Stefanova & Kabakchieva, 2012: 51).

Effect of CI location on SDM at the industries: The MIS section of the industries has been found in the offices of the CEOs and was organised either as a separate functional unit or merged with the Planning office/function. Generally, the MIS section that was structured as a separate functional unit in the industries had played CI storage and dissemination roles better than the same office merged with the Planning function. This indicates the need to form a dedicated MIS unit, which may also perform CI collection, storage, analysis, dissemination and sharing jobs to the industry's management, departments and the factories found in each industry. However, detailed studies need to be made on how this unit as MIS Unit or CI Unit should be integrated or work with the other three departments also performing CI, namely the Marketing and Sales Department, Industry Clustering Department and the Research and Development Department (mainly the Excellence Centre). CI used for SDM was affected by the improper location and structure of the CI function, mainly because of its latent existence in the corporate structure, which was found distributed in more than four different principal corporate units at the HQ and four departments at the industries.

CI sharing: CI sharing was vital to the case conglomerate mostly because the subsidiaries of the conglomerate were highly integrated industries and worked to improve the overall value chain of the conglomerate. Briefly, it can be said that the CI structure and CI sharing between the subsidiaries, within each subsidiary and in the case as a conglomerate directly influenced the of CI and the effectiveness of managerial decision-making. Results further showed that that CI coordination and CI sharing influenced CI collection and management's usage of CI to make strategic decisions.

Effect of CI coordination and structure on SDM using CI: Statistical results also indicate that CI use for SDM was affected by the improper organisation of CI in both the industries and the HQ. From the findings, it can be concluded that the organisation and location of CI had impacted the contribution of CI for strategic and other business decision-makings at both the HQ and the subsidiaries of the conglomerate.

Most questionnaire respondents suggested the carrying out of CI function either by 'all departments' or a 'separate central unit'. Further reference of the open-ended questions given to this item and the qualitative results suggest that these two choices should not be treated as dichotomous. The reason is that, from the qualitative results and overall findings of the study

(or taking references from interview discussions on CI structuring, location, coordination and sharing), it is possible to see the importance of carrying out CI through all departments while coordinating and administering the CI efforts by a centrally managed unit at both industry level and corporate level.

Absence of dedicated CI unit on CI coordination and management: The absence of an actively dedicated CI unit had affected not only the collection of CI for SDM purpose but also the integration of CI efforts or products for corporate-wide and industry-specific strategic decision-making. Absence of a dedicated CI coordination unit at the HQ and within the industries and absence of a formally designed CI guideline had resulted inconsistent way of CI collection and usage among the sub-cases. This would further result in exercising CI for decision-making, but which might not be specifically linked to the case's organisational objectives and strategies or exercising CI just for the utilisation of other (tactical or business) decision-making purpose.

Need for a structured and systematic CI in the Case: Overall results indicated that CI is a business practice which needs to be given due attention by the case conglomerate and its subsidiaries.

To summarise, empirical findings indicated that two major factors influence CI collection and usage for strategic decision-making. CI collection, sharing and usage were highly influenced by the strategic orientation and management structure of the case. In connection with these factors, Case's leadership, management and decision-making philosophies, culture and practices need to be considered to suggest CI implementation for start-up use and CI programme implementation strategy-framework.

Both qualitative data obtained from executives/leaders and quantitative data collected from a large number of respondents (n=134) clearly supported a high degree of perceived usefulness of CI. All the interviewed officials were very interested in starting a formal and systematic CI programme in their organisation and in the case conglomerate as a whole because the application of CI concepts and practices were found to be critical for their company. So, while CI was clearly of interest to the conglomerate, its implementation was lacking.

For a new CI function to deliver a strategic decision-support, its practitioners must have direct access to the decision-makers they will serve (Sawka, 2009). In addition, for the success of a CI program, management should first and foremost ensure that CI should not be a distinct and isolated function—instead it should have the entire organisation engaged in the effort (Bose, 2008).

How can competitive intelligence be organised in a way that enhances the SDM in the case conglomerate and its subsidiaries? (Research Question 5)

The following two sections (recommendations and CI programme implementation strategy) address the last but not the least of the research question by providing suggestions that could enhance the strategic value of CI for SDM, developing a CI programme implementation strategy and crafting a CI organisation or structure to launch a CI start-up programme in the case.

7.2 Recommendations

The Recommendations or CI Programme Implementation Strategy are suggested based on the empirical findings, proof of tested theories, CI best practice issues which are relevant and suitable for the context of the case conglomerate and the issue under discussion.

The recommendations are given by assuming that the case organisation continues to use the present structure to implement CI to better serve its strategic decision-making. Taking this assumption, thus, a simple workable CI Introduction Plan, which can fit into the present structure of the case conglomerate, is suggested.

It is important to note that the CI activities should be integrated throughout the conglomerate and they should be embedded in and aligned with the conglomerate's infrastructure (Farrell, 2007). The conglomerate's existing operating model and culture (Fouche, 2006), structure (Madden, 2001), information systems (Taylor, 2009) and already established communication channels shall be well understood and considered in starting up a formal CI programme or activity. Campos (2006) also states corporate intelligence system shall relate to corporate communication and the decision-making structure (who needs what and how much information while making their decision for their own specific case. Besides, in designing a CI function, a strong focus must be on actioning the available CI and the output of the process need therefore be integrated with the existing decision-making process and mechanisms in the conglomerate (Fouche, 2006).

From the empirical findings, the two major factors influence CI collection and usage for strategic decision-making. These factors are conglomerate's Strategy and Structure. Connected to these factors, case conglomerate's leadership, management and decision-making philosophies, culture and business practices need to be considered to suggest CI implementation programme for start-up use.

The findings clearly witnessed a high degree of perceived usefulness of CI for SDM. Because of this and the above-mentioned facts, the study shall initiate CI implementation in the case by providing a workable CI implementation plan that can fit into the existing structure of the case; and which will be simple to apply and welcomed by the management in a start-up stage of a formal CI implementation plan.

7.2.1 Key suggestions for the start-up CI programme implementation

After considering the above facts regarding the case conglomerate, it is now necessary to outline the following suggestions. Most of the key suggestions are also pointed out in the initial CI programme implementation strategy provided to the case conglomerate in 7.2.2.

7.2.1.1 Conduct a CI audit

The CI audit can be named as "as is" study of the conglomerate and shall be conducted at two levels (Fouche, 2006). A competitive intelligence audit can be utilised to determine the different stakeholders, the services required and the competitive intelligence content required (Fouche, 2006). The groundwork for the CI process is done through an internal CI audit that is primarily a review of the organisation's operations to determine what is actually known (Berner, 2001) and what should be the CI objectives and products for strategic decision-making. Complete assessment of processes, technology and people in the current state has to be done as these will be critical to the success of any changes made to the current environment (Pant, 2009). In addition to making CI audit, best practice companies review the existing business operating model and culture within the company, as this would impact on how individuals and entities would interact with each other and with information. This also provides a view off the existing decision-making processes and mechanisms in the company which would constitute the primary clients for the output of any CI programme (Fouche, 2006).

The study could be done at the two levels (parent company level and subsidiary level) mainly because of the CI-related decisions such as CI collection (focus), CI processing, CI accumulation, CI integration, CI networking and sharing, scope and value of CI for strategic, tactical and other decision-making purposes also need to be re-defined and learned in designing the formal CI programme.

The CI audit dimensions are many which may be decided based on the present nature of the case's context and strategies. Thus, the issues of CI audit may include key intelligence needs and key intelligence topics, formal and informal sources, CI location, responsibility centre,

organisation system, structure, culture, infrastructure, communication system and conglomerate's capability (at parent company, subsidiary and even departmental levels). For this study's purpose, a few issues are outlined in the beginning of 7.2.1, too.

7.2.1.2 Configure CI with the strategy and SDM practice

One major key challenge of CI was aligning key intelligence topics (KITs) to the conglomerate's strategic priorities. The key to a business case for CI is to understand strategy development and where CI will add value. The strategies of the conglomerate had largely guided the KITs and/or CI collection activities and efforts in both Corp-HQ and its subsidiaries. However, there should be clear objectives and descriptions for each CI (topic) to clarify which CI products could serve which specific decision-making. Thus, the case conglomerate shall redefine CI roles, functions and parity of CI with strategy and decision-making. This task should also be cascaded into the industries.

Outline parity of CI with strategy: The strategies of the conglomerate largely guided the KITs and/or CI collection activities and efforts in both Corp-HQ and its subsidiaries. However, there should be clear objectives and descriptions for each CI (topic) to clarify as to which CI products could serve to which specific decision-making.

There should be parity of CI with strategy and SDM since absence of this parity had influenced the subsidiaries directions in collecting and using CI products to support their strategic and tactical decision-making. Thus, the case conglomerate shall define and re-define the CI function in understandable and manageable terms (i.e., with no duplication of efforts) which may involve: classifying CI in terms of strategic, tactical and operational CI and decision-making; focus of CI collection or key intelligence topics (to each industry and PCU); CI collection responsibility centres and PCUs; and parity of CI with decision-making.

Align strategic and tactical CI: Best-practice companies realise the trade-off between strategic and tactical intelligence and work to keep them in balance (Madden, 2001). CI roles assigned must be significant and integral to business functions at the tactical and strategic levels where it can positively impact business performance (Barnes & Deans, 2007). All intelligence functions and products should be aligned in the organisation.

Also connected to the above 'parity' issue, the case conglomerate shall clearly demarcate strategic and tactical decision-making, which will ultimately help to align tactical decision-making and CI collection with SDM and strategic intelligence collection.

Align CI efforts to SDM: Strategic intelligence emphasises its relationship to SDM and business and/or product development (Campos, 2006). Thus, the key intelligence needs should focus on issues considered critical to the success of the conglomerate (Havenga & Botha, 2003).

Strategic intelligence will have significant contribution to enhance the SDM of the conglomerate and its industries and thereby enhance their competitiveness in the short-, medium- and long-term metal and engineering industries in Ethiopia. Since CI by its nature is strategic, the CI collection and processing in the case conglomerate shall focus on strategic intelligence.

7.2.1.3 Design CI policy and CI strategy

Intelligence requires appropriate policies and procedures so that employees may contribute effectively to the intelligence system as well as gain the benefits from the intelligence process. However, there was no formal CI policy and objective that could be communicated to the large staff of the conglomerate. In order to effectively implement CI, appropriate standards and procedure in determining key intelligence needs must be developed. Such needs must be contextualised against organisational operations and strategies. Moreover, the appropriate standards and procedures must be tailored according to the context in which intelligence needs to be collected (Maungwa & Fourie, 2018: 382-384).

Guideline information may cover a wide array of resources, ranging from ethical CI policies to analytical frameworks and methodology, to internal points of contact and resources available to assist CI users with their respective information needs. As related to this study, the case conglomerate may develop, at least in the long-range time, a CI policy to guide the CI collection, storage, transfer, sharing and decision-making of the industries and the principal corporate units at the HQ; the parity between CI collection and decision-making; employee motivation; and even counter intelligence.

Furthermore, the CI and CI unit shall be integrated and aggregated into the whole organisation's system to have a clear strategy of CI which would support and is in line with the overall strategy. Thus, the case conglomerate shall design CI policy and strategy taking into considerations of the existing strategy and strategy development process of the case.

7.2.1.4 Configure the CI system into the existing infrastructure, communication channel, capability and culture

An appropriate intelligence programme should be designed to meet management's needs, keeping in mind that the system should be thoroughly aligned with and fit into the organisational culture and structure (Bartes, 2013; Bose, 2008).

As connected to the above facts, the following are suggested to the case organisation.

Develop and use the existing IT infrastructure: It is important that the CI activities be integrated throughout the company and it should be embedded in and aligned with the company's infrastructure (Farrell, 2007). Although it is usually feasible to use a common database and sources of information, a conglomerate should adopt and deploy a technology framework that can display a unique and relevant set of information sources, news and analysis to each business unit.

The conglomerate may install a new ICT support infrastructure for storage and retrieval system for CI; and CI deposit/reporting, dissemination and sharing for the industries. This support system shall be configured in all the industries, factories and in all existing departments. This is because, for example, both at industry and corporate level, the technology acquisition activities seem to have confined to the technology transfer contractual agreements. However, each bit of information or technology intelligence should be stored in and shared from this server or database to all key units of the conglomerate.

Attempts should be made to configure the CI function with the already existing IT tools, software and the MIS system development study that was being undertaken by the conglomerate. The case conglomerate was applying the following software and IT tools: VPN (Cloud of the conglomerate), ERP Fleet System, LAN/FTP and Email sharing, Materials Requirement Planning (MRP), Manufacturing Resources Planning (MRP) and Enterprise Resource planning (ERP).

Fit the formal CI with informal CI system: Early CI practices were more likely to be unstructured, with managers relying on their human resource network to provide them with information and insight into relevant developments (Muller, 2007b). Even a well-structured CI system uses both informal and formal channels to help decision-making. CI activities already existed in the case conglomerate in an informal and quasi-formal way. Thus, in starting up an introductory CI system, the case conglomerate needs to pay equal attention to both formal and informal processes.

Transferring military intelligence know-how into CI: The fact that the conglomerate is staffed by high-ranking military officials, it can be taken as its competitive advantage with respect to transferring and employing military CI capability for easy start-up and use of the CI programme in the conglomerate. As per the literature review (Roche & Blaine, 2015; Govoreanu et al. 2010) and the existing situation in the conglomerate staffed by military officers with little training, the conglomerate can have the required number and qualification of its military staff to run a formal CI function throughout the conglomerate. However, to execute and manage the activities and responsibilities required from a CI unit, the CI professional, or manager of the CI unit, must have specific competencies (Farrell, 2007).

Promote CI culture and involve employees in CI implementation: CI, like a competitive culture, should permeate the whole company and requires participation and contribution from every employee (Du Toit & Muller, 2004). Cultural values such as information sharing, willingness of decision-makers to welcome feedback from staff, responsiveness to marketplace changes and the willingness to adjust organisational processes to address these changes (Kruger, 2003). Internal employees may serve as the important source of intelligence for management should a systematic CI system be in place (Yap & Rashid, 2011). The case conglomerate could strengthen the already developed and formally stated values of the conglomerate, which are team working, idea sharing, innovation, group decision-making and free thinking for the benefit of the CI programme execution.

Related to the above, empirical findings witnessed the presence of motivated staff to use CI if enabling system is to be created in the conglomerate. Best practice companies develop ways to make CI a part of everyone's job (Fleisher & Bensoussan, 2003; Madden, 2001). Best practice companies develop ways to make CI a part of everyone’s job (Madden, 2001). Since a common denominator in successful CI programmes is the involvement of all employees in the intelligence function (Prescott & Miller, 2001), as much as possible, all employees of the conglomerate shall be communicated and participated in the CI programme implementation.

7.2.1.5 Start from small and implement CI programme using a phased approach

The whole lifecycle of the CI system must be characterised by planned and phased development (Farrell, 2007). By starting small, with a few highly specific problems, an efficient and effective working relationship can be formed gradually between the intelligence function and upper management before permanent intelligence processes and systems have been locked in (Roche & Blaine, 2015). Besides, companies must recognise their limitations and be prepared for the length of time it takes to develop the necessary components for a

successful CI programme. Time is required for CI to become institutionalised and integrated into a company's culture and to allow the processes and practices to be adopted and incorporated (Madden, 2001).

As connected to the above facts, the following are suggested to the case organisation.

Use phased CI implementation approach: The beginning of a CI effort is more characteristic of a "Big Bang" than an orderly process—being emergent rather than structured. The initial CI service does not have to be perfect. Rather, it should be useful, serving as the start point from which refinements can be undertaken (Madden, 2001). An evolutionary (APQC, 2003; Bernhardt, 1994) and prototyping approach (Madden, 2001) is used the most effective CI units started as pilot programmes. A new CI programme should be characterised by planned and phased development (Bartes, 2013), for example, to implement the necessary technology systems (Roche & Blaine, 2015).

This study also recommends a phased approach of CI implementation especially since the case conglomerate is a novice conglomerate—new to CI concepts, structure, processes and CI support technologies. The case conglomerate shall also follow a phased approach by considering the available infrastructure, structure, maturity and CI collection and utilisation capability and grow gradually to the level of establishing a structured, systematic and complex CI system. The CI system shall also be aligned with the subsidiaries' maturity in utilising CI for SDM.

Get support from management: As also indicated by most participants of the survey, the CI application shall get full support from the top management of the HQ and the industries. The conglomerate's top management must commit to, see the value of and integrate CI into the conglomerate's decision-making process. Lack of support and recognition for CI by top management usually result in failures to many CI programmes. CI is a top management function (Kruger, 2010). Top management's concern and attention to CI is a prerequisite for successful competitive intelligence function (Du Toit & Muller, 2004).

Study, select and employ CI best practices: Lastly, companies could start applying CI and improve their CI system following best practices and benchmarking CI from similar companies successful in their CI system and administration.

7.2.1.6 Craft and configure CI into existing structure

As any CI or information system develops within the existing organisational structure, so is CI. The start-up CI programme implementation shall consider the existing structure of the conglomerate at least in the initial stage of the CI programme implementation.

The integration can be made by modifying and re-defining CI roles, functions and objectives to the PCUs; by improving and restructuring the existing MIS Section found under Strategy and Controlling PCU in the newly formed Corporate CI Coordination Unit; and by crafting and making active the proposed Business Intelligence Competence Centre.

Create a dedicated CI coordination unit at HQ: The nature of the conglomerate (its strategic directions, structure and value chain strategy or subsidiary integration), necessitates the creation of a central CI coordination unit at the headquarter. It is only possible to effectively create networking among the subsidiaries of the conglomerate and between Corp-HQ and subsidiaries using this central coordination unit. Most literature and best practices also suggest this approach of organisational setup for conglomerate entities. This organisation is best to recommend specially to conglomerates whose focus is on developing core competency of the whole conglomerate considering the conglomerate as one competitive object. This approach seems quite the same as the approach the case conglomerate uses, which is against the portfolio perspective of managing multiple subsidiaries or SBUs wherein each of them is striving to improve its own efficiency and financial returns/profitability.

Create a dedicated CI unit at each subsidiary/industry: Effective CI presupposes the existence of a dedicated CI unit that ideally has a central location supported by decentralised function-specific entities throughout the company (Rouach, 2004; Behnke & Slayton, 1998). Industry-specific CI collection, storage and coordination are only possible by creating a CI dedicated and coordination unit. Although the four major CI supplier and user departments displayed in Illustration 6.1 (customised CI structure) have different focus on CI collection (such as customer, competitor, product and market intelligence by Marketing and Sales; supply chain intelligence, market, product and operations intelligence, by the Industry Clustering Department; and operations, new product, technology and strategic alliance intelligence by the R&D Department), there is a need to integrate the intelligence through another or a separately dedicated organ which might have to play a coordination role.

Not only the newly proposed dedicated CI unit should perform the CI administration in the industries, but also it has to play a significant role in networking the factories within the industry and in exchanging CI in different topics of interest. As depicted on the crafted CI

structure (Illustration 6.1), this exchange of CI sharing may be carried out through the Central CI Coordination Unit. Thus, this CI dedicated unit shall be integrated with the Central CI Coordination Unit established at the HQ. This way of CI organisation might largely help the case conglomerate and its industries in enhancing their decision-making through exchanges of intelligence on technology, value chain, benchmarking, customers, competitors and the like.

Meanwhile, the formation of this unit is unquestionable since its supports are not limited to each subsidiary which is operating in specific market/industry. This industry level CI unit should be effectively connected to the Central CI Coordination Unit so that it will play its role in providing and sharing intelligence, which is vital for SDM of a conglomerate which follows a core competence perspective (i.e., whose focus is to enhance overall conglomerate performance than watching for individual division performance).

Create networking and CI sharing amongst the subsidiaries and other stakeholders of the conglomerate: A subsidiary's capability to transfer knowledge throughout an organisation also depends on its ability to form favourable internal network linkages with other subsidiaries and headquarters as well as its own external network linkages within the local environment (Barner-Rassmusen & Bjoerkman, 2002; Birkenshaw, 2001). Thus, organisational structure and culture need to be arranged so that communication occurs across business units. If an organisation is not already communicating cross-functionally it will be more difficult to implement an effective CI programme (Madden, 2001). Studies indicate that defining the right CI sharing channels and networks among the interconnected subsidiaries or SBUs would result better effectiveness in decision-making and overall parent conglomerate performance.

For vertically integrated conglomerates which have many big divisions like the case conglomerate, a central coordination unit may not be sufficient. For 17 integrated industries of the conglomerate (i.e., each industry comprises at least even value chained factories), it is recommended to have a regular forum to discuss intelligence and share information. The case conglomerate already had a practice of knowledge sharing forum in the past. This forum could be resumed using the proposed Central Coordination Unit at the HQ.

Create synergy and transfer of knowledge and best practices: Corporate strategy seeks to develop synergies by sharing and coordinating staff and other resources across business units. Strategic Intelligence would promote a culture of teamwork, the sharing and contribution of information, including its re-use, and the continuous empowering of employees at all levels of the organisation (Kruger,2010). Thus, CI requires not only solutions for the gathering and

analysis of information but also systems to ensure the resulting intelligence is stored in a manner that makes further analysis, retrieval, and distribution an efficient process that encourages intelligence sharing.

The conglomerate's industries are linked to a supply chain and networking approach giving priority in adding value to the products. A number of industries are found in closely related subsidiaries and targeted for the value chain strategies (conglomerate integration) of the conglomerate in the metal and engineering sectors and technology (including the plastics industry). In line with the conglomerate's strategy to link the different industries in the value chain, these industries (and the entities under them) are, however, expected to work with one another in order to get the utmost values. This is done by forming an effective value chain in the conglomerate. Japanese conglomerates are considered to be model conglomerates to the case organisation. Japanese workers actively share knowledge seamlessly, not only within their firms, but also in large networks of allied firms in the *keiretsus* (Tu, Kim & Sullivan, 2002) and all of these firms are noted for the application of CI practices and principles to their marketplace competitiveness (Fleisher & Wright, 2009).

The more SBUs a conglomerate has, the more it requires a coordinated information system capable of coordinating its businesses portfolio. Another element of making CI actionable is the ability to share and transfer CI lessons learned and best practices throughout the conglomerate. Best-practice organisations transfer CI and best practices through such mechanisms as: periodic forums, knowledge fairs, road shows, discussion groups, e-mail and distribution lists, CI champion teams, rotation of staff in and out of CI, CI Centres of Excellence (like what is being formed in R&D departments of the industries and in the Roadmap of the Case) and CI databases and intranets (Williams, 2002).

Make visible the CI unit and function: Two critical challenges mentioned in CI implementation in the case were related to lack of frequent communication between CI gatherers and users; and the location of CI at both the HQ and subsidiaries. The relationship the CI team has with the decision-makers is very important. Intelligence units should be highly visible components of corporate organisations (Du Toit & Muller, 2004; Wright et al., 2002). Intelligence units should be located organisationally so that they have strong links to other parts of the enterprise (Miller, 2000).

As can be shown on the crafted CI structuring model in Illustration 6.1, the CI units at both the HQ and the industries shall be placed very close to the top management and shall be visibly integrated to each major supplier and users of CI. This structuring facilitates CI access,

quick sharing and retrieval of information to the CI users. In other words, appropriate CI positioning in the case conglomerate will ultimately enhance users' CI usage and strategic decision-making.

The CI functions should be visible in the units and departments by clearly stating CI-related roles to each functional unit and employee and through effective awareness creation programmes or communication.

Finally, no single study is made to demonstrate and validate the application of CI use for a specific strategy of a conglomerate in Ethiopia. In a similar vein, the findings of this single-case (however multiple units) study will certainly enhance understanding and contributes to the literature of best practice. Cases like these ones are also needed for validating the results of previous assumptions made about intelligence structure and implementation. The idea of an integrated intelligence scheme is proposed by many authors but its proposed or actual structure is unknown (Dishman & Calof, 2008). Thus, before the results of the study are generalised for Ethiopian large enterprises, further study is necessary.

7.2.2 CI programme implementation phases and key actions

CI is a structured approach to gathering, analysing and communicating data to make informed business decisions. Organisations should set up a formal CI unit to systematically organise the CI function (Yap & Rashid, 2011). Organisations who have succeeded in implementing an effective formal and structured CI process focusing on critical issues will have a competitive advantage over their rivals (Havenga & Botha, 2003). The formalisation of a CI system increases the probability of informed decision-making, as managers usually have easy access to this organisational function and can use its input to make quality decisions (Colakoglu, 2011).

However, there are several key requirements necessary for a best practice CI programme (Barnes and Deans, 2007). Irrespective of the rationale for the deployment of CI in organisations, requirements is critical. The requirements set the direction and helps determine value, as well return on investment. According to Dugal (1998) requirements are important in order for organisations to ensure that the CI function fulfils their specific needs, whether for internal customers or external clientele. The requirements for selecting and implementing CI products are different from both business and technical perspectives. Further, the requirements differ from one organisation to the other (Iyamu & Moloi, 2013).

A closer study to this study was made by Fouche (2006) whose ultimate objective was to assist South African organisations to improve the implementation success of a CI programme. Fouche tried to recommend an optimum implementation model. From Fouche's research it is clear that there is no single approach to implementing a competitive intelligence programme as it is heavily dependant on the objective, the company culture and business model and the resources at the disposal of the company. Besides, companies should recognise that implementing a competitive intelligence programme can take considerable effort and time, perhaps as much as three to five years (Institute of Management Accountants, 1996).

A tangible output expected out of this study for one of its main objectives is to demonstrate how CI could be initiated and considered by the case conglomerate in the actual implementation which would certainly enhance the conglomerate's strategic decision-making. The recommendations (7.2) and CI Programme Implementation Strategy of this section are suggested based on the empirical findings, proof of tested theories, CI best practice issues which are found to be relevant and suitable for the context of the case conglomerate and the examined fact on the ground. The CI programme implementation strategies are provided to the case conglomerate ('CI Novice' Corporation) to start-up a simple formal CI system.

The study finds it suitable to suggest the CI programme implementation strategy in three stages. The analyses should be a detailed one in actual CI introduction movement in the case conglomerate.

Phase I: Pre-programme implementation
- Pre-start up considerations
- Make CI audit and capacity assessment
- Redefine or set CI objective, roles and functions
- Develop Action Plan

Phase II: During-programme implementation
- Create awareness about CI and the Programme
- Align the CI programme
- Develop CI policy or guideline for actual use
- Make Yes or No or process control (to take corrective measures)

Phase III: After-programme implementation
- Evaluate Programme effectiveness
- Improve the start-up CI programme (as part of the programme)
- Institutionalise the CI programme and culture
- Improve the CI programme in a continuous way to become a fully-fledged and standardised programme

The strategies (and steps) may not be strictly applied and shall be followed by taking considerations on the context of the conglomerate and realities on the ground. Details are presented on the next page.

Table 7.1 Strategies and steps to start up of a formal CI Programme in a 'CI Novice' Corporation

Stage I (Pre-programme implementation)	Stage II (During-programme implementation)	Stage III (After-programme implementation
Pre-start up considerations: • Be ready to implement the programme • Create a business case and establish context since there is no single approach to implement a CI programme in all organisations (i.e., consider conglomerate's context, structure, strategy and SDM practice) • Obtain support from stakeholders, especially the top management • Assess CI readiness of the organisation and identify related gaps and issues • Sketch/develop a short roadmap to plan, implement and evaluate the CI programme • Once the above tasks are checked and satisfied, make the CI audit ***Make CI audit and capacity assessment:*** • Audit case's business models and core businesses and operations • Audit CI-related decisions such as CI collection (focus), CI processing, CI accumulation, CI integration, CI networking and sharing • Audit the existing scope and value of CI for strategic, tactical and other decision-making purposes • Audit the requirements for CI such as resources,	***Create awareness about CI and the Programme:*** • Educate, involve and motivate employees • Train staff in the CI programme, methods, CI benefits, strategic needs and CI linkages to strategic and any other decision-making • Prepare seminars to build internal CI awareness and develop internal and external human information networks and IT • Discuss with potential CI gathers and CI users in terms of military intelligence concepts, which are the same in many directions to CI concepts, methods, processes and cycle ***Align the CI programme:*** • Align or configure CI with existing structure, strategy, infrastructure, resources and capabilities • Align CI outputs with existing decision-making mechanisms to	***Evaluate Programme effectiveness:*** • Gather feedback on benefits and improvement areas of the Programme • Measure the Programme by set outcomes and emerging success and failure stories • Evaluate the CI process • Validating implementation of the programme inviting key stakeholders of the Programme ***Improve the start-up CI programme (as part of the programme):*** • Use iterative implementation approach with parallel tracks • Coordinate and strive for continuous improvement across diverse business units or subsidiaries • Learn from best practice

Stage I (Pre-programme implementation)	Stage II (During-programme implementation)	Stage III (After-programme implementation
capabilities and infrastructure in the case and its subsidiaries • Audit management's or CI users' needs and stakeholders of the Programme • Audit the structure and culture of the organisation ***Redefine or set CI objectives, roles and functions:*** • Consider the Programme in terms of conglomerate's objectives, structure, culture, core business, decision-making process, human and material resources • Examine CI user needs for strategic decision-makers and departments • Define parity of CI with decision-making for decisions that are possibly made by the parent company (Corp-HQ) and the subsidiaries • Consider issues to design a CI policy manual learning from actual programme implementation and with reference to decision-making process and defined or implied decision-making power in the conglomerate ***Develop Action Plan:*** Plan the actual programme implementation in terms of the following points: • Do a current state, future state and gap analysis • Determine the CI objective and "end state" needs and outcomes • Outline the expected benefits of the CI programme • Plan to conduct detail CI needs assessment • Set up change management procedures or plans • Create a CI framework; establish structure, location and administration; establish a storage and retrieval	ensure action based intelligence • Create CI coordination units at industry and headquarter level along functional descriptions • Consider CI Federation (optional) in the conglomerate to facilitate vertical integration between the subsidiaries and the conglomerate and among the subsidiaries. The CI Federation can be run as one of the coordination function of the Central CI Unit as a Forum • Align or integrate the CI system with the overall IT processes and existing software • Manage the whole CI function and the resources required for it • Manage CI processes, sources and products • Encourage managers or CI users to make more decisions based on CI knowledge and embed CI processes in the organisation culture • Position the entire CI Programme correctly ***Make process (Yes or No) Programme control:*** • Document and analyse the	and benchmarking CI (internal benchmarking from successful units and subsidiaries) • Make the CI process flexible and adjustable ***Institutionalise the CI programme and culture:*** • Enable CI to become institutionalised and integrated into a conglomerate's culture to allow the processes and practices • Institutionalise CI knowledge gained throughout programme implementation • Develop strong intelligence culture among staff or throughout the conglomerate, which could be aided by the existing idea sharing, free thinking, innovation and leadership philosophy of the conglomerate

Stage I (Pre-programme implementation)	Stage II (During-programme implementation)	Stage III (After-programme implementation
system; budget the Programme implementation in terms of time, money and deliverables • Devise different forms and tactics for CI programme implementation • Identify person responsible for the implementation and potential CI champions • Select qualified people to design and execute the programme for start-up use • Consult top management and key stakeholders in the CI implementation • Map the key CI processes based on the audit results and CI needs of the parent company (Corp-HQ), subsidiaries and potential users or departments. • Develop a data and information supply chain throughout the conglomerate and industries in support of the business and decision-making requirements • Examine CI infrastructure and resources in terms of potential to introduce the CI programme using the existing infrastructure, CI storage and sharing • Set "quick-wins" to evaluate the pilot programme • Establish criteria for success and CI performance measurements	constraints and assumptions; success stories and critical issues for re-considerations • Address barriers to execution through a dedicated change management programme • Demonstrate CI benefits and value as soon as possible with reference to the set "quick-wins" and emerging outcomes of the Programme ***Develop CI policy or guideline for actual use:*** • Draft CI responsibility to each corporate principal unit at the HQ without duplication • Develop detailed functional descriptions for departments found at different levels in the subsidiaries • Draft a pilot CI policy or guideline for reference use and/or establish CI governance body	***Improve the CI programme in continuous way to become a fully-fledged and standardised programme:*** • Plan to execute a full-fledged CI programme • Study and adapt suitable CI and BI systems continuously based on lessons from the implementation • Study, select and employ CI best practices in continuous fashion • Study, select, adopt/adapt suitable IT technologies and system for standardised CI system • Over time develop a full range of CI outputs • When right, celebrate success and reward best performers and CI champions

7.3 Limitations of the study

Scholars have not agreed on one acceptable definition of CI. This has led to many definitions of CI that differ because one focuses on certain aspects of CI whilst leaving out other aspects. The complexity of the study starts from difficulty of obtaining demarcation among CI and CI-related concepts and understanding of CI by practitioners, mainly in firms operating in developing countries which have no or little experience in CI. This also means that the borders of the field of CI are not clearly outlined. Moreover, there is no common understanding amongst CI stakeholders (Pellissier & Nenzhelele, 2013). Related to this, at the outset of the present study, a phenomenon that was expected to be a challenging exercise in the study was also the issue of tracing and isolating CI activities in the case organisation and the selected six industries (sub-cases). It was challenging to isolate CI activities or issues from other functional activities for there was no formally defined CI structure in the case conglomerate and the understanding problems the respondents might have encountered on the new concept (CI).

The study also assumed that there were CIPs (CI personnel) and CI users (decision-makers) who would provide the right answers for the designed instruments tailored to these two major groups at the HQ and subsidiaries. However, finding a typical CIPs or CI manager profile hindered uniform identification of suitable respondents for the study. Besides, a few participants were both CI users/decision-makers and CI personnel (CIP). The researcher also discovered that not a few officers were unaware of the study when they were contacted for interviews, and in each case lots of time had to be spent re-explaining these aspects before actually continuing with the study. Understanding of the concept of CI and study's context and explanation required to elaborate terms in the data collection instruments such as SDM and tactical decision-making and the use of CI for each could be mentioned as limitations the researcher encountered during the actual field investigation. In order the respondents (mainly questionnaire respondents) had to understand the new concept, it was mandatory to provide detailed introduction in the data collection instruments and provide adequate explanations to the higher officials who were interviewed. Related to this problem, because it was mandatory to conduct interview with CIPs and SD makers and distribute the questionnaire to the respondents found at HQ and six industries in different times, the explanations provided in clarifying such concepts by the researchers and the extended time respondents had taken to

replying the bulky questionnaires, the study could not be completed in the proposed time of reporting.

Since the topic of investigation is on competitive intelligence and since the case conglomerate is a public enterprise established to facilitate technology transfer and industrialisation of the country by the Parliament, access to privilege data was restricted to the issues of investigation on the consent letters received from the corporation. However, it was possible to access every information that was useful to the study except the contents stored in the audio-visual centre at the HQ.

Notwithstanding the fact that many external and intertwine internal factors influence CI collection, processing, implementation and use for SDM in each sub-unit or industry, it is unlikely to provide a detailed and feasible CI implementation solution or mechanism that is specifically designed for each industry. Moreover, the study had to focus on the functional value of CI for SDM and inclined to assess and then provide a general crafted CI organisation model based on the contexts of the case organisation and CI programme implementation strategy. Put differently, although the study is an embedded multiple units single-case study, it is beyond the scope of the study to make thorough investigation into the process of CI implementation, which might follow a CI process model—common in most CI studies. Put differently, the research method was neither experimental nor longitudinal, making inferences about causality tentative for each sub-unit or industry in the case organisation. This can be the most serious limitation of the model so that it may not be applicable to other large business enterprises since the data analysis and discussion of results present an interpretation of a single case organisation; and therefore, the findings cannot be generalised for other companies and industries. However, Ethiopian companies may benefit from the overall structure mapped out by this study and triggered by the research outputs to introduce a start-up CI programme for use in their SDM.

Being a pioneer study made on CI in Ethiopia, it would be very useful to make the exploration in a number of large business organisations in Ethiopia so that a country-wide evidence could be brought to CI knowledge-base from a developing country in Africa. Despite this reason, it was possible to make in-depth investigation on this single organisation (but comprising six big industries) in a time limited for a doctoral student. Put differently, resource limitations (time and money) have redirected the researcher to conduct the study in a single organisation.

Difficulty of obtaining recent literature that link CI and SDM; and lack of finding very specific empirical studies made in similar organisations (i.e., organisations in the metals and engineering sector) could be mentioned other challenges. Nevertheless, the literature gap in contextual issues on CI and SDM could gave impetus to the researcher to develop MRTs.

"Mid-range theory should be pragmatic and be used until something better comes up; it has also been called currently useful generalisations" (Flyvbjerg, 2006: 13). While this study makes the first contribution in explaining CI and SDM in common contextual domains, the MRT is limited by its own intrinsic features (subject specific and case context). Therefore, the MRTs continue to be propositions till similar studies will validate or develop them into acceptable theories.

Last but most, a key limitation of the present study is in relation to its replicability and verification in real life. The research may be confined to replicate in similar manufacturing companies which have many subsidiaries. Yet, within these limitations the study results will add interesting conceptual and empirical insights to understanding the ways of using CI for strategic decision in big conglomerate with many sub-units (subsidiary industries) and will offer starting points for further research.

7.4 Future study directions

This study is an exploratory, single-case study that used an embedded units single-case study approach made in a conglomerate. A study with this context and feature is not common in business and strategy studies. The study has also come up with a novel way of crafting CI for SDM, which can fit into the existing structure and realities of a conglomerate. The crafted CI programme implementation strategy framework is a workable model, which will enable the conglomerate to initiate and start-up a formal CI programme taking into consideration the existing strategy, structure, capability contexts and enabling factors.

In connection with these facts, future studies, linking CI to SDM in multi-business corporations and/or conglomerates, which may be operating in different business and which may have a different structure to the structure of the case of this study, can be made in the country. Furthermore, since the study is a single study on the discipline of CI and its implementation in the largest conglomerate in the country, a large-scale study can be made to assess the practice and status of CI in a representative number of companies at the national level.

Although the study is a comprehensive one, touching almost all dimensions of CI to propose a CI programme implementation strategy in a 'CI novice' conglomerate, the framework or model is not an exhaustive one for implementation and testing by all large companies. However, utilising the outputs of the study, future studies can be made in representative companies so that a common CI programme implementation model can be developed. Furthermore, more detailed case studies are needed to support the development of an intelligence "best practices" to help firms to become more aware of accepted and successful practices in Ethiopia. Future studies can also be made on CI linkages to tactical and operational decision-makings. Similarly, the study may initiate the conduct of specific studies on CI issues raised in the study such as technology intelligence, strategic alliance intelligence, value and supply chain intelligence, marketing intelligence, competitor intelligence, customer intelligence, foreign intelligence and the like in the case of other Ethiopian companies.

Methodologically, the study can also be taken as a reference point for similar studies on CI and SDM, which may apply the same or different research methods as this mixed method, single case multiple embedded units and exploratory research approach. Similar studies on the topic can be made in Ethiopia from derived propositions of this exploratory research. This will further validate the results of this study.

Future studies using the middle-range theories:

Middle-range analysis is not only useful in synthesising past research findings, but it also provides useful leads for future diffusion inquiry (Rogers, 1983). The propositions and hypotheses can next be used in empirical investigations. In the context of justification, empirical findings can be used to modify and verify the propositions and hypotheses associated with MRTs, thus refining and expanding the scope of the MRT. In turn, the modified MRTs can be used to verify and consolidate general theories and refine and expand their scope (Brodie et al., 2011: 90-91).

"MRTs are developed by applying theory building techniques to empirical research which produce generic propositions about the social world, which afterwards can also be empirically tested" (Jørgensen et al., 2015: 8). No research has been done which empirically show or analyse the contextual issues that CI application and SDM share in common. Thus, the researcher hopes that both theoretical and empirical contributions will inform and motivate future studies which will try to link CI and SDM in different organisation structures and strategy contexts.

Thus, by specifically applying and relating the established concepts of SDM and CI application in a multi-business corporation, context may help to validate the theories of the study. Thus, future studies may contextualise (confirm) or recontextualise or decontextualise CI implementation across subsidiaries of a conglomerate or in different forms of a multi-business company. With regard to the second MRT, future studies can be made on SDM and CI application which can fit into different context-related factors of an organisation. Furthermore, multi-disciplinary studies can be made advancing on the two faces of the same coin contexts—CI implementation and SDM.

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APPENDICES

Appendix 1: Sub-cases (Industries) Background Information

1) Sub-case A (Sub-A)

Sub-A assembles public transportation buses, inter-city buses, heavy duty trucks, pick-ups, small vehicles and multi-purpose military vehicles. In addition to producing and supplying automotive products it is also working on the expansion of modern automotive technology as well as related production facilities owned by private enterprises.

Vision

- To become a competitive automotive industry in the global market.

Mission

- Lead the industrial development of Ethiopia in the automotive sector.

Production Factories

1. Light vehicle production factory
2. Heavy duty truck production factory
3. Power train production factory
4. Vehicle system production factory
5. Body and frame production factory
6. Tank and armoured vehicle production factory
7. Painting factory
8. Bus production factory

2) Sub-case B (Sub-B)

Sub-B is mainly engaged in the fabrication, manufacturing and assembly of various metal-based products; such as construction machinery parts, bus body frames, boats, tower cranes, construction lifters, transmission towers, dismountable houses, forging and pressing products.

It is engaged in the fabrication, manufacturing and assembly of various metal-based products such as construction machinery, bus body frames, boats, tower cranes, construction lifters, transmission towers, dismountable houses and forging and pressing products. This industry out sources and constructs many types of fabrication workshops for micro and small enterprises throughout the country in favour of young producers.

Vision

- Enable the country as a progressive and an industrialised nation through metals fabrication engineering technology.

Mission

- Meet the demand of metals fabrication products by developing the technology and create engineering knowledge networks that can help the country to achieve the development goals.
- Utilising experiences obtained from industry actual activates to hasten national industrial development and perform works that help national economic development.

Objective

- Creating knowledge that support national technology development and satisfy the national metals fabrication industries need for achieving the required national development goals.

Production Factories

1. Fabrication and structural factory
2. Forging and pressing factory
3. Tower crane and lifter factory
4. Industry building UBM factory
5. Boats production factory

3) Sub-case C (Sub-C)

Sub-C is organised incorporating six intuitive factories and it executes different high value activities in order to ensure and enhance industrial machinery technology and address national capital goods demand. Sub-C has yet constructed above 82 Flexible Manufacturing workshops, producing and constructing different machine manufacturing plants throughout the country for new manufacturers.

Vision

- To see prosperous Ethiopia in industrial machines and manufacturing technologies

Mission

- Establishing production factories, build industrial machinery, produce and address capital goods and spare parts under internationally accepted quality and competitive price so as to realise national transformation and development strategic plan.
- Address Federal Democratic Republic of Ethiopia Ministry of Defence demand
- Perform continuous capacity building and technology development activities.

Production Factories

1. Machine Building Factory
2. Material Treatment and Engineering Factory
3. Precision Manufacturing Factory
4. Machine Body and Structure Production Factory
5. Conventional Manufacturing Factory.
6. Bolts and Nuts Production Factory
7. Brake-pad Factory
8. Natural gas Production Factory
9. Bearing Production Factory
10. Actuator Production Factory
11. Machine Automation Factory

4) Sub-case D (Sub-D)

Sub-D is responsible to produce electrical and power products to the mega projects of the government including the Great Renaissance Dam. In many insistences this industry produce items for already defined demand and this demand is usually come from the government (bulk purchaser of the conglomerate's products). Besides, since all the industries are integrated in

the supply chain, most purchase requests come from the other subsidiaries of the conglomerate. Thus, the industry mostly produces complementary products. Sub-D is constructing a number of power generation and electrical grid equipment manufacturing plants all over the country for micro, small and medium scale business associations.

Vision

- Creating a country enriched with power engineering technology.

Mission

- Designing electrical equipment and accessories that are important for electrical power generation, power transmission and management equipment.
- Providing electrical equipment and accessories for the market with designing, producing rebuilding and upgrading works.
- Applying the knowledge and skills of power engineering technology in power industry and development of the nation.
- Creating a superior situation for industry development.
- Working on power engineering industry developments.

Production Factories

1. Distribution transformer production factory
2. Wire and cable production factory
3. Automatic power factor corrector and distribution compact substation production factory
4. Solar panel /PV/production factory
5. Motor and generator production factory
6. Engine production factory
7. Turbine production factory

5) Sub-case E(Sub-E)

Sub-E is established for the purpose of producing and supplying spare parts and capital goods and carrying out such related activities that are deemed important for the attainment of its objectives. Sub-E is formed through amalgamation of six factories. In addition to producing and supplying spare parts and capital goods it also multiplies itself by constructing such factories throughout the country and transferring to different enterprises.

The industry produces a wide variety of high- and low-precision casting; and steel processing. The products serve as inputs into industrial machinery primarily for government and state-owned agencies. Any engineer-to-order product that uses steel as a primary input could use this industry's products.

Vision

- To develop our country in basic metals technology and be competitive in the world market.

Mission

- To be the owner of regional inventions by knowing the present and estimating the future need of basic metal products as well as studying and analysing the casting and metallurgical technology through a continuous improvement.

- Developing basic metals technology through interrelations within engineering knowledge that support the economic activities to achieve our country's goals
- Using past integrated experience to speed up the development of our country's basic metal needs.
- Giving priority to the human resource development so as to obtain trained, skilled and professional man power.

Production Factories

1. Cast Iron Casting Factory
2. Ferrous Casting Factory
3. Non-Ferrous Casting Factory
4. Machine Parts Cast Production Factory
5. Steel Processing Factory
6. Steel Production Factory

6) Sub-case F (Sub-F)

Sub-F produces a wide range of plastic materials PPR pipe and fittings, HDPE pipes and fittings, PVC pipes and fittings, polyethylene products such as packaging film, shrinking wrap and shopping bags, irrigation hose products, bus seats, sprinkler and military plastic products. This industry is developing and constructing plastic and fibre manufacturing factories for both the private and public sector associations all over Ethiopia in favour of young producers.

Vision

- To develop Ethiopia's economy in the plastics sector.

Mission

- Develop, design and produce military, commercial products and services.
- Develop local production capabilities and create industrial network.
- Increase production capacity of strategically important plastic products.
- Substitute imports with locally produced products.
- Develop and design plastic machinery from sister company and transfer to micro and small enterprises.

Production Factories

1. Pipe Production factory
2. Injection and blow moulding factory
3. PVC profiles and ceilings factory
4. Poly factory
5. Composite factory
6. Filament winding factory

Appendix 2: Data Tables

Table 5.1 Planned vs. actual respondents and sub-cases

Respondent Group	Nature of group involved	Planned Instruments	Instrument	Actual
Groups at HQ	Key informants directly responsible for CI and related issues (CIPs)—Group 1.1	Maximum 8	Interview Guide	7
	Purposive sampling (QUAL) (Optional and if possible)—Group 1.1	Determined based on availability	Interview guide (customised)	1
	Major strategic decision-makers and users of CI products (SI)—Group 2.1	Maximum 8	Interview Guide	6
	Other key informants in HQ (other CIPs) (Optional)—Group 1.3 (a)	Maximum 12	Questionnaire	23
Groups at selected subsidiaries	Key informants directly responsible for CI (CIPs)—Group 1.2	Maximum 10	Interview Guide	14
	Purposive sampling (QUAL) (Optional and if possible)—Group 1.2	Determined based on availability	Interview guide (customised)	1
	Major decision-makers and users of CI products in each industry—Group 2.2	Maximum 10	Interview Guide	7
	Other key informants (CIPs) in the Industries (Optional)—Group 1.3 (b)	Maximum 16	Questionnaire	111
SUBJECT INDUSTRIES		PLANNED = 8	ACTUAL SUB-CASES = 6 (Excluding Hi-Tech Industry and agriculture products Industry	

Table 5.2 Interviews at the Headquarter

Resp. #	Case Org (Department/PCU)	Nº of Respondent/s	Position	Remark
1	Corp-HQ (General Civil and Commercial Products Operation)	1	Corporate Deputy Director (and Director to the Industries)	New Research Cooperation Letter to the Industries written from the Office Preliminary interview made to go to the Industries
2	Corp-HQ (R&D)	1	Corporate Deputy Director	Preliminary interview made Respondent assigned to experts for detail interview
3	Corp-HQ (R&D) *	2	Technology Experts	Customised questions on technology intelligence
4	Corp-HQ	1	Secretary of the Management Board	
5	Corp-HQ (Corp. International and Public Relations)	1	Head	Preliminary interview made to go to the field; From whom first letter was obtained
6	Corp-HQ (Strategy and Control PCU)	1	Corporate Deputy Director	
7	Corp-HQ (Strategy and Control: Strategy and Control Section)	1	Section Head	Preliminary interview was also made
8	Corp-HQ (Strategy and Control PCU: MIS Section)	1	Section Head	
9	Corp-HQ (Marketing and Sales PCU)	1	Corp Deputy Director	
10	Corp-HQ (Marketing and Sales PCU: Corp. Promotion and Communication)	1	Section Head	
11	Corp-HQ (Marketing Research)	1	Section Head	
12	Corp-HQ (Transformation)	1	Corporate Deputy Director	
13	Corp-HQ (Transformation, Training)	1	Section Head	Expert review to instruments obtained
	Total respondents	**14**		
*** FGD was made with 2 respondents using a customised interview guide**				

Table 5.3 Interviews at the Industries

Resp. #	Case Org (Department/PCU)	Nº of Respondent/s	Position	Remark
1	Sub-A (CEO)	1	Section Head	
2	Sub-A (R&D Operation)	1	Head	
3	Sub-A (Marketing and Sales)	1	Head	
4	Sub-A (MIS)	1	Head	
5	Sub-B (CEO)	1	CEO	
6	Sub-B (R&D Operation)	1	Head	
7	Sub-B (Marketing and Sales)	1	Head	
8	Sub-B (MIS)	1	Head	
9	Sub-C (CEO)	1	CEO	
10	Sub-C (R&D Operation)	1	Head	Transferred now
11	Sub-C (Marketing and Sales)	1	Head	
12	Sub-C (MIS)	1	Head	
13	Sub-C (Executive Office Head)	1	Assistant Head	
14	Sub-D (CEO)	1	CEO	
15	Sub-D (R&D & Former Operations Head) *	1	Head	
16	Sub-D (Marketing and Sales) *	1	Head	
17	Sub-D (Clustering Mfg. Operations)	1	Head	Integrates all factories on CI sharing
18	Sub-E (CEO)	1	CEO	
19	Sub-E (R&D Operation)	1	Head	
20	Sub-E (Marketing and Sales)	1	Head	
21	Sub-F (R&D Operation)	1	Head	Expert review to instruments obtained
22	Sub-F (Marketing and Sales)	1	Head	Expert review to instruments obtained
	Total respondents	22		
* FGD was made with 2 respondents using a customised interview guide				

Table 5.4 Reliability results for the main constructs of the study

Main Constructs	**CI implementation challenge group**
1. CI collection and availability 2. CI sources 3. CI structure and coordination 4. CI sharing 5. Overall usage of CI or information for decision-making 6. Tactical and business decision-making using CI 7. Demand for strategic CI (SI) 8. SDM using CI 9.	7. Challenges related to CI quality and decision usefulness 8. Challenges related to continuous (systematic) scanning or CI gathering 9. Challenges related to CI location/positioning 10. Challenges related to users' capacity in interpreting and understanding CI products 11. Challenges related to top management's perception 12. Challenges related to defining KINs (key intelligence needs) of users
Reliability statistics	**Reliability statistics**
• Cronbach's Alpha = .931 • Cronbach's Alpha Based on Standardised Items = .933 • N of Items = 7	• Cronbach's Alpha = .880 • Cronbach's Alpha Based on Standardised Items = .885 • N of Items = 6
Reliability statistics for all ordinal scale individual variables	
• Chronbach's Alpha = .892 • Cronbach's Alpha Based on Standardised Items = .893 • N of Items = 33	

Table 6.4 CI practice and presence

What best describes the way CI gathering and production is carried out in your organisation?		CI Practice and Presence				
		Comprehensive /Systematic/	Regular Use, but not Continuous	Ad Hoc or Temporary Use	No Systematic CI Approach	No Attempt to Use CI
		Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %
Case Org /Sub-Case/	Corp-HQ	33.3%	27.8%	22.2%	16.7%	0.0%
	Sub-A	33.3%	20.0%	26.7%	13.3%	6.7%
	Sub-B	18.2%	18.2%	27.3%	18.2%	18.2%
	Sub-C	18.8%	25.0%	37.5%	18.8%	0.0%
	Sub-D	29.4%	41.2%	17.6%	11.8%	0.0%
	Sub-E	33.3%	44.4%	5.6%	11.1%	5.6%
	Sub-F	6.2%	43.8%	25.0%	12.5%	12.5%
TOTAL	CASE	32.4%	25.2%	22.5%	14.4%	5.4%

Table 6.5 CI responsibility centre (responses by respondents' department)

Which of the following CI-related department or unit largely supply CI for strategic decision-making? *(Please arrange them in ranking order like 1st, 2nd, 3rd, 4th, 5th, 6th)**		CI Responsibility Centre (Responses by Respondents' Department)						
		Marketing and Sales	R and D	MIS**	Planning/ Strategy**	Production/Operation	From All Departments	Dept
		Row Valid N	Row Valid N	Row Valid N	Row Valid N	Row Valid N	Row Valid N %	Total N%
Respondent's Department	Marketing and Sales	38.1%	9.5%	19.0%	23.8%	4.8%	4.8%	0.0%
	R&D	9.4%	28.3%	17.0%	26.4%	7.5%	11.3%	100.0%
	Strategy/Planning and/or MIS	20.0%	26.7%	6.7%	33.3%	0.0%	13.3%	100.0%
	CASE %	18.00%	23.60%	15.70%	27.00%	5.60%	10.10%	100.0%

* Only first-ranked choice was considered in the analysis.
** Although Planning and MIS Department was placed under the CEO's office as one department, the two sections (i.e., Planning and MIS) perform their own tasks as two separate and joint teams as necessary.

Table 6.6 CI responsibility centre (responses by sub-case)

		Which of the following CI-related department or unit largely supply CI for strategic decision-making? *(Please arrange them in ranking order like 1st, 2nd, 3rd, 4th, 5th, 6th)**						
		Marketing and Sales	R and D	MIS	Planning /Strategy/	Production /Operation	From All Departments	Sub-Case
		Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %	Total N%
Case Org /Sub-Case/	Corp-HQ*	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Sub-A	14.3%	7.1%	21.4%	57.1%	0.0%	0.0%	100.0%
	Sub-B	21.4%	35.7%	0.0%	42.9%	0.0%	0.0%	100.0%
	Sub-C	21.4%	50.0%	14.3%	14.3%	0.0%	0.0%	100.0%
	Sub-D	16.7%	33.3%	0.0%	16.7%	8.3%	25.0%	100.0%
	Sub-E	11.1%	11.1%	38.9%	33.3%	5.6%	0.0%	100.0%
	Sub-F	23.5%	11.8%	11.8%	0.0%	17.6%	35.3%	100.0%
	CASE %	18.00%	23.60%	15.70%	27.00%	5.60%	10.10%	100.0%

* Since this item was later included in the final questionnaire, no response presented to Corp-HQ row. Questionnaire respondents from the HQ participated only during the pilot testing.

Table 6.7 Consistency of CI activities/ objectives with company's objectives & strategies

		Activities and objectives of CI are not consistent with those of the organisation (and its strategies)				
		Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
		%	%	%	%	%
Case Org /Sub-Case/	Corp-HQ	15.0%	40.0%	20.0%	10.0%	15.0%
	Sub-A	14.3%	21.4%	35.7%	28.6%	0.0%
	Sub-B	12.5%	31.2%	25.0%	31.2%	0.0%
	Sub-C	0.0%	38.9%	27.8%	33.3%	0.0%
	Sub-D	10.0%	15.0%	35.0%	30.0%	10.0%
	Sub-E	0.0%	5.6%	44.4%	33.3%	16.7%
	Sub-F	0.0%	10.5%	31.6%	26.3%	31.6%
TOTAL	CASE	7.2%	23.2%	31.2%	27.2%	11.2%

Table 6.8 CI role clarity

		Ambiguity about the role of CI—what it is supposed to do and how it is supposed to help managers				
		Not Practical	Not a Problem	Less Pressing	Pressing	Most Pressing
		%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	5.3%	15.8%	26.3%	31.6%	21.1%
	Sub-A	0.0%	26.7%	40.0%	20.0%	13.3%
	Sub-B	0.0%	12.5%	43.8%	43.8%	0.0%
	Sub-C	0.0%	5.3%	42.1%	47.4%	5.3%
	Sub-D	4.8%	28.6%	28.6%	23.8%	14.3%
	Sub-E	5.0%	10.0%	30.0%	35.0%	20.0%
	Sub-F	0.0%	10.5%	26.3%	47.4%	15.8%
TOTAL	CASE	2.3%	15.5%	33.3%	35.7%	13.2%

Table 6.9 Consistency of CI activities and objectives vs. CI role clarity (correlation)

Spearman Correlations (*Correlation strength compared by sub-case*)									
		Activities and objectives of CI are not consistent with those of the organisation (and its strategies)							
		CASE	Corp-HQ	Sub-A	Sub-B	Sub-C	Sub-D	Sub-E	Sub-F
Ambiguity about the role of CI—what it is supposed to do and how it is supposed to help managers	r	.324**	.396	-.391	.157	.164	.524*	.726**	.373
	p	.000	.104	.167	.560	.515	.021	.001	.115
	N	122	18	14	16	18	19	18	19
*. Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).									

Table 6.10 Common key intelligence topics (KITs)

Key Intelligence Topics (KITs)	Never (a)	Infrequently (b)	Frequently (c)	Usually (d)	Always (e)	Sum (d+e)	N	Mean	Std. Deviation	Variance
	%	%	%	%	%					
Industry information										
1. Industry's manufacturing capabilities/resources	0.0%	5.7%	8.6%	48.6%	37.1%	**85.70%**	35	3.17	.822	.676
2. Industry's research and development capabilities/resources	0.0%	2.9%	14.3%	51.4%	28.6%	**80.00%**	35	3.26	1.245	1.550
3. Industry's advertising/promotion capabilities/resources	0.0%	5.7%	37.1%	31.4%	25.7%	57.10%	35	2.77	.910	.829
4. Industry's sales capabilities/resources	0.0%	11.4%	11.4%	37.1%	40.0%	77.10%	35	3.06	.998	.997
5. Industry's financial capabilities/resources	0.0%	2.9%	5.9%	41.2%	50.0%	**91.20%**	34	3.38	.739	.546
Customer information										
6. Customers' buying habits	0.0%	15.2%	21.2%	30.3%	33.3%	63.60%	33	2.82	1.074	1.153
7. Customers' product preferences	0.0%	8.8%	26.5%	50.0%	14.7%	64.70%	34	2.71	.836	.699
8. Customers' desires and demands	0.0%	5.9%	32.4%	38.2%	23.5%	61.70%	34	2.79	.880	.775
9. New customers/potential consumer	0.0%	6.1%	27.3%	42.4%	24.2%	66.60%	33	2.85	.870	.758
Competitor information										
10. Competitors' prices	0.0%	11.8%	23.5%	44.1%	20.6%	64.70%	34	2.74	.931	.867
11. Competitors' introduction of new products	0.0%	6.1%	33.3%	42.4%	18.2%	60.60%	33	2.73	.839	.705
12. Competitors' product improvements	0.0%	5.9%	20.6%	52.9%	20.6%	73.50%	34	2.88	.808	.652
13. Competitors' entry into new markets	0.0%	8.8%	35.3%	35.3%	20.6%	55.90%	34	2.68	.912	.832
14. Competitors' improvements in manufacturing processes	0.0%	12.1%	21.2%	39.4%	27.3%	66.70%	33	2.82	.983	.966
15. Competitors' customers	0.0%	8.8%	29.4%	38.2%	23.5%	61.70%	34	2.76	.923	.852
16. Competitors' suppliers	0.0%	11.8%	20.6%	52.9%	14.7%	67.60%	34	2.71	.871	.759
17. Potential Substitutes	0.0%	9.1%	27.3%	33.3%	30.3%	63.60%	33	2.85	.972	.945
18. The Action / Reaction of Competitors	0.0%	9.1%	18.2%	42.4%	30.3%	72.70%	33	2.94	.933	.871
Supplier information										
19. Availability of raw materials or components	0.0%	5.4%	18.9%	35.1%	40.5%	75.60%	37	3.11	.906	.821
20. Availability of external financing	0.0%	17.1%	20.0%	45.7%	17.1%	62.80%	35	2.63	.973	.946
21. Availability of labor	0.0%	8.3%	11.1%	30.6%	50.0%	**80.60%**	36	3.22	.959	.921
Social, political, economic and legal information										
22. Local social conditions	0.0%	2.8%	11.1%	66.7%	19.4%	**86.10%**	36	3.03	.654	.428
23. National social conditions	0.0%	0.0%	5.6%	72.2%	22.2%	**94.40%**	36	3.17	.507	.257
24. Local economic conditions	0.0%	2.8%	30.6%	36.1%	30.6%	66.70%	36	2.94	.860	.740
25. National economic conditions	0.0%	5.6%	25.0%	41.7%	27.8%	69.50%	36	2.92	.874	.764

26. Global economic conditions	0.0%	8.6%	31.4%	45.7%	14.3%	60.00%	35	2.66	.838	.703
27. Local political conditions	0.0%	8.3%	11.1%	58.3%	22.2%	80.50%	36	2.94	.826	.683
28. National political conditions	0.0%	2.9%	17.1%	54.3%	25.7%	80.00%	35	3.03	.747	.558
29. Global political conditions	0.0%	15.2%	27.3%	39.4%	18.2%	57.60%	33	2.61	.966	.934
Technology information										
30. New manufacturing technology	0.0%	2.8%	5.6%	47.2%	44.4%	91.60%	36	3.33	.717	.514
31. New product technologies	0.0%	2.8%	19.4%	41.7%	36.1%	77.80%	36	3.11	.820	.673
32. Product design	0.0%	2.9%	17.6%	35.3%	44.1%	79.40%	34	3.21	.845	.714
33. Global technology trends	0.0%	5.7%	17.1%	48.6%	28.6%	77.20%	35	3.00	.840	.706

Table 6.11 SDM using CI vs KITs (correlation)

Spearman's rho Correlation								
		1	2	3	4	5	6	7
1. SDM using CI	*r*	1.000						
	p	.						
	n	37						
2. KITs_Industry	*r*	.162	1.000					
	p	.345	.					
	n	36	36					
3. KITs_Customers	*r*	.246	.418*	1.000				
	p	.154	.013	.				
	n	35	35	35				
4. KITs_Competitors	*r*	.163	.271	.361*	1.000			
	p	.358	.121	.036	.			
	n	34	34	34	34			
5. KITs_Suppliers	*r*	-.043	.112	.274	.190	1.000		
	p	.799	.514	.112	.281	.		
	n	37	36	35	34	37		
6. KITs_PESL	*r*	.174	.117	.426*	.166	.337*	1.000	
	p	.311	.503	.011	.347	.044	.	
	n	36	35	35	34	36	36	
7. KITs_Technology	*r*	.417*	.070	.343*	.247	.141	.375*	1.000
	p	.011	.690	.043	.160	.411	.024	.
	n	36	35	35	34	36	36	36

Table 6.12 TBDM using CI vs. KITs (correlation)

Spearman's rho Correlation								
		1	2	3	4	5	6	7
1. Tactical and business decision-making using CI	*r*	1.000						
	p	.						
	n	37						
2. KITs_Industry	*r*	.217	1.000					
	p	.203	.					
	n	36	36					
3. KITs_Customers	*r*	.356*	.418*	1.000				
	p	.036	.013	.				
	n	35	35	35				
4. KITs_Competitors	*r*	.253	.271	.361*	1.000			
	p	.149	.121	.036	.			
	n	34	34	34	34			
5. KITs_Suppliers	*r*	.030	.112	.274	.190	1.000		
	p	.858	.514	.112	.281	.		
	n	37	36	35	34	37		
6. KITs_PESL	*r*	.268	.117	.426*	.166	.337*	1.000	
	p	.114	.503	.011	.347	.044	.	
	n	36	35	35	34	36	36	
7. KITs_Technology	*r*	.595**	.070	.343*	.247	.141	.375*	1.000
	p	.000	.690	.043	.160	.411	.024	.
	n	36	35	35	34	36	36	36

Table 6.13 KITs (paired sample t-test)

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	KITs_Industry - KITs_Customers	.32286	.73565	.12435	.07015	.57556	2.596	34	.014
Pair 2	KITs_Industry - KITs_Competitors	.30942	.73952	.12683	.05139	.56745	2.440	33	.020
Pair 3	KITs_Customers - KITs_Technology	-.37619	.78105	.13202	-.64449	-.10789	-2.849	34	.007
Pair 4	KITs_Competitors - KITs_Technology	-.37412	.80652	.13832	-.65553	-.09272	-2.705	33	.011
Pair 5	KITs_PESL - KITs_Technology	-.24223	.59517	.09920	-.44361	-.04085	-2.442	35	.020

Table 6.14 Intelligence from informal and formal channels to make decisions

		Our organisation collects CI from informal & formal channels to make decisions				
		Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
		%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	5.0%	15.0%	25.0%	45.0%	10.0%
	Sub-A	0.0%	7.1%	28.6%	57.1%	7.1%
	Sub-B	0.0%	0.0%	81.2%	18.8%	0.0%
	Sub-C	0.0%	15.8%	52.6%	31.6%	0.0%
	Sub-D	0.0%	19.0%	33.3%	33.3%	14.3%
	Sub-E	5.3%	10.5%	10.5%	57.9%	15.8%
	Sub-F	0.0%	26.3%	36.8%	26.3%	10.5%
TOTAL	**CASE**	**1.6%**	**14.1%**	**37.5%**	**38.3%**	**8.6%**
Respondent's Department	Marketing and Sales	5.3%	15.8%	31.6%	42.1%	5.3%
	R&D	0.0%	16.2%	37.8%	35.1%	10.8%
	Planning/Strategy and/or MIS	0.0%	0.0%	53.3%	40.0%	6.7%
TOTAL	**CASE**	**1.6%**	**14.1%**	**37.5%**	**38.3%**	**8.6%**

Table 6.15 Technology (and new products) intelligence

		Our company continuously and systematically monitors technologies globally to determine whether new products, competitors or technology substitutes are emerging.				
		Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
		%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	8.7%	0.0%	13.0%	60.9%	17.4%
	Sub-A	0.0%	0.0%	26.7%	46.7%	26.7%
	Sub-B	6.7%	6.7%	46.7%	40.0%	0.0%
	Sub-C	5.6%	5.6%	55.6%	16.7%	16.7%
	Sub-D	9.1%	4.5%	18.2%	40.9%	27.3%
	Sub-E	0.0%	5.3%	21.1%	47.4%	26.3%
	Sub-F	5.3%	10.5%	26.3%	47.4%	10.5%
TOTAL	**CASE**	**5.3%**	**4.6%**	**28.2%**	**43.5%**	**18.3%**

Table 6.16 Doing marketing research or feasibility study than CI

		Our organisation does a lot of marketing research or feasibility study than CI				
		Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
		%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	5.3%	15.8%	47.4%	21.1%	10.5%
	Sub-A	6.7%	6.7%	40.0%	26.7%	20.0%
	Sub-B	0.0%	18.8%	43.8%	25.0%	12.5%
	Sub-C	5.6%	11.1%	66.7%	11.1%	5.6%
	Sub-D	9.1%	18.2%	18.2%	31.8%	22.7%
	Sub-E	21.1%	15.8%	31.6%	15.8%	15.8%
	Sub-F	5.6%	27.8%	22.2%	27.8%	16.7%
TOTAL	**CASE**	**7.9%**	**16.5%**	**37.8%**	**22.8%**	**15.0%**

Table 6.17 CI to make decisions that affect long-term survival of the company

		Our company collects information (CI) from the market it serves when it makes strategic decisions and decisions that affect long-term survival of the organisation.				
		Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
		%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	0.0%	0.0%	28.6%	42.9%	28.6%
	Sub-A	0.0%	16.7%	8.3%	41.7%	33.3%
	Sub-B	0.0%	18.8%	25.0%	37.5%	18.8%
	Sub-C	5.6%	16.7%	27.8%	33.3%	16.7%
	Sub-D	4.5%	4.5%	27.3%	36.4%	27.3%
	Sub-E	0.0%	22.2%	16.7%	22.2%	38.9%
	Sub-F	11.1%	11.1%	27.8%	33.3%	16.7%
TOTAL	**CASE**	**3.2%**	**12.0%**	**24.0%**	**35.2%**	**25.6%**

Table 6.18 Reflection on importance of a formal CI programme

Respondent's Department	Reflection for "What importance will CI present if it is implemented in a formal, structured and/or systematic way?"
R and D	• CI will help our organisation develop from time to time by increasing its competitiveness in the market. • Since our organisation and the industries under it are famous ones in innovative and technologically advanced way of production, CI is very important to us in order to produce high quality products and win the competition that comes from importing products. …CI is very useful to improve our production and solve many production problems as a result of using benchmarking tactic. • CI gives internal information about the organisation business that gives an idea on how the organisation is performing…it gives focus point which area needs more focus and energy… • CI can help the operations department as a forecasting, scheduling and planning tool • Since our organisation has a number of customers, we need to understand the needs and preference of each customer so that we will try to produce accordingly and satisfy their needs. Thus, we need to use CI in a formal way such as to keep data for each customer (i.e., to prepare a database to customers is important). We must produce only based on the need of the customer. Equally, we need to know everything about our suppliers too. We need it to improve our products—both in quality and quantity • CI is vital for continuous improvement! • CI is essential to the conglomerate and to our industry to achieve the strategic objectives of the company • CI can give every employee to share his/her experience to other and develop his/her own talent out of this sharing. • Managers can get up to date information to make good decisions • CI can improve the management process…it can facilitate decision-making by presenting short and precise information/intelligence • CI should be used to integrate the industries in most effective and productive way. • CI helps to gather weak and strong signals and classify the information for present and future decision-making • CI should assist our marketing plan, investment decisions and decisions related to competitors' move • Internally, to get clarity among all employees in every aspect of the work of our organisation • To find answers that are vital to the production operation management departments to determine costs by finding quick answers for the questions, how when how much what and with what cost to produce CI is vital to this department • To compare our status in the industry (i.e., to know the strategic position of our industry in the market) • To make SMART (i.e., means to make specific, measurable, achievable, reachable and timely) decision • To know the know-how of our products and share everything about the product with each other (with employees) • To produce in the right quality and quantity by first knowing the need of our customers • To use technology and produce economically

	• To exactly know the prototype of what product to produce • To predict the future of our company • To develop and sustain the company • To know foreign partners well and select the right partners • To have an organised knowledge about key issues. • To promote out products as a result of knowing very well about them • To forecast competitors' move and to identify gaps
Marketing and Sales	• To develop product, production and technology/machines • To produce using just-in-time production so that we can improve our delivery of product so that our customers and potential customers will not move to other competitors • To improve our innovation and technology and product development and machine development • To identify the best vendors so that we can purchase the right inputs raw materials quality and standard materials so that we can produce quality products which can compete with other global competitors • To keep present and potential customer loyalty so that they will not move to other suppliers or buy imported goods using just-in-time and improve the supply chain both within and outside the organisation to make efficient delivery to our customers • To improve the management system (internal use) • To understand what our rivals move in the market, their plans and strategies too. Thus, CI shall be used for specific market • To keep detail marketable data about the product we sell • To identify areas of opportunities • To have a record of our market growth • For better decision-making because information is very important for today's business • For experience sharing about our customers and the market (response of a salesperson) • For benchmarking and to learn from failures or success of other companies
MIS and Planning	• To understand the market and even to get up-to-date information about what is going on in our organisation • To become business and market oriented • To make better decisions in a timely manner and to evaluate management's decision-making
Transformation and Capacity Building (at Corp-HQ)	• To copy the right technology (i.e., technology intelligence and adoption) • To make right decision at the right time. • To improve productivity and service giving to customers.

Table 6.19 SDM using CI vs. collected CI (correlation)

		1	2	3	4	5
1. SDM using CI	*r*	1.000				
	p	.				
	n	133				
2. Technology (and new products) intelligence	*r*	.564**	1.000			
	p	.000	.			
	n	131	131			
3. Stakeholder intelligence	*r*	.514**	.428**	1.000		
	p	.000	.000	.		
	n	128	126	128		
4. Competitive market intelligence	*r*	.570**	.498**	.550**	1.000	
	p	.000	.000	.000	.	
	n	125	123	122	125	
5. Marketing research or feasibility study	*r*	.210*	.230**	.239**	.384**	1.000
	p	.018	.010	.008	.000	.
	n	127	125	123	122	127

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 6.20 SDM using CI, TBDM using CI and Overall decision-making vs. collected CI (correlation)

Spearman Correlations								
		1	2	3	4	5	6	7
1. SDM using CI	*r*	1.000						
	p	.						
	n	133						
2. Tactical and business decision-making Using CI	*r*	.831**	1.000					
	p	.000	.					
	n	133	133					
3. Overall usage of CI or information for decision-making	*r*	.942**	.950**	1.000				
	p	.000	.000	.				
	n	133	133	133				
4. Technology (and new products) intelligence	*r*	.564**	.508**	.570**	1.000			
	p	.000	.000	.000	.			
	n	131	131	131	131			
5. Stakeholder intelligence	*r*	.514**	.571**	.574**	.428**	1.000		
	p	.000	.000	.000	.000	.		
	n	128	128	128	126	128		
6. Competitive market intelligence	*r*	.570**	.538**	.575**	.498**	.550**	1.000	
	p	.000	.000	.000	.000	.000	.	
	n	125	125	125	123	122	125	
7. Marketing research or feasibility study	*r*	.210*	.161	.184*	.230**	.239**	.384**	1.000
	p	.018	.070	.038	.010	.008	.000	.
	n	127	127	127	125	123	122	127

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 6.21 Paired-sample t-test for the decision-making categories

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SDM using CI - Tactical and business decision-making using CI	-.06757	.40246	.06616	-.20175	.06662	-1.021	36	.314
Pair 2	SDM using CI - Overall usage of CI or information for decision-making	-.05721	.17966	.02954	-.11711	.00269	-1.937	36	.061
Pair 3	Tactical and business decision-making using CI - Overall usage of CI or information for decision-making	.01036	.27152	.04464	-.08017	.10089	.232	36	.818

Table 6.22 Decentralised CI collection by different departments

		Decentralised collection of CI (e.g., by different departments/groups in different functional departments)					
		Not Practical (a)	Not a Problem (b)	Less Pressing (c)	Pressing (d)	Most Pressing (e)	Sum (d+e)
		%	%	%	%	%	%
CaseOrg /Sub-Case/	Corp-HQ	0.0%	20.0%	10.0%	45.0%	25.0%	70.00%
	Sub-A	0.0%	20.0%	33.3%	33.3%	13.3%	46.60%
	Sub-B	6.7%	6.7%	46.7%	26.7%	13.3%	40.00%
	Sub-C	0.0%	10.5%	42.1%	42.1%	5.3%	47.40%
	Sub-D	4.5%	9.1%	31.8%	40.9%	13.6%	54.50%
	Sub-E	0.0%	0.0%	26.3%	42.1%	31.6%	73.70%
	Sub-F	0.0%	5.3%	10.5%	63.2%	21.1%	84.30%
TOTAL	CASE	1.6%	10.1%	27.9%	42.6%	17.8%	60.40%

Table 6.23 Inappropriate positioning of CI within company's management structure

		Inappropriate positioning of CI within company's management structure					
		Not Practical	Not a Problem	Less Pressing	Pressing	Most Pressing	Sum (d+e)
		%	%	%	%	%	%
Case Org /Sub-Case/	Corp-HQ	0.0%	28.6%	28.6%	33.3%	9.5%	42.80%
	Sub-A	0.0%	13.3%	20.0%	33.3%	33.3%	66.60%
	Sub-B	6.2%	12.5%	31.2%	37.5%	12.5%	50.00%
	Sub-C	5.3%	5.3%	36.8%	36.8%	15.8%	52.60%
	Sub-D	0.0%	20.0%	25.0%	45.0%	10.0%	55.00%
	Sub-E	0.0%	5.0%	35.0%	40.0%	20.0%	60.00%
	Sub-F	0.0%	10.5%	31.6%	42.1%	15.8%	57.90%
TOTAL	CASE	1.5%	13.8%	30.0%	38.5%	16.2%	54.70%

Table 6.24 Challenges related to adequacy and continuity of CI scanning

Items in CI scanning challenge variable group		Not Practical	Not a Problem	Less Pressing	Pressing	Most Pressing
		%	%	%	%	%
Top management often neglects continuous and systematic scanning of the competitive environment	Corp-HQ	5.3%	21.1%	31.6%	26.3%	15.8%
	Sub-A	13.3%	40.0%	13.3%	20.0%	13.3%
	Sub-B	0.0%	18.8%	56.2%	18.8%	6.2%
	Sub-C	0.0%	5.3%	36.8%	36.8%	21.1%
	Sub-D	9.1%	13.6%	36.4%	31.8%	9.1%
	Sub-E	0.0%	20.0%	30.0%	35.0%	15.0%
	Sub-F	0.0%	10.5%	31.6%	36.8%	21.1%
	CASE TOTAL	3.8%	17.7%	33.8%	30.0%	14.6%
Fragmented and irregular gathering of CI	Corp-HQ	0.0%	15.0%	55.0%	20.0%	10.0%
	Sub-A	0.0%	13.3%	20.0%	66.7%	0.0%
	Sub-B	6.2%	6.2%	37.5%	37.5%	12.5%
	Sub-C	0.0%	21.1%	42.1%	26.3%	10.5%
	Sub-D	9.1%	31.8%	18.2%	36.4%	4.5%
	Sub-E	0.0%	21.1%	31.6%	21.1%	26.3%
	Sub-F	0.0%	5.3%	42.1%	42.1%	10.5%
	CASE TOTAL	2.3%	16.9%	35.4%	34.6%	10.8%
Inadequate scanning of the market, with inadequate staff and resources	Corp-HQ	5.0%	25.0%	30.0%	40.0%	0.0%
	Sub-A	6.7%	6.7%	40.0%	26.7%	20.0%
	Sub-B	6.2%	0.0%	43.8%	37.5%	12.5%
	Sub-C	0.0%	15.8%	47.4%	31.6%	5.3%
	Sub-D	0.0%	22.7%	36.4%	22.7%	18.2%
	Sub-E	5.0%	15.0%	35.0%	35.0%	10.0%
	Sub-F	5.3%	10.5%	31.6%	36.8%	15.8%
	CASE TOTAL	3.8%	14.5%	37.4%	32.8%	11.5%

Table 6.25 Spearman's correlation for all possible CI implementation challenges

CI Implementation Challenge Variable		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Decentralised CI collection by different departments	r	1.000													
	p	.													
	n	129													
2. Inappropriate positioning of CI within company's management structure	r	.344**	1.000												
	p	.000	.												
	n	127	130												
3. Difficulties to clearly identify and ascertain the exact intelligence needs (KINs) of users of CI	r	.185*	.194*	1.000											
	p	.038	.029	.											
	n	126	126	128											
4. Limited interaction between CI gatherers and CI users	r	.115	.268**	.472**	1.000										
	p	.195	.002	.000	.										
	n	129	130	128	132										
5. Decision-makers suffer from information stress, receiving too much information	r	.305**	.433**	.225*	.266**	1.000									
	p	.000	.000	.011	.002	.									
	n	128	129	128	131	131									
6. Inadequate scanning of the market, with inadequate staff and resources	r	.250**	.339**	.245**	.383**	.416**	1.000								
	p	.004	.000	.005	.000	.000	.								
	n	128	129	128	131	131	131								
7. Fragmented and irregular gathering of CI	r	.269**	.367**	.248**	.458**	.319**	.418**	1.000							
	p	.002	.000	.005	.000	.000	.000	.							
	n	127	128	127	130	130	130	130							
8. Difficulty of interpreting competitive information for SDM purpose	r	.341**	.334**	.265**	.436**	.392**	.357**	.550**	1.000						
	p	.000	.000	.003	.000	.000	.000	.000	.						
	n	126	127	127	129	129	129	128	129						
9. CI generated is too general; most of it is either already known, or is not needed by users	r	.257**	.411**	.169	.334**	.394**	.410**	.389**	.462**	1.000					
	p	.003	.000	.057	.000	.000	.000	.000	.000	.					
	n	127	128	128	130	130	130	129	128	130					
10. Ambiguity about the role of CI—what it is supposed to do and how it is supposed to help managers	r	.378**	.358**	.325**	.359**	.342**	.250**	.417**	.383**	.385**	1.000				
	p	.000	.000	.000	.000	.000	.004	.000	.000	.000	.				
	n	126	127	127	129	129	129	128	127	129	129				
11. Top management is unable to think about the application of CI in the organisation	r	.185*	.254**	.359**	.395**	.324**	.304**	.362**	.408**	.269**	.498**	1.000			
	p	.037	.004	.000	.000	.000	.000	.000	.000	.002	.000	.			
	n	127	127	126	129	129	129	128	127	128	127	129			
12. Top management often neglects continuous and systematic scanning of the competitive environment	r	.292**	.293**	.127	.340**	.299**	.248**	.359**	.420**	.293**	.308**	.580**	1.000		
	p	.001	.001	.156	.000	.001	.004	.000	.000	.001	.000	.000	.		
	n	128	128	127	130	130	130	129	128	129	128	129	130		
13. Users of CI have difficulty in interpreting competitive information they receive	r	.219*	.257**	.221*	.310**	.468**	.394**	.327**	.338**	.391**	.452**	.378**	.360**	1.000	
	p	.014	.004	.014	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	
	n	125	125	124	127	127	127	126	125	126	125	126	127	127	
14. Users in different departments interpret same CI differently	r	.224*	.333**	.125	.276**	.486**	.241**	.222*	.340**	.319**	.345**	.296**	.448**	.453**	1.000
	p	.012	.000	.163	.002	.000	.006	.012	.000	.000	.000	.001	.000	.000	.
	n	126	126	126	128	128	128	127	126	128	127	127	128	125	128

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 6.26 ANOVA for main categories of possible CI implementation challenges

ANOVA for main categories of possible CI implementation challenges						
		Sum of Squares	df	Mean Square	F	Sig.
1. Challenges related to CI quality and decision usefulness	Between Groups	1.740	6	.290	.519	.793
	Within Groups	69.293	124	.559		
	Total	71.033	130			
2. Challenges related to continuous (systematic) scanning or CI gathering	Between Groups	2.699	6	.450	.774	.592
	Within Groups	72.105	124	.581		
	Total	74.804	130			
3. Challenges related to defining KINs of users	Between Groups	3.740	6	.623	1.083	.376
	Within Groups	71.919	125	.575		
	Total	75.659	131			
4. Challenges related to understanding CI products	Between Groups	2.419	6	.403	.764	.599
	Within Groups	65.439	124	.528		
	Total	67.859	130			
5. Challenges related to top management's perception	Between Groups	8.108	6	1.351	1.479	.191
	Within Groups	112.422	123	.914		
	Total	120.531	129			
6. Challenges related to CI location/positioning	Between Groups	5.080	6	.847	1.368	.232
	Within Groups	77.335	125	.619		
	Total	82.415	131			

Table 6.27 CI implementation recommendation (Quantitative Data)

CI Recommendations for Implementation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	By all the departments (disbursed CI function in each department)	25	18.7	29.8	29.8
	As separate central department/unit in the organisation	32	23.9	38.1	67.9
	As project (to each project that may require strategic decision-making)	18	13.4	21.4	89.3
	By external consultant or researcher for each project that may require CI	9	6.7	10.7	100.0
	Total	84	62.7	100.0	
Missing	System	50	37.3		
Total		134	100.0		
Mode = 2, Variance = .934, Range = 3					

Table 6.28 CI recommendations for implementation (embedded for different variables)

Row Category Variables		CI Recommendations for Implementation			
		By all the departments (disbursed CI function in each department)	As separate central department /unit/ in the organisation	As project (to each project that may require strategic decision-making)	By external consultant or researcher for each project that may require CI
		Row Valid N %	Row Valid N %	Row Valid N %	Row Valid N %
1. CI Practice and Presence	Comprehensive/Systematic	45.0%	40.0%	15.0%	0.0%
	Regular Use, but not Continuous	33.3%	29.6%	37.0%	0.0%
	Ad Hoc or Temporary Use	18.8%	31.2%	25.0%	25.0%
	No Systematic CI Approach	10.0%	50.0%	0.0%	40.0%
	No Attempt to Use CI	33.3%	33.3%	33.3%	0.0%
TOTAL	CASE	29.8%	38.1%	21.4%	10.7%
2. CI Responsibility centre	Marketing and Sales	30.0%	50.0%	20.0%	0.0%
	R and D	53.8%	23.1%	7.7%	15.4%
	MIS	25.0%	50.0%	25.0%	0.0%
	Planning/Strategy	50.0%	33.3%	0.0%	16.7%
	Production/Operations	33.3%	0.0%	66.7%	0.0%
	From All Departments	25.0%	37.5%	37.5%	0.0%
TOTAL	CASE	29.8%	38.1%	21.4%	10.7%
3. Respondent's Department	Marketing and Sales	8.7%	52.2%	21.7%	17.4%
	R&D	31.9%	36.2%	25.5%	6.4%
	Strategy, Planning and/or MIS	57.1%	21.4%	7.1%	14.3%
TOTAL	CASE	29.8%	38.1%	21.4%	10.7%
4. CaseOrg/Sub-Case	Corp-HQ	0.0%	30.8%	46.2%	23.1%
	Sub-A	36.4%	45.5%	9.1%	9.1%
	Sub-B	50.0%	25.0%	0.0%	25.0%
	Sub-C	50.0%	21.4%	7.1%	21.4%
	Sub-D	60.0%	30.0%	10.0%	0.0%
	Sub-E	33.3%	66.7%	0.0%	0.0%
	Sub-F	0.0%	43.8%	56.2%	0.0%
TOTAL	CASE	29.8%	38.1%	21.4%	10.7%
5. Respondents Association to CI	CI Manager; CI Personnel or Research Expert (CIP)	31.4%	42.9%	14.3%	11.4%
	CIP and CI User	32.4%	37.8%	27.0%	2.7%
TOTAL	CASE	29.8%	38.1%	21.4%	10.7%

Table 6.29 Perceived usefulness of formal CI is introduced in the case company

Respondent's Department	Reflections (Expected benefits of formal CI)
R and D	• Basically CI helps our company to identify the real market gap so that it will enhance corporate decision-making in strategic issues including product development and technology search. (Higher Officer from Corporate R&D) • CI serves as organisation radar…It will help us to pick up signals since we actually monitor the global environment…since we analyse the strong and weak signals, we implement CI to support our decisions (Sub-E, MIS Manager) • CI should be organised in a formal, structured and systematic way in the conglomerate. • As stated by an engineer respondent in R&D department of Sub-F: …the world is becoming a single market….in order to be successful and win the market, it is better to adopt a CI system! • Sub-F, Engineering Department Head said start implementing CI in a formal way starting from top to down…. i.e., using same structure and decision-making style of the present organisation • By implementing CI in a systematic way in our industry and the corporation, we (as employee) could solve our information gap …managers can get up to date information to make good decisions… (Respondent form R&D department in Sub-B) • Although CI is practised in some forms in our organisation, there is less demand for it because of lack of awareness from the side of the managers. Managers do not know how to implement or use it and motivate employees to get more and more from the later. They are not good at receiving information from customers too. Thus, they should be trained on its importance and application first. (Respondent form R&D department in Sub-B) • Even presently, CI can be used to restructure our organisation and make many decisions so that it should be implemented formally (Respondent engineer from R&D Department in Sub-D) • Two respondent engineers from R&D Department in Sub-A said the following o …CI should be implemented in all departments, o The CI concept should be explained by advisors/consultants to the management along its advantages and management should be trained about it…. Another one also said since our organisation uses different inputs from almost all industries, CI should be used to integrate the industries in most effective and productive way. • The response of an engineer in R&D Department from MMBI says: o CI shall be implemented in a structured and planned way and CI should be collected from end users (feedback from customers) and the market
Marketing and Sales	• CI is not implemented in our organisation formally yet. Thus, we need to implement it in a systematic way for use by both the Headquarter and the Industries
MIS and Planning	• Top management should continuously and systematically scan the competitive environment to enhance its SDM than what is doing currently • CI must be introduced in a structured and planned way. Mainly to get feedback from customers • To save time in the reporting process, MIS shall use CI
Transformation	• This is a big organisation so that at least the administrators and employees should have awareness about the concept CI.

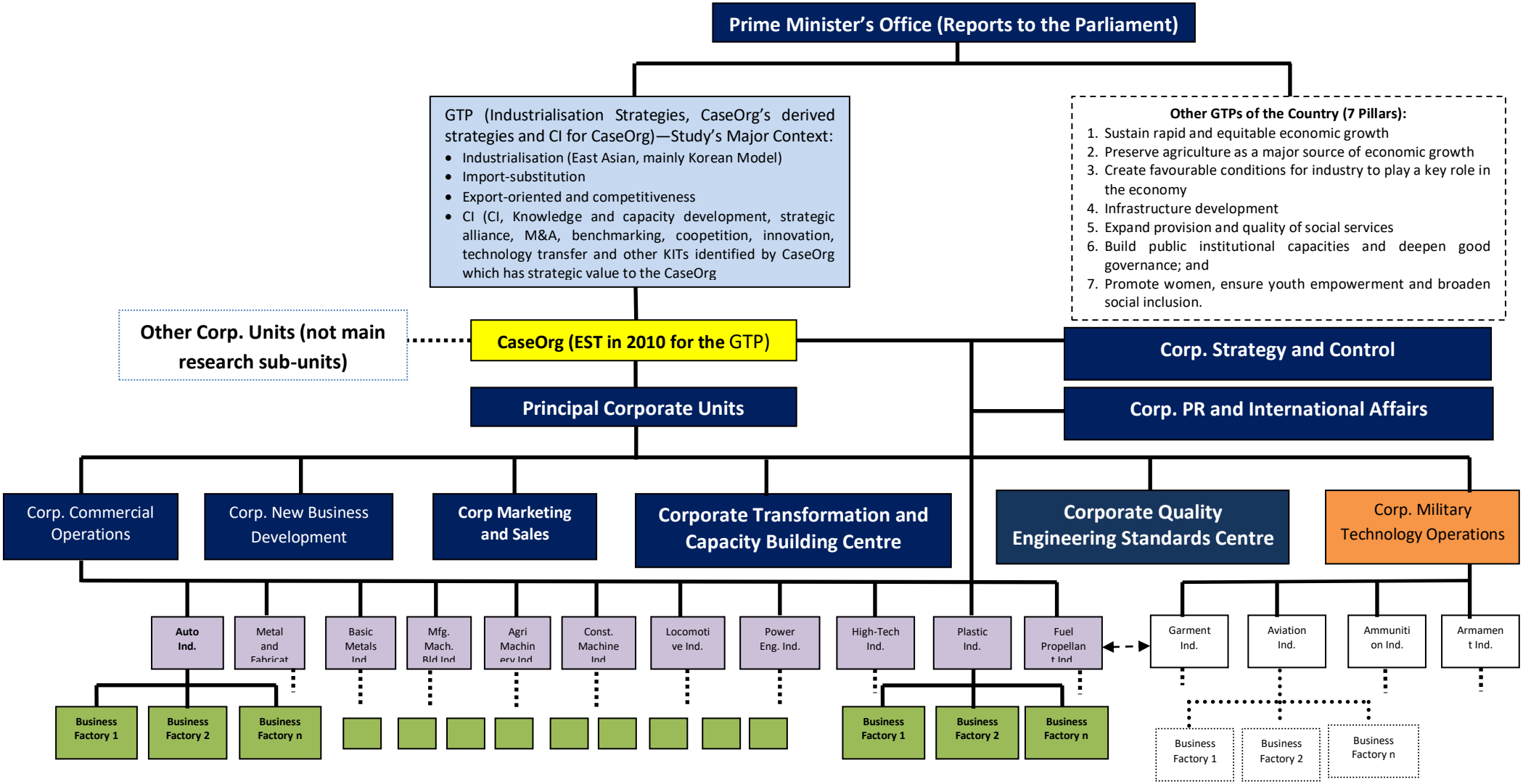
Table 6.30 Reflection on how to launch a formal CI programme in the case

Reflections	Reflection (How to launch a formal CI programme)
General reflection:	• We do not have other option other than implementing CI in our organisation (Respondent engineer from R&D Department in Sub-D • We will certainly implement CI in our organisation (Respondent from R&D Department)
Prerequisites and considerations to implement CI in systematic and formal way:	• CI users must be trained in how to use CI in a systematic way • For successful implementation, the CI professionals should be trained in social networking are important…these professionals should assist management by interpreting information for use in decision-making (MIS Manager from Sub-E) • We must use CI to understand both our industry and the industry we are operating in the market. CI should also be used to exchange information among our departments internally. By first understanding their relationship, thus, all departments should know how to exchange it (Respondent engineer from R&D Department in Sub-D) • Create awareness about what CI is in all the departments • Start from top management to employees • Relevant skilled employees should be assigned to each department to execute CI • We need to assign experts who have both business field and industry experience
Restructuring the current CI organisation:	• There is no formal CIP in our organisation. Thus, implement CI in a formal and structured way • As per my understanding, CI is about identifying events, trends and other issues which will impact our organisation…it will help to improve our productivity…CI should be reorganised in our industry (Respondent engineer from R&D Department in Sub-E) • The current organisation or management system affects the CI function in our organisation. So that a new restructuring is needed to implement the formal CI system • We practise CI in all departments and discuss CI in committee (Respondent from MIS Office from Sub-A) • We currently use both formal and informal CI. If CI is implemented in our organisation, we can make SDM systematically too. The response of Head of MIS (under the CEO's) of Sub-B put as follows: I have little awareness to comment. But I know if we implement CI, we can cope up the changing or dynamic (local and global) environment that affects our organisation. Thus, we can make corrective measures according to the changing situations.
Recommended organisation and location:	• As separate department but all departments must take part • It should be implemented formally, but all the departments shall participate in the implementation programme. • We must implement CI in all departments of the industries (MIS Manager from Sub-E) • Existing formal CI techniques in our organisation involve customer analysis and demand-supply gap analysis • Improve relationship among all the departments of the industry • The CI separate department shall work as connector of other departments (Respondent engineer from R&D Department in Sub-E) • Presently we use CI from our knowledge base from R&D (to track or monitor technology), Marketing and Customer service …Thus, we must improve their CI collection and utilisation (Respondent from MIS Office from Sub-A) • If all the departments participate in CI programme, it will be good. • CI should be implemented formally. However, all the departments shall participate in the implementation programme.
CI programme launching recommendations:	• Adopt CI • Learn from other organisations by making benchmarking • During the programme implementation, focus also on the internal information need • CI should be carried out in a continuous manner (i.e., currently her office is actually performing the CI function) he response of Head of MIS (under the CEO's) of Sub-C • In order to implement or introduce formal CI, we should: o First select key individuals (i.e., to mean CI champions); and o Design a step-by-step CI implementation procedure (Respondent engineer from R&D Department in Sub-E)

Table 6.31 Comments on usefulness of the study to the case company

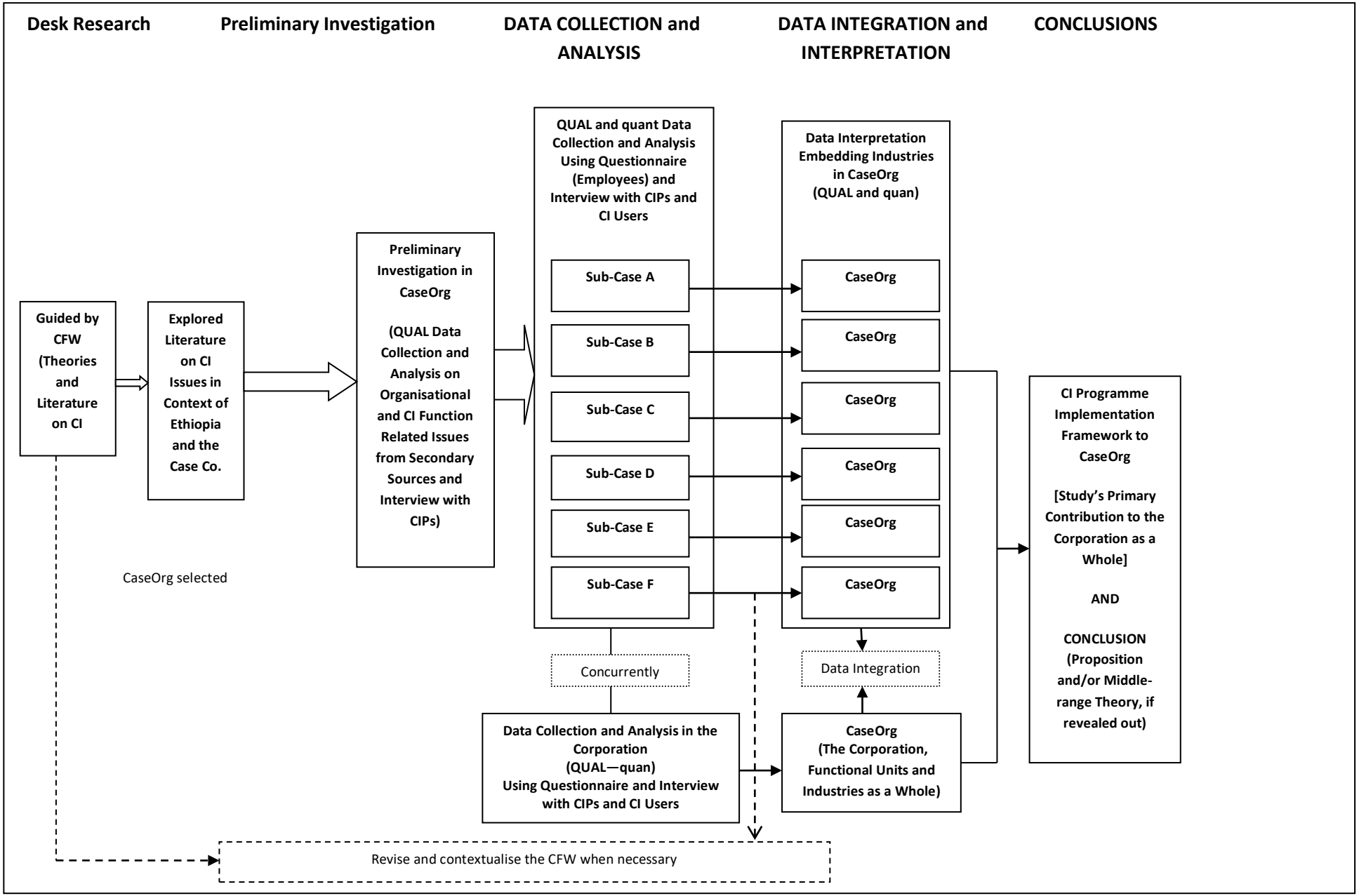
Department	Comments on the Study
R&D	• The study is relevant because information is critical to the conglomerate at this globalisation age • The study is relevant since it studies about enhancement of CI in a conglomerate • To help the conglomerate to be reachable in terms of the study problem area • We want to know which company in the industry which have implemented CI so far and brought significant changes as the result of CI implementation. • Please give the study result to top management (at HQ). This may imply that such decisions on initiating reorganisation come from the HQ of the conglomerate (top-to-down decision-making style). • The study shall focus on each industry and its markets. (Thus, CI is most useful to each industry's decision-making) • the study is important to Ethiopia because it focuses in implementing CI in a conglomerate and in how to use it for strategic decision-making • It is important because information should be collected from different sources in our organisation in a formal way. We shall use both formal and informal sources of information to make management decisions. • I think this project area (study) is a new one to Ethiopian companies. …if you do it in better way and implement it in various companies, it can bring great contribution to the success of the companies (Respondent engineer from R&D Department in Sub-D) • By creating awareness of CI to all members (from top managers to individual worker, through special training and continuous capacity building process, the company business activity can be effectively managed better than its competitors. Since it is a new insight, it needs high effort and follow up to individuals to create the knowledge and improvement… (Respondent engineer from R&D Department in Sub-D) • As Hibret Manufacturing and Machine Building Industry, a technology centre and thinking of the country, CI is vital one. But, the first thing to implement CI is by creating awareness about the concept to the top management and developing a strategy to implement it…then after, step-by-step, awareness creation should be made to employees about the concept and its implementation… (Respondent engineer from R&D Department in Sub-C)…another respondent from same department added that a handbook about the concept and its implementation should be prepared and handover to employees for proper induction of the system….it will help to make feasibility studies and in marketing activities.
Marketing and Sales	• Suggestion of a respondent from Marketing & Sales Department (Sub-E)…. You are studying the perfect topic as related to the conglomerate's problem…because its value for our country and also to compete with foreign made products that come from global competitors… • I recommend that this study have to bring workable results to our company which most of its employees are unaware on the real concepts and systems of CI, as suggested by one respondent from Marketing and Sales Department in Sub-E.

Appendix 3: Existing structure of the conglomerate (emphasis inserted to show multiple units of analysis in the Case)



Notes: This simple organisation chart depicts the structure of the case conglomerate which follows Corporate Strategy (2012/13 to 2016/17). The structure is also under revision (i.e., Corp. Strategy and Control replaced Corporate Planning and Contract Admin; Corp Project Management and Corp. Plant Installation Principal Units are now merged into Corporate New Business Development. Though not clearly stated on the Chart, although all the 15 industries directly report to the Director, the Civil Industries and the Military Industries have staff authority relationship with the Corp. Commercial Operations and Corp. Military Technology Operations, respectively. The two Principal Units devise their own plans separately. *(Source: Corp. Bulletin, May 2012 and Interview, 2014)*

Appendix 4: Planned research design and procedure (embedded multiple units single-case research strategy)



Appendix 5: Questionnaire to personnel responsible for organisation's competitive intelligence function or activities

(To be filled first by those key informants selected for the study or other responsible CI personnel or leaders who will not or cannot take part in the main interview)

This table is left blank for researcher's use only

Questionnaire Code				
Organisation Code				
Issuance Date				
Return date				
Key Word (CI)	**"CI" denotes Competitive Intelligence**			

Dear Prospective Participant,

The survey you have received is interested in studying *the strategic role of competitive intelligence in a conglomerate (Title: Strategic Competitive Intelligence for SDM in a conglomerate).*

By completing this survey, you agree that the information you provide may be used for research purposes. You have been selected to participate in this survey because *my assumption is that you will be calling as a competitive intelligence person (CIP) or CI Manager—a naming for the purpose of this study. However, please take a caution that the perspectives of CIP and a person in the different function might not be the same in your organisation (may be you are names as Knowledge Management Specialist, Marketing Researcher, Marketing Analyst, Research and Development Head, Marketing Intelligence and the like). Therefore, as you may be responsible to carry out any CI related function or activity, your opinions are vital for this study.* If you choose to participate in this survey it will take up no more than *one hour* of your time. I do not foresee that you will experience any negative consequences by completing this questionnaire *OR* I foresee challenges that *may be associated in deciding whether the information you give me is 'confidential' or 'not confidential' as may be indicated in the Research Cooperation Letter I brought from the Headquarter.* Nevertheless, the researcher undertakes to keep any individual information provided herein confidential, not to let it out of their possession and to analyse the feedback received only on group level. The records will be kept for five years for publication purposes where after it will be permanently destroyed (hard copies will be shredded and electronic versions will be permanently deleted from the hard drive of the computer). It is hoped that the information I gain from this survey will help me in *suggesting a feasible approach to reach at the objectives of the study.*

General Instructions to Respond the Questionnaire:

Please carefully read the following notes for proper understanding of the items/questions of this data collection instrument. Please recall that while the term 'organisation' represents the industry you are working in; the term 'corporation' represents the conglomerate's headquarters.

- The data obtained from this survey will be treated with the proper respect; the provided answers will be used anonymously!
- For most questions that request your degree of agreement, please indicate your 'degree of agreement' for each statement using the 6-scale (ordinal ranking) by circling your choice number in the columns.

Adjacent to each item/statement in the tables, please CIRCLE on:

5 = Strongly Agree (SA);
4 = Agree (A);
3 = Partially Agree (PA);
2 = Disagree (D);
1 = Strongly Disagree (SD); and
0 = Difficult to Respond (DR).

Should you require any further information, want feedback on the study or need to contact the researcher about any aspect of this study, please contact me using the following address—*Bezabih Bekele Tolla Mobile No. +251-911606233; Email bezabih.bekele@aau.edu.et or 45535124@mylife.unisa.ac.za; Postal Code 150234, Addis Ababa University, Department of Management (Tel No. +251-111229611). Or please use the attached Business Card.*

Yours Respectfully,

Attachments to this questionnaire:

1. Envelop (to return the questionnaire in sealed envelope, you may use your own)
2. Business Card of the Student Researcher

Informed consent for participation in the academic research project,

Enhancing Strategic Competitive Intelligence for SDM in a conglomerate

Dear Respondent

You are herewith invited to participate in an academic research study conducted by Bezabih Bekele Tolla, a student in the Doctor of Business Leadership at UNISA's Graduate School of Business Leadership (SBL).

The study focuses on the strategic function of competitive intelligence for strategic decision-making. The main purpose of the study is to investigate how CI is used in your organisation and how it can be enhanced. Permission was obtained from the case conglomerate management to conduct the study in the organisation and its industries.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

Please answer the questions as completely and honestly as possible. The questionnaire should not take more than 1 hour of your time.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Professor P. Venter, e-mail: ventep@unisa.ac.za, Tel: +27-82-416-6801 if you have any questions or comments regarding the study. Please sign the attached to indicate your willingness to participate in the study.

Yours sincerely,

I,..... .....
....
..... [REPONDENT NAME], herewith give my consent to participate in the study titled ***"Enhancing Strategic Competitive Intelligence for SDM in a conglomerate"*** I have read the letter and understand my rights with regard to participating in the research.

_____ _____
Respondent's signature **Date**

Background Information

Today's companies face competition from both local and foreign made products every day. The need for information about this force has been named as—business intelligence, business strategy, competitive information, competitive intelligence, customer relationship management, data mining, entrepreneurial attitude, forecasting, foresight, information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning, competitor espionage, strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance.

As related to the above naming for the term, competitive intelligence (CI) can be understood, used, explained and practised in different ways and forms. Recently, most academicians and business people refer to this gathering of information as "competitive intelligence"—a comprehensive term that involves the mentioned term/phrases and the related activities. *Competitive Intelligence (CI)* is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself. CI therefore focuses on more than your competitors. It also about collection and processing of information from within the organisation for the purpose of supporting business decision-making and thereby enhancing your organisation's competitiveness in the market place and/or competitive business environment.

It is necessary to distinguish the term 'intelligence' from other relevant and similar terms. *Intelligence* is more than just *information*. Intelligence follows this processing stage: data—information—knowledge—intelligence. ***In short, intelligence is a ready-made output for decision-making or users*** (who are also called clients or decision-makers) to use. However, for the purpose of this study, competitive intelligence can be interchangeably used with *competitive information* in some places.

As you can infer from the title of the study, the study focuses on in how to enhance strategic competitive intelligence in a conglomerate (i.e., enhancing the strategic value of competitive intelligence in a conglomerate). The study focuses on the strategic function of competitive intelligence for strategic decision-making. However, many organisations also use CI for tactical and operational decision-making. As mentioned before, CI is certainly found in different organisations in different ways, forms, levels and is practised in different ways—in formal, informal or quasi (partially formal way), in fragmented or organised way and the CI function can be located in the organisation's structure in a special functional unit/department/section (like the Corporate Think Tank and Knowledge Management Organ, Corporate Strategy and Control Principal Corporate Unit (PCU), Corporate Marketing and Sales PCU, Corporate New Business Development PCU, Corporate Research and Development PCU, Corporate Finance and Investment PCU, Public and International Relations Department, etc.). This function (CI) is also practised in different ways in the semi-autonomous industries of the conglomerate, which are also subjects of this Case Study.

Since formal CI has little or no recognition by most large Ethiopian enterprises, this study also focuses on exploring the availability and use of CI for SDM in both the corporation's HQ and its subsidiaries, which can also be named as Industries or Strategic Business Units (SBUs), as needed.

Part I Background Information

Section 1.1 Respondent-related General Questions

1. Please try to categorise your broad area of specialisation and the corresponding education level below by circling on your choice.

Broad area of specialisation	Education (Completed or Under Study)			
1. Business Related	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
2. Art	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
3. Science	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
4. Engineering	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
5. Information Science	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
6. Military Science	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree
7. Other Field of Study_____	1. Diploma	2. First Degree	3. Second Degree	4. Third Degree

If you have taken any relevant training related to your current work/position, please list the topics below:

1. _____

2. _____

2. Your Rank (Management Position in your organisation) How do you identify yourself related to the CI function? Are you primarily an analyst of CI, manager of CI body/functional group or a user of CI? I am a:_____

A. CI Manager
B. CI Personnel
C. CI User
D. Manager/Decision-maker
E. Any combination of the above

Section 1.2 CI and Strategy Related Issues

3. What best describes the way CI gathering and production is carried out in your organisation?
   A. Comprehensive, systematic, well-organised, continuous, has support from senior managers
   B. Regular use of CI data collection and techniques but not continuous and tends to be limited to some departments or areas where managers are more interested
   C. Ad hoc (temporary or project-based) use of CI when needed (e.g., when entering a new market or launching a new product there is a special effort, especially on market research and technology choice)
   D. No systematic approach—managers generally collect their own CI from personal contacts, web, trade journals, etc., but do not always share it
   E. No attempt to collect, or carry out, or share any CI

4. Which of the following CI-related department or unit largely supply CI for strategic decision-making? (**Please arrange them in ranking order like 1st, 2nd, 3rd, 4th, 5th, 6th)**
   A. Marketing and Sales Department _____
   B. Research and Development or Design Department _____
   C. Management Information Systems (MIS) _____
   D. Planning _____
   E. Production Department _____
   F. Other Department (_____)_____

5. Please indicate your 'degree of agreement' for each of the following statements using the 5-scale (ordinal ranking) by circling your choice number in the columns as you did in the last table.
   Please remember. **5 = Strongly Agree (SA); 4 = Agree (A); 3 = Partially Agree (PA); 2 = Disagree (D); 1 = Strongly Disagree (SD); and 0 = Difficult to Respond (DR).**

CI-related strategy issues of your organisation	SA	A	PA	D	SD	DR
1. Our industry continuously and systematically monitors technologies globally to determine whether new products, competitors or technology substitutes are emerging.	5	4	3	2	1	0
2. Information is valuable for our industry's decision-making.	5	4	3	2	1	0
3. Our industry collects information (CI) from the market it serves when it makes strategic decisions and decisions that affect long-term survival of the organisation.	5	4	3	2	1	0
4. Senior management specifically requests competitive information to make strategy decisions.	5	4	3	2	1	0
5. In the efforts of enhancing its competitiveness, our organisation tracks and/or listens to consumers, suppliers, competitors, industry experts and, most importantly, its own employees.	5	4	3	2	1	0
6. Our organisation does a lot of formal market research or feasibility study than CI.	5	4	3	2	1	0
7. Our organisation continuously collects useful information about its service, about the services of competitors and their markets.	5	4	3	2	1	0

Part II CI Management, Coordination and Integration

6. Please put your rating about issues—CI Management, Coordination and Integration

CI Management, Coordination and Integration	SA	A	PA	D	SD	DR
CI Function/Group Relationship with Other Functions						
1. Since information requirements for different business decisions are different, CI-related activities are performed by different employees in respective departments.	5	4	3	2	1	0
2. When one department finds out something important about customers or competitors it shares the information to other departments.	5	4	3	2	1	0
3. CI is coordinated-across-the-entire-organisation activity; among the industries and Corp-HQ	5	4	3	2	1	0
4. We have interdepartmental meetings at least once a quarter to discuss strategic market trends and developments.	5	4	3	2	1	0
5. The factories under our industry adequately share CI one another.	5	4	3	2	1	0

Part III CI Usage and Decision Usefulness

7. Please put your rating about issues—CI decision usefulness and value

Decision usefulness/value/responsiveness of CI	SA	A	PA	D	SD	DR
1. In our organisation, CI users have access to intelligence from both formal and informal channels to help them in their decision-making.	5	4	3	2	1	0
2. There is a demand for CI because it is an important input into the SDM process.	5	4	3	2	1	0

3. The CI function (information) assists our organisation in selecting new market ventures for existing offerings and in successful introduction of new products/services.	**5**	**4**	**3**	**2**	**1**	**0**
4. CI is used mostly to inform tactical measures such as price changes, promotional effort.	**5**	**4**	**3**	**2**	**1**	**0**
5. The competitive information we gather from the industry or the external environment dictates and shapes our strategies.	**5**	**4**	**3**	**2**	**1**	**0**
6. In our industry, the availability and use of CI has increased the effectiveness of managerial decision-making from time to time.	**5**	**4**	**3**	**2**	**1**	**0**
7. In general, the activities and objectives of CI are not consistent with those of the organisation (and its strategies).	**5**	**4**	**3**	**2**	**1**	**0**

Part IV Challenges in Promoting and Implementing CI

8. Which of the following are problems in using and effectively implementing CI in your organisation? Please circle on the choice of your rank given from 'Most Pressing" to "**NP**" (i.e., Not Practical in your organisation).

Problem or challenge to promote and use CI:	Most pressing	Pressing	Less pressing	Not a problem	NP
1. Decentralised collection of CI (e.g., by different departments/groups in different functional departments)	**5**	**4**	**3**	**2**	**1**
2. Inappropriate positioning of CI group (staff) within corporate management structures (the conglomerate's)	**5**	**4**	**3**	**2**	**1**
3. There are limitations and difficulties to clearly identify and ascertain the exact intelligence needs of users of CI	**5**	**4**	**3**	**2**	**1**
4. There is limited interaction between those who gather intelligence and the end-users of the information	**5**	**4**	**3**	**2**	**1**
5. Managers or decision-makers suffer from information stress, receiving too much information.	**5**	**4**	**3**	**2**	**1**
6. In adequate scanning of the market (e.g., scanning is often performed only by few people and without adequate resources)	**5**	**4**	**3**	**2**	**1**
7. Information is gathered in fragmented and irregular way which makes managers refrain to make their decision-making based on this information	**5**	**4**	**3**	**2**	**1**
8. Difficulty of interpreting competitive information for SDM purpose.	**5**	**4**	**3**	**2**	**1**
9. The CI generated is too general; most of it is either already known, or is not needed by users	**5**	**4**	**3**	**2**	**1**
10. There is ambiguity about the role of CI—what it is supposed to do and how it is supposed to help managers.	**5**	**4**	**3**	**2**	**1**
11. Top management is unable to think about the application of CI in the organisation	**5**	**4**	**3**	**2**	**1**
12. Top management often neglects continuous and systematic scanning of the competitive environment.	**5**	**4**	**3**	**2**	**1**
13. Users of CI have difficulty in interpreting competitive information they receive.	**5**	**4**	**3**	**2**	**1**
14. Users in different divisions/units of the organisation interpret the same intelligence in a variety of ways.	**5**	**4**	**3**	**2**	**1**

Part V Recommendations for Better Implementation

9. What importance will CI present if it is implemented in your organisation in a formal, structured and systematic way? How? Why? **(Please use the back part of this page to answer this question)**

10. How do you launch a formal CI unit/programme in the organisation? The formal reorganised CI function implementation shall be done through:
    A. By all the departments (that are mentioned under Question Number 4)
    B. As separate central department/unit in the organisation
    C. As project (to each project that may require strategic decision-making)
    D. External consultant or researcher for each project that require CI
    E. Others (Please suggest additional option to launch CI in your organisation)
    (Please use the back part of this page to answer Question Letter "E")

11. Should you have any useful comments and suggestions related to this study, please mention them below. **(Please use the back part of this page to answer this question)**

I THANK YOU FOR YOUR PATIENCE and VITAL COOPERATION!
2016, Addis Ababa, Ethiopia

Appendix 6: Semi-structured interview guide: interview with key personnel responsible for the competitive intelligence personnel ('CIPs') at the case conglomerate's headquarter

(Title: Enhancing Strategic Competitive Intelligence for SDM in a conglomerate)

Dear Respondent. Please carefully read the following notes for proper understanding of the questions of this data collection instrument. In case you want to refresh your knowledge or if you have difficulty of understanding a few of Competitive Intelligence (CI) or CI-related technical and operational terms of the study, please refer the attached document (for Abbreviations and Technical Phrases). If you want me for any inquiries that require my elaborations, please do not hesitate to use this mobile number and email address of mine (Bezabih Bekele Mobile +251-911606233; Email: 45535124@mylife.unisa.ac.za or bezabih.bekele@aau.edu.et). You can also use the attached Business Card.

Background Information

Today's companies face competition from both local and foreign made products every day. The need for information about this force has been named as—business intelligence, business strategy, competitive information, competitive intelligence, customer relationship management, data mining, entrepreneurial attitude, forecasting, foresight, information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning, competitor espionage, strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance.

As related to the above naming for the term, competitive intelligence (CI) can be understood, used, explained and practised in different ways and forms. Recently, most academicians and business people refer to this gathering of information as "competitive intelligence"—a comprehensive term that involves the mentioned term/phrases and the related activities. *Competitive Intelligence (CI)* is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself. CI therefore focuses on more than your competitors. It also about collection and processing of information from within the organisation for the purpose of supporting business decision-making and thereby enhancing your organisation's competitiveness in the market place and/or competitive business environment.

It is necessary to distinguish the term 'intelligence' from other relevant and similar terms. *Intelligence* is more than just *information*. Intelligence follows this processing stage: data—information—knowledge—intelligence. In short, intelligence is a ready-made output for decision-making or for users (who are also called clients or decision-makers) to use. However, for the purpose of this study, competitive intelligence can be interchangeably used with *competitive information* in some places.

As you can infer from the title of the study, the study focuses on in how to enhance strategic competitive intelligence in a conglomerate (i.e., enhancing the strategic value of competitive intelligence in a conglomerate). The study focuses on the strategic function of competitive intelligence for strategic decision-making. However, many organisations also use CI for tactical and operational decision-making. As mentioned before, CI is certainly found in different organisations in different ways, forms, levels and is practised in different ways—in formal, informal or quasi (partially formal way), in fragmented or organised way and the CI function can be located in the organisation's structure in a special functional unit/department/section (like the Corporate Think Tank and Knowledge Management Organ, Corporate Strategy and Control Principal Corporate Unit (PCU), Corporate Marketing and Sales PCU, Corporate New Business Development PCU, Corporate Research and Development PCU, Corporate Finance and Investment PCU, Public and International Relations Department, etc.). This function (CI) is also practised in different ways in the semi-autonomous industries of the conglomerate, which are also subjects of this Case Study.

Since formal CI has little or no recognition by most large Ethiopian enterprises, this study also focuses on exploring the availability and use of CI for SDM in both the corporation's HQ and its subsidiaries, which can also be named as Industries and Strategic Business Units (SBUs).

Informed consent for participation in the academic research project,

Enhancing Strategic Competitive Intelligence for SDM in a conglomerate

Dear Respondent

You are herewith invited to participate in an academic research study conducted by Bezabih Bekele, a student in the Doctor of Business Leadership at UNISA's Graduate School of Business Leadership (SBL).

As you can understand from the title of the study, the study focuses on the strategic function of competitive intelligence for strategic decision-making. In specific statement, the main purpose of the study is to demonstrate how CI can be considered and enhanced for strategic purpose and thereby introduce a workable CI implementation model or framework for start-up use by the conglomerate and its industries; and meanwhile to trigger large Ethiopian enterprises to think and start using CI for strategic decision-making.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

Please answer the questions in the attached interview and questionnaire as completely and honestly as possible. The interview should not take more than 1 hour of your time.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Professor P. Venter, e-mail: ventep@unisa.ac.za, Tel: 0824166801 if you have any questions or comments regarding the study. Please sign the attached to indicate your willingness to participate in the study.

Yours sincerely

I,..... [REPONDENT NAME], herewith give my consent to participate in the study titled ***"Enhancing Strategic Competitive Intelligence for SDM in a conglomerate"***

I have read the letter and understand my rights with regard to participating in the research.

_____ _____

Respondent's signature **Date**

ACTIVITY ON THE DAY OF THE INTERVIEW

Date of Interview: _____

Start time: _____ **End time:** _____

Case Organisation/Company Name: _____

Name of Interviewee: _____

Position of Interviewee (as formal title in the organisation): _____
_____

Opening remarks before the start of the Interview:

1. All interviews and documentations related to the study project will be kept confidential. You and your affiliated organisation will not be identified in any reports of the research.
2. The goal of this interview is to talk about some of your perceptions about the CI work domain, your work experiences as a 'CI professional' in your organisation and how CI is practised in your organisation.
3. The interview session will last about 1 hour. However, we can resume our interview at any time or hours for your convenience.
4. Hope you already referred the questions that I will ask you now and the separate Support Notes for the interview questions. But let me refresh you taking important notes from the Interview Guide about CI, CI Function, the reason the study focuses on the CI function/activities in your organisation, the study procedures, etc…*With reference to the title of my study, our interview focuses on the value of competitive intelligence for SDM.*
5. Dear Sir/Madam/Dr/Military Title: Would you please attach documents available for any different questions you have already referred before this interview date when we will close the interview. You can give me them after some time when available or ready too.
6. Before we get started, I need to know if you have any questions or concerns about the study. (Do you have any questions?)

Thank you. We can start now.

Part I CI-related General Questions

Section 1.1 CI-strategy related general questions

1. Does your organisation maintain and discuss a list of strategic issues covering the next 3-5 years (and/or issues of the current strategic period)?
2. What evidence supports the assumption of your organisation's strategy? What are the major assumptions and sources of information to make vital strategic decisions in the conglomerate or by the responsible management group or unit in the corporation?
3. To what extent competitive information is important to make business and strategic decision in your organisation? Which external environment factor-related information influence/support the strategy and SDM of the top management? In short, why is CI necessary about your industry or sector?
4. What types and sources of information will help you to make strategic decisions regarding the conglomerate's grand strategies as related to:
    a) New business and/or new product development;
    b) Technology transfer—how the conglomerate fosters technology transfer as stated in its strategy. How do you foster or promote technology transfer using CI, for example;
    c) Making strategic alliances with foreign partners (for example, in licensing and getting patent rights);
    d) Creating value chain among different actors which can be found within the conglomerate or outside of the conglomerate;
    e) Enhancing value chain in the integrated industries and among the partners (vertical and horizontal integration using strategic supply chain management);
    f) Import substitution (local intelligence on imported products);
    g) Benchmarking from foreign alliances;
    h) Strategic alliances on turnkey arrangement and licensing;
    i) Foreign intelligence on patent search, partner search, mergers and acquisitions;
    j) And other intelligence search, collection and use on other the conglomerate's grand strategies
5. Can you define the CI function's goal, clients (users of CI or decision-makers), output and decision(s) it will support? Or, how would you describe the overall goal or purpose of your department or CI function?

Section 2.2 CI Location and Influence of Location on CI Activities

6. Which of the following functional offices of the Corporation mainly perform the CI function? Please rank them based on their contribution in aiding the business and SDM of the conglomerate.

Office/Department/Section	Rank	Remark, if any
1. Corporate New Business		
2. Corporate Strategy and Control		
3. Corporate Marketing and Sales		
4. Corporate Research and Development		
5. Corporate Commercial Operations		
6. Corporate Think Tank and Knowledge Management		
7. Corporate Finance and Investment		
Please mention any other relevant office if any:		

7. To what degree is the CI process centralised (also meant to say decentralised)? Is the effort coordinated and consolidated at the corporate level or dispersed and disjointed at the firm or industry level? Will a CI team without a corporate branch still be in a position to effectively assess the impact of an event on the competitive position of the firm as a whole or industry or only the functional area exclusively? Will there be an incentive to look at the firm as a whole with a decentralised CI system?
8. Do you think the location of CI in the organisation has its own impacts in using CI for organisational/strategic decision-making? How?
9. What suggestions do you have about the relocation, restructuring or repositioning of the CI body or function to bring its vital contribution in the realisation of your organisation's strategies? What are your justifications for this reorganisation suggestion?

Part II Key Intelligence Topics and Sources of Strategic CI (SI)

10. On what topics you make environmental scanning to gathering knowledge about events, relationships and trends in the environment of an organisation, knowledge that assists the management in planning the course of action?
11. How do you determine Key Intelligence Topics (KITs) in your organisation? For example, when updating yourself on the activities of competitors, do you know beforehand what specific information about them it is you would like to know?
12. Below are only listed specific critical competitive issues which are found from open sources (mainly internet). In competitive intelligence discipline, these issues are named as KITs (Key Intelligence Topics). Can you add other KITs that are collected by your organisation and the corporation's HQ?

Rank (1st, 2nd…)	Specific KITs	Sources of Information	L or F or L+F
	Searching right strategic partners from overseas (foreign companies)	Webs; References; Existing foreign consultants and advisors	
	Looking for Government partnership projects		
	Acquiring/buying industries		
	Negotiating and making deals		
	Undertaking crucial projects		
	Identifying different new and expansion projects		
	Negotiating contracts		
	Choosing the right suppliers		
	Commissioning sub-contractors		
	Negotiating on contracts of works		
	Handling private companies' investments		
	Searching appropriate technology		
	Making turnkey arrangement		
	Developing new products		
	Improving products		
	Copying technologies		
	Benchmarking		
	Choosing establishments		
	Looking for sub-contractors		

13. Which information sources do you use to scan your business and/or industry environment? In other words, from which sources you get pertinent information that helps your organisation or users of CI make sound strategic and business decisions?
14. What information sources do you use to make strategic decision regarding:
    a) CI for portfolio management:
        (1) How do you reach at a decision to open a new business to the conglomerate?
        (2) How do you open a new factory or strategic business unit (SBUs); Or, make portfolio decisions like abandoning or merging SBUs?
    b) CI for strategic alliance:
        (1) How do you enter into strategic alliances with foreign partners and local partners?
        (2) Do you make intelligence on your foreign partner? How? On what areas before, during and after the partnership dealings?
    c) CI for mergers and acquisitions:
        (1) What are your strategies in selecting and entering into deals and negotiations in buying these factories from abroad?
        (2) What consideration do you take to buy plants from abroad?
        (3) How does CI help you in acquiring business or factories from other countries or in making mergers and acquisitions? On what strategic areas or topics do you gather competitive information to make such decisions?
        (4) Do you use foreign intelligence by your own or by outsourcing, for example? Do you think the information you gather from abroad to make such decisions adequate and accurate?
15. How do you accumulate and use knowledge that are obtained in the course of the strategic alliance and partnership dealings as related to technology transfer, staff training and knowledge transfer, patent and licensing issues, local ownership and custom production, subcontracting and the like (all are strategies of the conglomerate)?
16. How and what system is used to store and reuse information that will be collected in the course of your acquisition and partnership activities for present and future strategic decision-making?

Part III CI Infrastructure and Organisation

Section 3.1 CI infrastructure and tools

17. Does your organisation run a Document Management or Content Management /Archive/ Workflow system? What type of pertinent data are preserved or stored in your organisation for the purpose of decision-making?
18. Does your organisation have an Intranet? Does your organisation have an Intranet and Extranet for CI function?
19. Do you have a defined information/intelligence collection network or system for situations that exist in your business environment and industry in which your business is in? To what degree is the CI process centralised? Is there CI software that is used to support the CI activity/service in your organisation? Please explain, may be connected to the Repository you are using now.

Section 3.2 CI Management and Coordination

20. With whom or which bodies/functional areas you share strategic information in your organisation? How do you share this knowledge?
21. Currently, the conglomerate is comprised of 15 semi-autonomous and integrated manufacturing companies which are also linked in value chains, market and technology feeding/integration. Related to this fact, how is the gathering and exchange (sharing) of competitive information is carried out to enhance the contribution and value of these industries in the value chain?
22. Is CI processing or knowledge management practised taking best practices and benchmarking activities of conglomerates that are operating in model countries, like Korea, Japan, Taiwan and China, like the other process, production, technology and even management benchmarking the conglomerate employs from these countries?
23. In what areas would you like to see improvements in the interactions and work outputs between the different functional areas that are internal clients of your service (users of CI in the marketing/sales function, for example) and the CI group?

Part IV CI Decision Usefulness to Strategic Decision-makers (CI Clients)

24. To what extent and how has CI aided strategic decision-makers or top management of your organisation? To what extent does your CI work assist your organisation in changing its business strategy?
25. How does the CI function truly help top management in understand the strategic issues which the corporation is facing or want to know? Is it effective? For example, would you please share an experience in which analysing technology trends helped you identify a successful market for product development or improve sales of a product?
26. Can you provide evidence that CI affects concrete decisions and motivates specific actions in your organisation in the past? You can answer this question with reference to similar examples which are given below.
    a) The corporation had been negotiation to buy and relocate ten factories from Asia for one-year (news on website). It is also dealing and partnering with different multinational companies like Samsung

Electronics (to establish a laptop and printer assembly plant). Do you think CI would help such negotiations and deals with international suppliers? How would CI help the conglomerate in winning similar negotiations?

b) How far the conglomerate has exhaustively used CI to search for and buy the ten metal factories from Asia? The CI can be collected by anyone. But, can we say CI has great value to make this decision? Can you add other examples which illustrate how the conglomerate was benefited by CI services/products?

27. During which aspects of the SDM process is CI most useful? Can you give clear evidences that the CI gathered from strategic key intelligence topics (KITs) resulted in supporting strategic and major decisions of your organisation (like corporate or business strategy, sales or business development, market entry decisions)?

Part V Challenges in Promoting and Implementing CI

28. In your opinion, what are the top five competitive intelligence implementation challenges and their root causes? Please indicate if the root causes of top five functional (CI) challenges are—staff, process, technology, system, location/position in the organisation, or shortfall of strategy-CI linkage.
29. What critical CI challenges do your organisation, work group or clients face in this strategy period of your organisation (and the conglomerate) and/or last fiscal year?

Part VI Recommendations for Better Implementation

30. Think your organisation's context with respect to collection and processing of CI and your organisation's strategic decision-making. What factors actually promote CI process in your organisation at present time?
31. How do you advise or explain to top management that a formalised CI effort assists in enhancing the decision-making skills of managers? How can you build effective internal networks among SBUs to exchange information and analysis?
32. If you think the current location of CI group/unit/function in the organisational structure is not right (e.g., to adequately serving the conglomerate's strategy), what is the desired location in the organisational structure (if it should be located/positioned different from current location)? (a) in HQ (b) in industries (c) between the HQ and industries

How to start up a formal CI function/programme/system

33. What importance will CI present if it is implemented in your organisation in a formal, structured and systematic way? How? Why? If you think your organisation shall launch a formal CI programme, why should your company introduce a formal competitive intelligence programme? Can you support your justifications presenting practical examples, which could be from your experience and your organisation's past experience?
34. Generally, how should a formal CI programme be started-up, organised (managed) and carried out to effectively aid SDM of the conglomerate? What initiatives shall be undertaken by the management to get the most out of a formal and systematised CI programme or practice for SDM?
35. Who should be the 'CI champion' in your organisation if the conglomerate is in a real move to establish a formal CI Programme or System? ("CI Champion" is a person, whose main responsibilities are to help institutionalise CI activities, render visible support to the CI function and serve as a link between top management and the CI function.
36. What do you think are critical success factors to implement an effective CI system/programme is in your organisation?

Part VII Closing Questions

37. Do you think this study is relevant and timely in today's business and/or for your organisation? Can you give at least five important justifications?
38. Please feel free to add any additional comments and suggestions related to this study.

Post-interview Notes:

As I transcribe your interview, there may be points that I would like to clarify with you. May I contact you to briefly to discuss the points? If yes, you prefer to be contacted by phone or by email?

I THANK YOU FOR YOUR PATIENCE and VITAL COOPERATION!
2016, Addis Ababa, Ethiopia

Appendix 7: Semi-structured interview guide: interview with key personnel responsible for the competitive intelligence function ('CIPs') at the industries

(Title: Enhancing Strategic Competitive Intelligence for SDM in a conglomerate)

Dear Respondent. Please carefully read the following notes for proper understanding of the questions of this data collection instrument. In case you want to refresh your knowledge or if you have difficulty of understanding a few of Competitive Intelligence (CI) or CI-related technical and operational terms of the study, please refer the attached document (for Abbreviations and Technical Phrases). If you want me for any inquiries that require my elaborations, please do not hesitate to use this mobile number and email address of mine (Bezabih Bekele Mobile +251-911606233; Email: 45535124@mylife.unisa.ac.za or bezabih.bekele@aau.edu.et). You can also use the attached Business Card.

Background Information

Today's companies face competition from both local and foreign made products every day. The need for information about this force has been named as—business intelligence, business strategy, competitive information, competitive intelligence, customer relationship management, data mining, entrepreneurial attitude, forecasting, foresight, information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning, competitor espionage, strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance.

As related to the above naming for the term, competitive intelligence (CI) can be understood, used, explained and practised in different ways and forms. Recently, most academicians and business people refer to this gathering of information as "competitive intelligence"—a comprehensive term that involves the mentioned term/phrases and the related activities. *Competitive Intelligence (CI)* is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself. CI therefore focuses on more than your competitors. It also about collection and processing of information from within the organisation for the purpose of supporting business decision-making and thereby enhancing your organisation's competitiveness in the market place and/or competitive business environment.

It is necessary to distinguish the term 'intelligence' from other relevant and similar terms. *Intelligence* is more than just *information*. Intelligence follows this processing stage: data—information—knowledge—intelligence. In short, intelligence is a ready-made output for decision-making or for users (who are also called clients or decision-makers) to use. However, for the purpose of this study, competitive intelligence can be interchangeably used with *competitive information* in some places.

As you can infer from the title of the study, the study focuses on in how to enhance strategic competitive intelligence in a conglomerate (i.e., enhancing the strategic value of competitive intelligence in a conglomerate). The study focuses on the strategic function of competitive intelligence for strategic decision-making. However, many organisations also use CI for tactical and operational decision-making. As mentioned before, CI is certainly found in different organisations in different ways, forms, levels and is practised in different ways—in formal, informal or quasi (partially formal way), in fragmented or organised way and the CI function can be located in the organisation's structure in a special functional unit/department/section (like the Corporate Think Tank and Knowledge Management Organ, Corporate Strategy and Control Principal Corporate Unit (PCU), Corporate Marketing and Sales PCU, Corporate New Business Development PCU, Corporate Research and Development PCU, Corporate Finance and Investment PCU, Public and International Relations Department, etc.). This function (CI) is also practised in different ways in the semi-autonomous industries of the conglomerate, which are also subjects of this Case Study.

Since formal CI has little or no recognition by most large Ethiopian enterprises, this study also focuses on exploring the availability and use of CI for SDM in both the corporation (HQ) and its subsidiaries, which can also be named as Industries and Strategic Business Units (SBUs).

Informed consent for participation in the academic research project,

Enhancing Strategic Competitive Intelligence for SDM in a conglomerate

Dear Respondent

You are herewith invited to participate in an academic research study conducted by Bezabih Bekele Tolla, a student in the Doctor of Business Leadership at UNISA's Graduate School of Business Leadership (SBL).

As you can understand from the title of the study, the study focuses on the strategic function of competitive intelligence for strategic decision-making. In specific statement, the main purpose of the study is to demonstrate how CI can be considered and enhanced for strategic purpose and thereby introduce a workable CI implementation model or framework for start-up use by the conglomerate and its industries; and meanwhile to trigger large Ethiopian enterprises to think and start using CI for strategic decision-making.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

Please answer the questions in the attached interview and questionnaire as completely and honestly as possible. The interview should not take more than 1 hour of your time. The questionnaire should not take more than an hour.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Professor P. Venter, e-mail: ventep@unisa.ac.za, Tel: 0824166801 if you have any questions or comments regarding the study. Please sign the attached to indicate your willingness to participate in the study.

Yours sincerely

I,..... [REPONDENT NAME], herewith give my consent to participate in the study titled ***"Enhancing Strategic Competitive Intelligence for SDM in a conglomerate"***

I have read the letter and understand my rights with regard to participating in the research.

_____ _____

Respondent's signature **Date**

ACTIVITY ON THE DAY OF THE INTERVIEW

Date of Interview: _____

Start time: _____ **End time:** _____

Case Organisation/Company Name: _____

Name of Interviewee: _____

Position of Interviewee (as formal title in the organisation): _____

_____

Opening remarks before the start of the Interview:

1. All interviews and documentations related to the study project will be kept confidential. You and your affiliated organisation will not be identified in any reports of the research.
2. The goal of this interview is to talk about some of your perceptions about the CI work domain, your work experiences as a 'CI professional' in your organisation and how CI is practised in your organisation.
3. The interview session will last about 1 hour. However, we can resume our interview at any time or hours for your convenience.
4. Hope you already referred the questions that I will ask you now and the separate Support Notes for the interview questions. But let me refresh you taking important notes from the Interview Guide about CI, CI Function, the reason the study focuses on the CI function/activities in your organisation, the study procedures, etc…*With reference to the title of my study, our interview focuses on the value of competitive intelligence for SDM.*
5. Dear Sir/Madam/Dr/Military Title: Would you please attach documents available for any different questions you have already referred before this interview date when we will close the interview. You can give me them after some time when available or ready too.
6. Before we get started, I need to know if you have any questions or concerns about the study. (Do you have any questions?)

Thank you. We can start now.

Part I CI-related General Questions

1. Does your industry have its own strategy? What are the strategies of your Industry? What are the bases for formulating this strategy? What business, tactical and strategic decisions you make for your industry? What evidence supports the assumption of your industry's strategy? What are the major assumptions and sources of information to make vital strategic decisions in the conglomerate or by the responsible management group or unit in the conglomerate?
2. What data and units of analysis (such as industry or market or technology-related or grand strategies of the conglomerate) are used to make industry-related strategic decisions?
3. Does top management of your Industry make strategic decisions which are listed from 'a' to 'j'? Or, are such decisions are just made by the conglomerate (from the headquarter)? From what sources and how do you gather CI that will help you make strategic decisions regarding the conglomerate's grand strategies as related to:
    a) New business and/or new product development;
    b) Technology transfer or how the conglomerate fosters technology transfer as stated in its strategy. How do you foster or promote technology transfer using CI, for example;
    c) Making strategic alliances with foreign partners (for example, in licensing and getting patent rights);
    d) Creating value chain among different actors which can be found within the conglomerate or outside of the conglomerate;
    e) Enhancing value chain in the integrated industries and among the partners (vertical and horizontal integration using strategic supply chain management);
    f) Import substitution (local intelligence on imported products);
    g) Benchmarking from foreign alliances;
    h) Strategic alliances on turnkey arrangement and licensing;
    i) Foreign intelligence on patent search, partner search, mergers and acquisitions;
    j) And other intelligence search, collection and use on other the conglomerate's grand strategies_____
4. I could refer from corporation's website that the conglomerate is teaming and collaborating with partners, suppliers, customers, academia and stakeholders. How are these values supported by competitive information? What CI are gathered by your Industry to make strategic decisions as related to this philosophy of the corporation?

Part II Availability of Strategic Intelligence for SDM to the Industry and CI location issues

5. Is there a formal information gathering and dissemination function in your industry? What is the name of this functional department/unit/group and where is its position in the industry's structure? Which department or unit is responsible for collecting and sharing of strategic information in your industry?
6. On what topics you make environmental scanning to gathering knowledge about events, relationships and trends in the environment of an industry, knowledge that assists the management in planning the course of action? How do you determine Key Intelligence Topics (KITs) in your industry? How do you accumulate and use knowledge that are obtained in the course of the strategic alliance and partnership dealings as related to technology transfer, staff training and knowledge transfer, patent and licensing issues, local ownership and custom production, subcontracting and the like (all are strategies of the conglomerate)? *Please note, as the main strategies are made by the conglomerate, your industry shall certainly need competitive intelligence to realise the strategies. As you read from the Supplementary Note attached to this questionnaire, this information for tactical decision-making is named as 'tactical intelligence'.*
7. How and what system is used to store and reuse information that will be collected in the course of your acquisition and partnership activities for present and future strategic decision-making?
8. Please describe the formal structural links that exist between the CI unit and other functional units? For example, who are your formal contact persons in the sales/ marketing function?
9. Do you think the location of CI in the industry has its own impacts in using CI for organisational/strategic decision-making? How? What suggestions do you have about the relocation, restructuring or repositioning of the CI body or function to bring its vital contribution in the realisation of your industry's strategies? What are your justifications for this reorganisation suggestion?

Part III Value of CI to the Industries and the SBUs

Section 3.1 Scope and value of Strategic Intelligence to the Industry

10. To what extent competitive information is important to make business and strategic decision in your industry?
11. What strategic role does strategic intelligence (SI) or generally competitive intelligence (CI) play in your industry and/or the markets in which you operate, or, shortly, in your strategic decision-making?
12. To what extent does the industries are autonomous in producing competitive intelligence and making strategic decisions based on these products?
13. How do you gather and disseminate competitive intelligence which has strategic value from the SBUs (factories) found under your industry?
14. How do you integrate CI and relevant information you gather from the different industries or SBUs of your industry, if any?

Section 3.2 CI and knowledge sharing

15. the conglomerate constituted a number of integrated industries and it is the first big state-owned conglomerate that is structured based on these industries (15 semi-autonomous industries and 2 sub-industries). These industries are linked in a supply chain and networking approach giving priority in adding value to the products. A number of industries are found in closely related industries and targeted for the value chain strategies (conglomerate integration) of the Corporation in metal and engineering sectors and technology (including Ethiopia Plastic Industry). In line with the Corporation's strategy to link the different industries in the value chain, how do you exchange and share knowledge or competitive information that have strategic value with the other industries?
16. Currently, the conglomerate is comprised of 15 *semi-autonomous* and *integrated manufacturing companies which are also linked in value chains, market and technology feeding/integration*. Related to this fact,

    a) How does the gathering and exchange (sharing) of competitive information is carried out to enhance the contribution and value of these industries in the value chain?
    b) In what areas would you like to see improvements in the interactions and work outputs between the different functional areas that are internal clients of your service (users of CI in the marketing/sales function, for example) and the CI group?

17. With whom or which bodies/functional areas you share strategic information in your industry? How do you share this knowledge? What strategic information you exchange or share with:
    a. the conglomerate, at the Headquarter; and
    b. The rest industries and strategic business units?

18. Do you have a uniform format to gather, process, report and disseminate competitive intelligence of strategic value in your industry or as prescribed by the headquarter? Can you explain your response by giving practical examples from your past experience?
19. Do you think best practices and learning from one SBU or industry are exchanged to the other SBUs or industries?

20. Do you think both the SBUs and the industries are well integrated in gathering and sharing competitive information and knowledge? If not well integrated and organised, how would you like them to be organised for effective and efficient competitive information or intelligence collection, sharing and use?

Part IV Decision Usefulness and CI Usage by Users/Clients

21. Does the top management encourage collection and use of competitive information for its decision-making? How?
22. How does the CI function truly help top management in understand the strategic issues which the corporation is facing or want to know? Is it effective? For example, would you please share an experience in which analysing technology trends helped you identify a successful market for product development or improve sales of a product?
23. During which aspects of the SDM process is CI most useful? Can you give clear evidences that the CI gathered from strategic key intelligence topics (KITs) resulted in supporting strategic and major decisions of your industry (like corporate or business strategy, sales or business development, market entry decisions)?

Part V Organisational challenges in using CI for SDM

24. What critical CI implementation challenges (including collection and use challenges) does your industry, work group or clients face in last fiscal year?
25. In your opinion, what are the top five competitive intelligence implementation challenges and their root causes? Please indicate if the root causes of top five functional (CI) challenges are—staff, process, technology, system, location/position in the industry, or shortfall of strategy-CI linkage.

Part VI Recommendations for Better Implementation

26. Think your industry's context with respect to collection and processing of CI and your industry's strategic decision-making. What factors actually promote CI process in your industry at present time?
27. How do you advise or explain to top management that a formalised CI effort assists in enhancing the decision-making skills of managers? How can you build effective internal networks among SBUs to exchange information and analysis?
28. If you think the current location of CI group/unit/function in the organisational structure is not right (e.g., to adequately serving your industry's strategy), what is the desired location in the organisational structure (if it should be located/positioned different from current location)? (a) in HQ (b) in industries (c) between the HQ and industries

Part VII Starting up a formal CI function/programme/system

29. What importance will CI present if it is implemented in the conglomerate as a Corporation and in your industry in a formal, structured and systematic way? How? Why?
30. What initiatives shall be undertaken by the management of your Industry to get the most out of a formal and systematised CI programme or practice for SDM? What about by the top management of the conglomerate from the Headquarter?
31. Who should be the 'CI champion' in your industry if your organisation is in a real move to establish a formal CI Programme or System? ("CI Champion" is a person, whose main responsibilities are to help institutionalise CI activities, render visible support to the CI function and serve as a link between top management and the CI function.)

Part VIII Closing Questions

32. Do you think this study is relevant and timely in today's business and/or for the conglomerate and your industry as well? Can you give at least five important justifications?
33. Please feel free to add any additional comments and suggestions related to this study.

Post-interview Notes:

As I transcribe your interview, there may be points that I would like to clarify with you. May I contact you to briefly to discuss the points? If yes, you prefer to be contacted by phone or by email?

I THANK YOU FOR YOUR PATIENCE and VITAL COOPERATION!
2016, Addis Ababa, Ethiopia

Appendix 8: Semi-structured interview guide: interview with strategic decision-makers or competitive intelligence users/clients (top management and executive committee at the headquarter)

(Title: Enhancing Strategic Competitive Intelligence for SDM in a conglomerate)

Dear Respondent. Please carefully read the following notes for proper understanding of the questions of this data collection instrument. In case you want to refresh your knowledge or if you have difficulty of understanding a few of Competitive Intelligence (CI) or CI-related technical and operational terms of the study, please refer the attached document (for Abbreviations and Technical Phrases). If you want me for any inquiries that require my elaborations, please do not hesitate to use this mobile number and email address of mine (Bezabih Bekele Mobile +251-911606233; Email: 45535124@mylife.unisa.ac.za or bezabih.bekele@aau.edu.et). You can also use the attached Business Card.

Background Information

Today's companies face competition from both local and foreign made products every day. The need for information about this force has been named as—business intelligence, business strategy, competitive information, competitive intelligence, customer relationship management, data mining, entrepreneurial attitude, forecasting, foresight, information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning, competitor espionage, strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance.

As related to the above naming for the term, competitive intelligence (CI) can be understood, used, explained and practised in different ways and forms. Recently, most academicians and business people refer to this gathering of information as "competitive intelligence"—a comprehensive term that involves the mentioned term/phrases and the related activities. *Competitive Intelligence (CI)* is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself. CI therefore focuses on more than your competitors. It also about collection and processing of information from within the organisation for the purpose of supporting business decision-making and thereby enhancing your organisation's competitiveness in the market place and/or competitive business environment.

It is necessary to distinguish the term 'intelligence' from other relevant and similar terms. *Intelligence* is more than just *information*. Intelligence follows this processing stage: data—information—knowledge—intelligence. In short, intelligence is a ready-made output for decision-making or for users (who are also called clients or decision-makers) to use. However, for the purpose of this study, competitive intelligence can be interchangeably used with *competitive information* in some places.

As you can infer from the title of the study, the study focuses on in how to enhance strategic competitive intelligence in a conglomerate (i.e., enhancing the strategic value of competitive intelligence in a conglomerate). The study focuses on the strategic function of competitive intelligence for strategic decision-making. However, many organisations also use CI for tactical and operational decision-making. As mentioned before, CI is certainly found in different organisations in different ways, forms, levels and is practised in different ways—in formal, informal or quasi (partially formal way), in fragmented or organised way and the CI function can be located in the organisation's structure in a special functional unit/department/section (like the Corporate Think Tank and Knowledge Management Organ, Corporate Strategy and Control Principal Corporate Unit (PCU), Corporate Marketing and Sales PCU, Corporate New Business Development PCU, Corporate Research and Development PCU, Corporate Finance and Investment PCU, Public and International Relations Department, etc.). This function (CI) is also practised in different ways in the semi-autonomous industries of the conglomerate, which are also subjects of this Case Study.

Since formal CI has little or no recognition by most large Ethiopian enterprises, this study also focuses on exploring the availability and use of CI for SDM in both the conglomerate and its subsidiaries, which can also be named as Industries and Strategic Business Units (SBUs).

Informed consent for participation in the academic research project,

Enhancing Strategic Competitive Intelligence for SDM in a conglomerate

Dear Respondent

You are herewith invited to participate in an academic research study conducted by Bezabih Bekele Tolla, a student in the Doctor of Business Leadership at UNISA's Graduate School of Business Leadership (SBL).

As you can understand from the title of the study, the study focuses on the strategic function of competitive intelligence for strategic decision-making. In specific statement, the main purpose of the study is to demonstrate how CI can be considered and enhanced for strategic purpose and thereby introduce a workable CI implementation model or framework for start-up use by the conglomerate and its industries; and meanwhile to trigger large Ethiopian enterprises to think and start using CI for strategic decision-making.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

Please answer the questions in the attached interview and questionnaire as completely and honestly as possible. The interview should not take more than 1 hour of your time. The questionnaire should not take more than an hour.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Professor P. Venter, e-mail: ventep@unisa.ac.za, Tel: 0824166801 if you have any questions or comments regarding the study. Please sign the attached to indicate your willingness to participate in the study.

Yours sincerely

I,_____ [REPONDENT NAME], herewith give my consent to participate in the study titled ***"Enhancing Strategic Competitive Intelligence for SDM in a conglomerate"***

I have read the letter and understand my rights with regard to participating in the research.

_____ _____

Respondent's signature **Date**

ACTIVITY ON THE DAY OF THE INTERVIEW

Date of Interview: _____

Start time: _____ **End time:** _____

Case Organisation/Company Name: _____

Name of Interviewee: _____

Position of Interviewee (as formal title in the organisation): _____

_____

Opening remarks before the start of the Interview:

1. All interviews and documentations related to the study project will be kept confidential. You and your affiliated organisation will not be identified in any reports of the research.
2. The goal of this interview is to talk about some of your perceptions about the CI work domain in your organisation and how this function (which can be practised formally or informally) has assisted the SDM of your organisation or you.
3. The interview session will last about 1hours. However, we can resume our interview at any time or hours for your convenience.
4. Hope you already referred the questions that I will ask you now and the separate Support Notes for the interview questions. But let me refresh you taking important notes from the Interview Guide about CI, CI Function, the reason the study focuses on the CI function/activities in your organisation, the study procedures, etc…*With reference to the title of my study, our interview focuses on the value of competitive intelligence for SDM.*
5. Dear Sir/Madam/Dr/Military Title: Would you please attach documents available for any different questions you have already referred before this interview date when we will close the interview. You can give me them after some time when available or ready too.
6. Before we get started, I need to know if you have any questions or concerns about the study. (Do you have any questions?)

Thank you! We can start now.

Part I CI-related and Strategy-related General Issues

1. What evidence supports the assumption of your strategy? What are the major assumptions and sources of information to make vital strategic decisions in the conglomerate or by the responsible management group or unit in the conglomerate?
2. To what extent competitive information is important to make business and strategic decision in your organisation? Which external environment factors influence the strategy and SDM of the top management? Which external environment factors influence the strategy and SDM of the top management?

Part II CI Availability, Topics (KITs) and Sources/Resources

3. How do you describe scanning behaviour of your organisation or management? Why is competitive intelligence necessary about your industry or sector?
4. What type of information about the competitive environment of your organisation is important for your decision-making? Or, what is the focus of management in looking for CI? What type of information is valuable for your decision-making? Why?
5. How does CI help the conglomerate in searching for and dealing with the best partner from overseas? Can you give examples? You may start by mentioning your sources of CI in your effort of getting and choosing these partners. What was the role of CI in these strategy decision areas or dealings? From what sources do you get CI that will help you make strategic decisions regarding the conglomerate's grand strategies as related to:
    a. New business and/or new product development
    b. Technology transfer or how the conglomerate fosters technology transfer as stated in its strategy. How do you foster or promote technology transfer using CI, for example?
    c. Making strategic alliances with foreign partners (for example, in licensing and getting patent rights)
    d. Creating value chain among different actors which can be found within the conglomerate or outside of the conglomerate?
    e. Enhancing value chain in the integrated industries and among the partners (vertical and horizontal integration using strategic supply chain management)
    f. Import substitution (local intelligence on imported products)
    g. Benchmarking from foreign alliances

h. Strategic alliances on turnkey arrangement and licensing
i. Foreign intelligence on patent search, partner search, mergers and acquisitions
j. And other intelligence search, collection and use on other the conglomerate's grand strategies

6. What information sources do you use to make strategic decision regarding:

a. CI for portfolio management:
   i. How do you reach at a decision to open a new business to the conglomerate?
   ii. How do you open a new factory or strategic business unit (SBUs); Or, make portfolio decisions like abandoning or merging SBUs?
b. CI for strategic alliance:
   i. How do you enter into strategic alliances with foreign partners and local partners?
   ii. Do you make intelligence on your foreign partner? How? On what areas before, during and after the partnership dealings?
c. CI for mergers and acquisitions:
   i. What are your strategies in selecting and entering into deals and negotiations in buying these factories from abroad?
   ii. What consideration do you take to buy plants from abroad?
   iii. How does CI help you in acquiring business or factories from other countries or in making mergers and acquisitions? On what strategic areas or topics do you gather competitive information to make such decisions?
   iv. Do you use foreign intelligence by your own or by outsourcing, for example? Do you think the information you gather from abroad to make such decisions adequate and accurate?

Part III CI Products, Quality and Decision Usefulness

7. Can you provide evidence that CI affects concrete decisions and motivates specific actions in your department and/or your organisation in the past?
8. To what extent and how has competitive intelligence aided you, your organisations or various decision-makers (CI users) in the organisation? Or, to what extent does the CI function or your organisation's CI group work assist your organisation or top management in changing its business strategy?
9. How does the CI function truly help top management in understand the strategic issues which the corporation is facing or want to know? Is it effective? For example, would you please share an experience in which analysing technology trends helped you identify a successful market for product development or improve sales of a product? Can you give clear evidences that the CI gathered from strategic key intelligence topics (KITs) resulted in supporting strategic and major decisions of your organisation (like corporate or business strategy, sales or business development, market entry decisions)? During which aspects of the SDM process is CI most useful to you?

Part IV Recommendations for Better Implementation of CI

10. Do you think CI is vital for SDM of the conglomerate? Would you please indicate me how, how would your organisation start using formal CI to enhance SDM process?
11. What importance will CI present if it is implemented in your organisation in a formal, structured and systematic way? How? Why? How do you launch a formal competitive intelligence unit/programme in the organisation? What should be top management's role in establishing a functional CI in the organisation? What initiatives shall be undertaken by the management to get the most out of a formal and systematised CI programme or practice
12. If you think the current location of CI group/unit/function in the organisational structure is not right (e.g., to adequately serving the conglomerate's strategy), what is the desired location in the organisational structure (if it should be located/positioned different from current location)? How can the CI function shall be organised or structured to support mainly strategic decision-making?
13. Can you suggest a CI enabling system which is unique to your organisation's system that is aiming at collecting, analysing and disseminating competitive information mainly for SDM purpose?
14. Do you think this study is relevant and timely in today's business? Can you give at least five important justifications?

Post-interview Notes:

As I transcribe your interview, there may be points that I would like to clarify with you. May I contact you to briefly to discuss the points? If yes, you prefer to be contacted by phone or by email?

I THANK YOU FOR YOUR PATIENCE and VITAL COOPERATION!
2016, Addis Ababa, Ethiopia

Appendix 9: Semi-structured interview guide: Interview with strategic decision-makers or competitive intelligence users/clients (top management and executive committee at the industries)

(Title: Enhancing Strategic Competitive Intelligence for SDM in a conglomerate)

Dear Respondent. Please carefully read the following notes for proper understanding of the questions of this data collection instrument. In case you want to refresh your knowledge or if you have difficulty of understanding a few of Competitive Intelligence (CI) or CI-related technical and operational terms of the study, please refer the attached document (for Abbreviations and Technical Phrases). If you want me for any inquiries that require my elaborations, please do not hesitate to use this mobile number and email address of mine (Bezabih Bekele Mobile +251-911606233; Email: 45535124@mylife.unisa.ac.za or bezabih.bekele@aau.edu.et). You can also use the attached Business Card.

Background Information

Today's companies face competition from both local and foreign made products every day. The need for information about this force has been named as—business intelligence, business strategy, competitive information, competitive intelligence, customer relationship management, data mining, entrepreneurial attitude, forecasting, foresight, information systems, market intelligence, marketing intelligence, market orientation, market research, customer intelligence, competitor intelligence, competitor scanning, competitor espionage, strategic intelligence, tactical intelligence, environmental scanning, competitive information, corporate intelligence, technological intelligence, technological surveillance, marketing surveillance.

As related to the above naming for the term, competitive intelligence (CI) can be understood, used, explained and practised in different ways and forms. Recently, most academicians and business people refer to this gathering of information as "competitive intelligence"—a comprehensive term that involves the mentioned term/phrases and the related activities. *Competitive Intelligence (CI)* is the process of ethically collecting, analysing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organisation itself. CI therefore focuses on more than your competitors. It also about collection and processing of information from within the organisation for the purpose of supporting business decision-making and thereby enhancing your organisation's competitiveness in the market place and/or competitive business environment.

It is necessary to distinguish the term 'intelligence' from other relevant and similar terms. *Intelligence* is more than just *information*. Intelligence follows this processing stage: data—information—knowledge—intelligence. In short, intelligence is a ready-made output for decision-making or for users (who are also called clients or decision-makers) to use. However, for the purpose of this study, competitive intelligence can be interchangeably used with *competitive information* in some places.

As you can infer from the title of the study, the study focuses on in how to enhance strategic competitive intelligence in a conglomerate (i.e., enhancing the strategic value of competitive intelligence in a conglomerate). The study focuses on the strategic function of competitive intelligence for strategic decision-making. However, many organisations also use CI for tactical and operational decision-making. As mentioned before, CI is certainly found in different organisations in different ways, forms, levels and is practised in different ways—in formal, informal or quasi (partially formal way), in fragmented or organised way and the CI function can be located in the organisation's structure in a special functional unit/department/section (like the Corporate Think Tank and Knowledge Management Organ, Corporate Strategy and Control Principal Corporate Unit (PCU), Corporate Marketing and Sales PCU, Corporate New Business Development PCU, Corporate Research and Development PCU, Corporate Finance and Investment PCU, Public and International Relations Department, etc.). This function (CI) is also practised in different ways in the semi-autonomous industries of the conglomerate, which are also subjects of this Case Study.

Since formal CI has little or no recognition by most large Ethiopian enterprises, this study also focuses on exploring the availability and use of CI for SDM in both the conglomerate and its subsidiaries, which can also be named as Industries and Strategic Business Units (SBUs).

Informed consent for participation in the academic research project,

Enhancing Strategic Competitive Intelligence for SDM in a conglomerate

Dear Respondent

You are herewith invited to participate in an academic research study conducted by Bezabih Bekele Tolla, a student in the Doctor of Business Leadership at UNISA's Graduate School of Business Leadership (SBL).

As you can understand from the title of the study, the study focuses on the strategic function of competitive intelligence for strategic decision-making. In specific statement, the main purpose of the study is to demonstrate how CI can be considered and enhanced for strategic purpose and thereby introduce a workable CI implementation model or framework for start-up use by the conglomerate and its industries; and meanwhile to trigger large Ethiopian enterprises to think and start using CI for strategic decision-making.

All your answers will be treated as confidential and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

Please answer the questions in the attached interview and questionnaire as completely and honestly as possible. The interview should not take more than 1 hour of your time. The questionnaire should not take more than an hour.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Professor P. Venter, e-mail: ventep@unisa.ac.za, Tel: 0824166801 if you have any questions or comments regarding the study. Please sign the attached to indicate your willingness to participate in the study.

Yours sincerely

I,..... [REPONDENT NAME], herewith give my consent to participate in the study titled ***"Enhancing Strategic Competitive Intelligence for SDM in a conglomerate"***

I have read the letter and understand my rights with regard to participating in the research.

_____ _____

Respondent's signature **Date**

ACTIVITY ON THE DAY OF THE INTERVIEW

Date of Interview: _____

Start time: _____ **End time:** _____

Case Organisation/Company Name: _____

Name of Interviewee: _____

Position of Interviewee (as formal title in the organisation): _____

_____

Opening remarks before the start of the Interview:

1. All interviews and documentations related to the study project will be kept confidential. You and your affiliated organisation will not be identified in any reports of the research.
2. The goal of this interview is to talk about some of your perceptions about the CI work domain in your organisation and how this function (which can be practised formally or informally) has assisted the SDM of your organisation or you.
3. The interview session will last about 1 hour. However, we can resume our interview at any time or hours for your convenience.
4. Hope you already referred the questions that I will ask you now and the separate Support Notes for the interview questions. But let me refresh you taking important notes from the Interview Guide about CI, CI Function, the reason the study focuses on the CI function/activities in your organisation, the study procedures, etc…*With reference to the title of my study, our interview focuses on the value of competitive intelligence for SDM.*
5. Dear Sir/Madam/Dr/Military Title: Would you please attach documents available for any different questions you have already referred before this interview date when we will close the interview. You can give me them after some time when available or ready too.
6. Before we get started, I need to know if you have any questions or concerns about the study. (Do you have any questions?)

Thank you! We can start now.

Part I Respondent Background

1. What is the title of your current position? _____

_____

2. In this position, what are your major responsibilities? What are your job characteristics/what do you actually do?

_____

_____

3. What evidence supports the assumption of your decision-making on vital issues? What factors guide your SDM or any other business decision-making in your department?

Part II Key Intelligence Topics (KITs) and Availability of CI for SDM

4. What type of information about the competitive environment of your industry is important for your decision-making? Or, what is the focus of management in looking for CI? What type of information is valuable for your decision-making? Why?
5. Does top management of your Industry make strategic decisions which are listed from 'a' to 'j'? Or, are such decisions are just made by the conglomerate (from the headquarter)? From what sources and how do you gather CI that will help you make strategic decisions regarding the conglomerate's grand strategies as related to:
    a) New business and/or new product development;
    b) Technology transfer or how the conglomerate fosters technology transfer as stated in its strategy. How do you foster or promote technology transfer using CI, for example;
    c) Making strategic alliances with foreign partners (for example, in licensing and getting patent rights);
    d) Creating value chain among different actors which can be found within the conglomerate or outside of the conglomerate;
    e) Enhancing value chain in the integrated industries and among the partners (vertical and horizontal integration using strategic supply chain management);
    f) Import substitution (local intelligence on imported products);
    g) Benchmarking from foreign alliances;
    h) Strategic alliances on turnkey arrangement and licensing;
    i) Foreign intelligence on patent search, partner search, mergers and acquisitions;
    j) And other intelligence search, collection and use on other the conglomerate's grand strategies_____

6. As you know, the intelligence provided by the CI team cannot benefit the firm if it is not utilised in the decision-making process. How frequently and to what extent the CI Group or Function has influenced (helped) yours or your industry's decision-making (i.e., to introduce new product or open a new business/factory)?
7. The following questions are intended to probe the relationship top management has with the CI function/body/unit for the purpose of making strategic decisions (using strategic competitive intelligence). Communication can be evaluated through the following:
    a. How frequently do the CI team meet with the executive decision-making? Does the mechanism exist for frequent bi-directional feedback? Does the frequency of meetings allow for a mutual involvement in the planning phase?
    b. How frequently do CI practitioners spontaneously attend vital SDM meetings? Does the CI team actively attempt to understand the 'hot' issues facing the strategic decision-makers and pre-empt the intelligence request?

Part III Scope and decision usefulness of CI for the Industries

8. To what extent competitive information is important to make business and strategic decision in your industry? Which external environment factor-related information influence/support the strategy and SDM of the top management? In short, why is CI necessary about your industry or sector?
9. What strategic role does strategic competitive intelligence or generally competitive intelligence (CI) play in your industry and/or the markets in which you operate, or, shortly, in your strategic decision-making?
10. How does the CI function truly help top management in understand the strategic issues which the corporation is facing or want to know? Is it effective? For example, would you please share an experience in which analysing technology trends helped you identify a successful market for product development or improve sales of a product?
11. Can you provide evidence that CI affects concrete decisions and motivates specific actions in your industry in the past? Can you give clear evidences that the CI gathered from strategic key intelligence topics (KITs) resulted in supporting strategic and major decisions of your industry (like sales or business development, market entry decisions)? During which aspects of the SDM process is CI most useful to you?
12. Overall, how effective is an industry's CI process in terms of its functionality, CI products and use for decision-making?

Part IV Recommendations for Better Implementation of CI

13. Do you think CI is vital for SDM of your Industry? Would you please indicate me how, how would your industry start using formal CI to enhance SDM process?
14. How would CI function in your industry aid the decision-making process by enhancing the speed and quality of decisions?

Part V Starting up a formal CI function/programme/system

15. What importance will CI present if it is implemented in the conglomerate as a Corporation and in your industry in a formal, structured and systematic way? How? Why?
16. What initiatives shall be undertaken by the management of your Industry to get the most out of a formal and systematised CI programme or practice for SDM? What about by the top management of the conglomerate from the Headquarter?
17. Can you suggest a CI enabling system which is unique to your industry's system that is aiming at collecting, analysing and disseminating competitive information mainly for SDM purpose?
18. What preconditions shall be fulfilled to execute this formal service? Can you suggest a CI enabling system which is unique to your industry's system that is aiming at collecting, analysing and disseminating competitive information mainly for SDM purpose? What about for the vertically integrated industries of the conglomerate?

Part VI Closing Questions

19. Do you think this study is relevant and timely in today's business? Can you give at least five important justifications?

Post-interview Notes:

As I transcribe your interview, there may be points that I would like to clarify with you. May I contact you to briefly to discuss the points? If yes, you prefer to be contacted by phone or by email?

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