FRANCESCA LABONIA

THE STRATEGIC ROLE OF COMPETITIVE INTELLIGENCE: A STUDY OF THE BRAZILIAN MARKET

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A Russel, che ha sempre creduto in me,

supportandomi ogni giorno.

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ITACA, Konstantinos Kavafis (1961)

Se per Itaca volgi il tuo viaggio,
fa voti che ti sia lunga la via,
e colma di vicende e conoscenze.
Non temere i Lestrigoni e i Ciclopi
o Poseidone incollerito: mai
troverai tali mostri sulla via,
se resta il tuo pensiero alto e squisita
è l'emozione che ci tocca il cuore
e il corpo. Né Lestrigoni o Ciclopi
né Poseidone asprigno incontrerai,
se non li rechi dentro, nel tuo cuore,
se non li drizza il cuore innanzi a te.

Fa voti che ti sia lunga la via.
E siano tanti i mattini d'estate
che ti vedano entrare (e con che gioia
allegra) in porti sconosciuti prima.
Fa scalo negli empori dei Fenici
per acquistare bella mercanzia,
madrepore e coralli, ebani e ambre,
voluttuosi aromi d'ogni sorta,
quanti più puoi voluttuosi aromi.
Recati in molte città dell'Egitto,
a imparare dai sapienti.

Itaca tieni sempre nella mente.
La tua sorte ti segna a quell'approdo.
Ma non precipitare il tuo viaggio.
Meglio che duri molti anni, che vecchio
tu finalmente attracchi all'isoletta,
ricco di quanto guadagnasti in via,
senza aspettare che ti dia ricchezze.

Itaca t'ha donato il bel viaggio.
Senza di lei non ti mettevi in via.
Nulla ha da darti più.

E se la ritrovi povera, Itaca non t'ha illuso.
Reduce così saggio, così esperto,
avrai capito che vuol dire un'Itaca.

ABSTRACT

The ever more global, rapid paced and volatile business environments define new rules of competition, impelling firms to possess flexibility, promptness and the ability to learn quickly.

Competitive Intelligence (CI) enters this new panorama playing a critical role: to provide companies with insights about the competitive environment and bolster their competitiveness. However, on both the theoretical and empirical grounds, CI is lacking in a unique common definition and in a framework integrating its role within the Strategy definition.

In a contribution to solve these two issues, this research paper delves into the topics of Strategy, the Strategy Formulation Process and CI through an exhaustive literature review. The re-elaboration allowed to (1) reformulate the Strategic Formulation Process, (2) present a comprehensive overview of the CI practices, and (3) propose the possible relationship between the two topics.

Following, an exploratory empirical study has been executed. The research paper analyzes the CI practices of four companies operating in Brazil in the private banking, commerce marketing and healthcare industries and spots the CI contribution to companies' strategies.

The case studies evidence the recognized value of CI, yet the companies mainly use it for tactical issues and short-term impacts, not taking advantage of all the potential benefits of CI at the various strategic levels and at every step of the Strategic Formulation Process.

Key words: Strategy, Strategy Formulation Process, Competitive Inteligence, Brazilian Market

RESUMO

Os ambientes de negócios cada vez mais globais, rápidos e voláteis definem novas regras de concorrência, estimulando as empresas a possuírem flexibilidade, agilidade e capacidade de aprender rapidamente.

A Inteligência Competitiva (IC) entra nesse novo panorama, desempenhando um papel crítico: fornecer às empresas *insights* sobre o ambiente competitivo e reforçar suas competitividades. No entanto, em termos teóricos e empíricos, a IC carece de uma definição comum única e de uma estrutura que integre seu papel dentro da definição da Estratégia.

Em uma contribuição para solucionar estas duas questões, o trabalho de pesquisa aprofunda os tópicos da Estratégia, do Processo de Formulação Estratégica e da IC, através de uma exaustiva revisão bibliográfica. A reelaboração permitiu (1) reformular o Processo de Formulação Estratégica, (2) apresentar uma visão abrangente das práticas de IC e (3) propor uma possível relação entre os dois tópicos.

A seguir, um estudo empírico exploratório foi executado. O artigo analisa as práticas de IC de quatro empresas que operam nos setores de private banking, marketing comercial e saúde no Brasil e aponta a contribuição da IC para a estratégia das empresas.

Os estudos de caso evidenciam o reconhecimento do valor da IC, embora as empresas a utilizem principalmente para questões táticas e impactos de curto prazo, deixando de aproveitar todos os potenciais benefícios da IC nos vários níveis estratégicos e em todas as etapas do Processo de Formulação Estratégica.

Palavras-chave: Estratégia, Processo de Formulação Estatégica, Inteligência Competitiva, Mercado Brasileiro

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LIST OF ACRONYMS

ANS	Agência Nacional de Saúde Suplementar
BU	Business Unit
BM	Business Model
CI	Competitive Intelligence
COO	Chief Operations Officer
CRM	Customer Relationship Management
DIKW	Data, Information, Knowledge, Wisdom
ERP	Enterprise Resource Planning
IESS	Instituto de Estudos de Saúde Suplementar
MI	Market Intelligence
PEST	Political, economic, social, technological
RBV	Resource Based View
ROE	Return on Equity
RQ	Research Question
SBU	Strategic Business Unit
SCIP	Strategic and Competitive Intelligence Professionals
SWOT	Strengths, Weaknesses, Opportunities, Threats
VRIO	Value, Rarity, Inimitable, Organization
XRM	Anything Relationship Management

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1 INTRODUCTION

1.1 Context Analysis and Open Issues

"Today up to 25% of companies plan on adopting blockchain in some way in the near future and another 28% have already invested $5 million or more in this technology. In a similar light, 80% of companies are investing in artificial intelligence. This is in spite of some challenges and uncertainty. These figures highlight some of the changes that are affecting the current market and are indicative of its direction in the near future. In addition, there are other technologies, socio political changes, economic shifts and many other factors creating constant competitive change." (Forbes, 2018)

Considering the turbulent, uncertain and dynamic environment in which companies operate today, analyzing the marketplace outside the enterprise boundary is imperative. Companies need to assess current and future competitive landscapes to survive: data, information, knowledge and, mostly, intelligence become crucial resources. Therefore, *Competitive Intelligence* (CI) plays a strategic role for the company, as it is defined by *Strategic Competitive Intelligence Professionals* (SCIP) as a systematic and ethical program for gathering, analyzing, and managing external information that can affect a company's plans, decisions and operations.

In other words, CI can bolster firm competitiveness through the knowledge of marketplace, competitors and the competitive environment as a whole. Nevertheless, it takes work to gain competitive advantage from simply gathering data; companies are not always able to use the available information and transform it into intelligence for the formulation and implementation of business strategies.

Based on the idea that companies compete in a continuously changing environment and understanding its evolution can be a source of competitive advantage, the aim of this research paper is to analyze the relationship between CI and a company's Strategy Formulation Process. More specifically, the purpose is to study how CI practices influence traditional internal and external strategic analysis and contribute to the comprehensive Strategy definition of the company, regardless of firm size or competitive industry.

1.2 Problem Definition and Research Objectives

The described context shows the existence of open questions and unsolved issues related to the topic of Competitive Intelligence that this research aims to delve into and attempts to resolve. RQ: How do Competitive Intelligence practices contribute to the traditional external and internal strategic analysis and to the comprehensive Strategy definition of the company?

RQ1: What is the current Strategy and the relative Positioning adopted by the companies?

RQ2: Is it possible to provide an exhaustive overview of CI practices?

RQ3: How do CI practices enter the Strategy Formulation Process at strategic, tactical and operational levels?

This paper cites three objectives:

- Identify CI practices;
- Study the organization and structure of CI practices;
- Understand the contribution of CI to Strategy definition.

To answer this question a comprehensive literature review about Strategy and CI is necessary, considering the theoretical missing link between the two issues and spotting the possible relationship. Moreover, this research paper follows with an empirical analysis about how some Brazilian firms cope with the topic, i.e. how they monitor and create insights about the business environment and use them in business planning.

2 LITERATURE REVIEW

2.1 Strategy

2.1.1 The Origins of Strategy

Strategy as a business concept arose around the 1950s and increased in popularity in the following decades. Historically however, the concept of strategy has its roots in military science and in the objective to destroy the enemy, evoking the present idea of outperforming competitors.

As a matter of fact, the word strategy derives from the Greek *stratego,* which means *generalship* and it was related to the idea of military tactics and planned movements to gain favorable positioning on the battlefield. The Chinese general Sun Tzu is considered the first individual to address the topic in his work *The Art of War*, around the IV century B.C. He defined the general principles to follow for being victorious against the enemy and stressed the importance of understanding the enemy as a crucial element to win (Carvalho and Laurindo, 2012).

Whether in military conflicts or in business, strategy is a coherent set of strategic decisions that are consistently important, which involve significant commitment of resources and that are not easily reversible. Although both military and business strategy share common principles like outflanking the frontal assault or exploiting the enemy's weaknesses, the main purpose of military strategy is destroying the enemy, while the purpose of business strategy is never so aggressive, as companies generally seek to coexist with their rivals (Grant, 2016).

2.2 What Is Strategy?

As defined by the *Oxford* dictionary, strategy is *a plan of action designed to achieve a long-term or overall aim.* It is a comprehensive plan with a specific direction and purpose that produces a long-term effect.

According to Ohmae (1982), the unique aim of business strategy is to maximize one's own advantage:

"The sole purpose of strategic planning is to enable a company to gain, as efficiently as possible, a sustainable edge over its competitors. Corporate strategy thus implies an attempt to alter a company's strength relative to that of its competitors in the most efficient way." (Ohmae, 1982)

In brief, strategy is about gaining competitive advantage. The critical issue of each company is its competitiveness and, of course, having competitive superiority against the competitors– whereas competitive deficiency would indicate defeat. Thus, it is fitting to talk about strategy only if competition exists.

On the other hand, Henderson (1989) argued that competition has always existed. In nature, Gause's Principle of Competitive Exclusion, demonstrated that two species, competing in the same way for the same limited resources, cannot coexist. The only possibility for them to survive is when the environment presents a variety of resources. In fact, in a rich environment, it is possible to have different species because each one can have a unique advantage arising from the range of available resources. Yet, at the same time, the more prosperous the environment, the greater the number of competitors and the harsher the competition.

Same as in the world of organisms, competition exists in the business environment and Gause's Principle is also valid–two companies competing in the same way, in the same market, cannot coexist. A distinction must be made, however, between the two described environments. In nature, it is a matter of evolution: aleatory variables and the principle of Darwinian natural selection dominate; species best adapted to environments are more likely to survive. In business, those laws of probability can be influenced by logic: competition can be managed and driven. Fundamentally, *strategy is possible in business* and can accelerate the rate of change of competitive advantages.

"Strategy is a deliberate search for a plan of action that will develop a business's competitive advantage and compound it. The difference between you and your competitors is the basis for your advantage. The more different you are the better it is. The objective of strategy is to enlarge the scope of your advantage, which can only happen at someone else's expenses." (Henderson, 1989)

Moreover, according to Henderson (1989) the basic elements of strategic competition include:

- The ability to understand the competitive behavior as a system where customers, money, people, resources and competitors interact;
- The ability to use this understanding to predict how a given strategic move can rebalance the competitive equilibrium;
- Resources that can be permanently committed to new uses even though the benefits will be deferred;
- The ability to predict risk and return with enough accuracy to justify that commitment;
- The wiliness to act.

2.3 The Strategy Formulation Process: From Designing to Learning

The need for the *Strategy Formulation Process* surfaced during the late 1950s, when the increasing complexity of markets urged companies to develop systematic procedures for their long-term planning.

According to Mintzberg and Waters (1985), it is possible to distinguish *intended* strategy, which is the collection of leadership plans and intentions, and *realized* strategy, which is the compilation of actions that have actually been executed. Comparing intended and realized strategies, two new concepts arise: *deliberate* strategy–realized as intended–and *emergent* strategy–patterns not guided by intentions, but influenced by external circumstances. The fundamental difference between deliberate and emergent strategy is that the former focuses on direction and control–getting desired things done–whereas the latter opens up the notion of 'strategic learning'.

Defining strategy as intended and conceiving it as deliberate, as has traditionally been done by the *Design, Planning* and *Positioning Schools of Thought*, effectively precludes the notion of strategic learning promoted by the *Learning* and *Cultural Schools*. Once the intentions have been set, attention is affixed on realizing them, not on adapting them. Messages from the environment tend to be disregarded. Adding the concept of emergent strategy, based on the

definition of strategy as that which has been executed, opens the process of strategy-making up to the notion of learning (Mintzberg and Waters, 1985).

Bearing in mind what is described above, the next section will present the different perspectives of the *Schools of Thought* as conceived by Mintzberg and Lampel (1999), in order to formulate a final framework that serves to unify the fundamental aspects for the Strategy Formulation Process.

2.3.1 The Design and Planning Schools

The initial approaches to strategy planning were largely *rationalistic* and they were derived from the *Design* and the *Planning Schools of Thought*.

From the *Design School*, Selznick, Chandler, and Andrews defined strategy as the *fit* between what the company can do–a company's internal strengths and weaknesses–and what it might do–the external threats to neutralize and the opportunities to exploit.

From the *Planning School*, Ansoff, Armstrong, Lorange, Bracker and Pearson, reflected and espoused most of the former school's theory, but they stressed the relevance of a formal, stepwise strategic process, established by a staff of professional planners.

"Formal strategic planning calls for an explicit written process for determining the firm's long-range objectives, the generation of alternative strategies for achieving these objectives, the evaluation of these strategies, and a systematic procedure for monitoring results. Each of these steps of the planning process should be accompanied by an explicit procedure for gaining commitment." (Armstrong, 1983)

Armstrong (1983) advocated an explicit formal strategic planning process to improve firm effectiveness in forecasting its environment, anticipating problems, and developing plans to respond to those problems. Bracker and Pearson (1986) discerned eight distinct components in their formal planning process: objective setting, environmental analysis, strengths, weaknesses,

opportunities and threats (SWOT) analysis, strategy formulation, financial projections, functional budgets, operating performance measures, and control and corrective procedures. According to Lorange (1980), the overall purpose of this long-term planning (also labelled corporate planning or strategic planning) was to be an effective management tool in the strategic decision-making process of a company. The main objective was to aid the firm to better carry out decisions, simplifying the process of searching for an adequate solution to the decision problem. In his model of the strategic planning process he distinguished these steps: objectives-setting, strategic programming, budgeting, monitoring and linking to managerial incentives.

Other empirical studies supported the theory of a positive relationship between formal planning and firm performance: Wood and LaForge (1979), Robinson and Pearce (1984), Pearce *et al.* (1987), Lindsay and Rue (1989), Bracker *et al.* (1988).

However, Mintzberg *et al.* (1998) defined these rational schools *prescriptive in nature*; according to the author, they are more concerned with how strategies should be formulated than with how they necessarily do form. He defined strategic planning–described in terms of what the leaders of an organization 'plan' to do in the future–as an analytic process that is seriously limited and he, therefore, expressed the need for a wider perspective.

Mintzberg (1994c) pointed out that the role of strategic planning has been misunderstood. According to the author, planners should make their contribution around the strategy-making process rather than inside it. They should operate the formal analyses that *strategic thinking* requires, as long as they do it to broaden the consideration of issues rather than to discover the one right answer. They should act as catalysts who support strategy making by aiding and encouraging managers to think strategically. Moreover, according to Mintzberg (1994c), and Mintzberg and Lampel (1999), this type of planning, closer to 'programming' instead of strategy formation, was founded on unrealistic assumptions:

- The perfect predictability and controllability of the external environment: *fallacy of predetermination*;
- The rationality of the internal processes: *fallacy of formalization*;
- The separation of staff planners from senior managers: *fallacy of detachment*.

Consequent to these limitations and to the pitfalls passing from strategy planning to strategy implementation, the approaches of the *Design* and *Planning Schools* suffered a crisis.

2.3.2 The Positioning School

During the 1970s and the 1980s the turbulence of the markets increased, and, as a consequence, the company focus shifted from long-term *strategic planning* to *strategy management,* where all the resources were orchestrated to create competitive advantage and reinforce the commitment from the management (Bonn and Christodoulou, 1996).

By the 1980s, the work of Porter launched a new dominant view in the strategy formulation process: the *Positioning School* arose. Compared to the previous schools, the main difference was in the role of the 'planner', who instead became 'analyst'. This school's emphasis was on spotting the most attractive industries and then building and sustaining a distinctive competitive position relative to the competitors. According to Porter (1980), strategy is the creation of a unique and valuable position in relation to competitors in an attractive industry.

The real core of the *Positioning* theory comes from the external environment of the company and, in particular, from the analysis of the conditions that produce a higher level of performance (i.e. an outward perspective). The analysis of industry structure and the whole external environment became a central theme of strategy. Using tools such as the Five Competitive Forces Model (Porter, 1980) and the PEST analysis (Aguilar, 1967), was mandatory to define the attractiveness of the sector, the impact of market share and experience on costs and profits, so as to determine *where* to compete. Following, once the most appealing industry has been spotted, the internal analysis had the objective of identifying the firm's sources of advantage, concerning cost and value. In other words, it was about deciding *how* to compete against the competitors by creating a distinct 'Value Chain' of primary and supporting activities (Porter, 1985) and, in turn, a distinct value proposition.

Yet, according to Hamel and Prahalad (1990), measures of product market share do not necessarily reflect various companies' underlying competitiveness. Companies that attempt to

build competitiveness by relying on the market share of others, rather than investing in core competencies and world core-product leadership, risk failing in the long-run.

Additionally, the *Positioning School* saw the company as a portfolio of businesses, labelled *Strategic Business Units* (SBUs), which are related in product-market terms. These SBUs are conceived as autonomous and completely dedicated to develop unique specific competencies in order to compete in the business areas chosen by the company. This results in a static and fragmented view of the firm, identified as the 'tyranny of the SBUs' (Hamel and Prahalad, 1990).

These facts, in addition to the focus placed on the external environment, were the main criticisms of the *Positioning School*. The subsequent trends that emerged focused inward and instead began to highlight the internal environment of the company as key for the Strategy Formulation Process.

2.3.3 The Cultural and Learning Schools

The various schools that arose during the 1990s were concerned less with *prescribing* ideal strategic behavior than with *describing* how strategies are, indeed, made (Mintzberg *et al.*, 1998). Among these schools the *Cultural* and *Learning Schools* are analyzed.

2.3.3.1 The Cultural School: the Resource Based View Theory

The main legacy of the *Cultural School* is conceiving the strategy as a collective endeavor; the strategy formulation process is characterized by social interactions and rooted in organizational beliefs and values, i.e. in the organizational culture. Moreover, the widespread *Resource Based View Theory* (RBV) also arose in this domain of cultural notions and, in particular, from the 'material culture' concept: as the material objects reflect the values of individuals who own them, so the tangible and intangible resources of a company reflect its organizational culture (Mintzberg *et al.*, 1998).

In 1959 in the publication *The Theory of the Growth of the Firm*, Edith Penrose provided a seminal contribution to the RBV theory describing the company as a collection of productive resources (human and not human) under administrative coordination and authoritative communication that produces goods and services for sale in the market for a profit. According to her view, resources render multiple services and their heterogeneity gives the company uniqueness. Moreover, she considered the human and the managerial resources as the most important, since the firm's growth is the sole responsibility of its own, inimitable management.

Twenty-five years later, in 1984, Wernerfelt was the first to delve deeper into Penrose's insight. He analyzed the firm from the resource side rather than from the product side, identifying types of resources which can lead to high profits and introducing the concept of resource position barriers. Additionally, he characterized acquisition as a purchase of a bundle of resources in highly imperfect markets. By basing the purchase on a rare resource, one can, *ceteris paribus,* maximize this imperfection and one's chances of buying cheap and getting good returns (Wernerfelt, 1984).

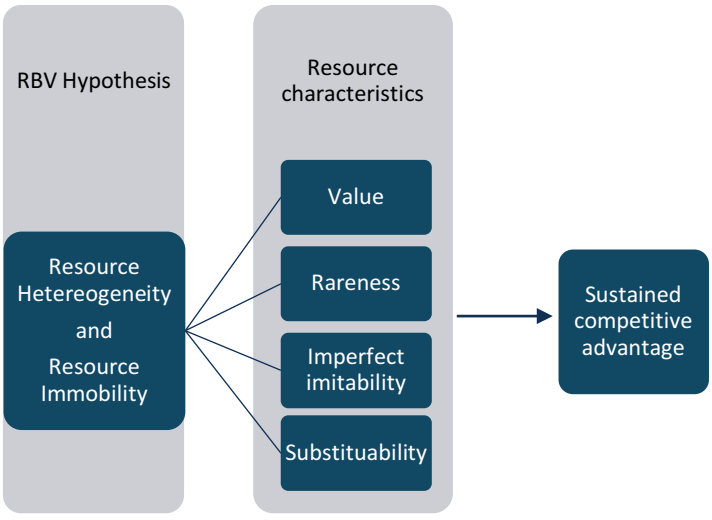
However, a complete formalization of the RBV theory arrived with Barney in 1991. He started criticizing the simple underlying assumptions adopted by the *Positioning School*: homogeneity and perfect mobility of resources. Inverting these assumptions, Barney assumed that firms inside an industry could have heterogeneous strategic resources (a necessary condition for competitive advantage) and that these resources can last over time (necessary for sustained advantage), i.e. they are not perfectly mobile.

Firm resources are defined as assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness (Barney, 1991). These resources can be categorized as physical capital resources (physical technology, plant and equipment, geographic location, access to raw materials, etc.), human capital resources (training, experience, judgment, intelligence, relationships, etc.), and organizational capital resources (formal systems and structures as well as informal relations among groups).

Of course, not all the organizational resources are strategically relevant, thus the conditions under which they are sources of sustained competitive advantage are specified (Figure 1):

- Valuability. The resource must improve firm efficiency and effectiveness in order to exploit opportunities and/or neutralize threats of the competitive environment.
- Rarity. A resource is strategic to the extent that it is rare and in high demand, so the firm can implement a strategy that is not simultaneously implemented by other firms.
- Imperfect imitability. The resource must be hard to copy, thanks to unique 'historical dependency' (like the unique path a firm followed), causal ambiguity and social complexity like interpersonal relationships inside the firm or its reputation along the supply chain.
- Substitutability. The resource cannot be replaceable by alternative resources that can be exploited to implement the same strategy, otherwise competitors can substitute it and eliminate the competitive advantage.

Figure 1– The relationship between the RBV Hypothesis, the resource characteristics and the competitive advantage



Source: Adaptation from Barney (1991)

Collis and Montgomery in 1995 argued the importance of evaluating resource value in the interplay among three market forces: demand (does the resource meet customer needs, and is it competitively superior?), scarcity (is the resource imitable or substitutable, and is it durable?),

and appropriability (who owns the profits?). So, in the wake of Barney, they proposed the Five Tests–imitability, durability, appropriability, substitutability, competitive superiority–to translate these economic requirements into specific actionable terms and estimate if a resource is market valuable. In this way they linked the inside perspective with the external environment.

Furthermore, since all resources depreciate, an effective corporate strategy requires continual investment in order to maintain and build valuable resources, all while examining the competitive dynamics of the industry. Corporate strategies should leverage resources into all the markets in which those resources contribute to competitive advantage or to compete in new markets that improve corporate resources. As a consequence, a good corporate strategy also requires continual reassessment of the company's scope (Collis and Montgomery, 1995).

As explained above, the *Positioning School* suggests scanning the competitive environment first and choosing the strategy and the necessary resources to implement it later, thus they relate the competitive advantage to the proper strategic positioning of the company. On the contrary, the RBV affirms that the roots of competitive advantage are the deployment and use of a unique collection of tangible and intangible resources and competencies. Thus, the new theory moves the approach from an outside-in perspective to an inside-out perspective, looking first within the bounds of the company.

2.3.3.2 The Learning School: Dynamic Capabilities

The exponents of the *Learning School* also focused on how strategies actually form in organizations, instead of how they are formulated. According to this school, strategy can derive from different fragmented decisions made by anyone in the organization. Strategies emerge and take place when people, individually and/or collectively, learn about a situation and can deal with it thanks to their organization's capability (Mintzberg and Lampel, 1999).

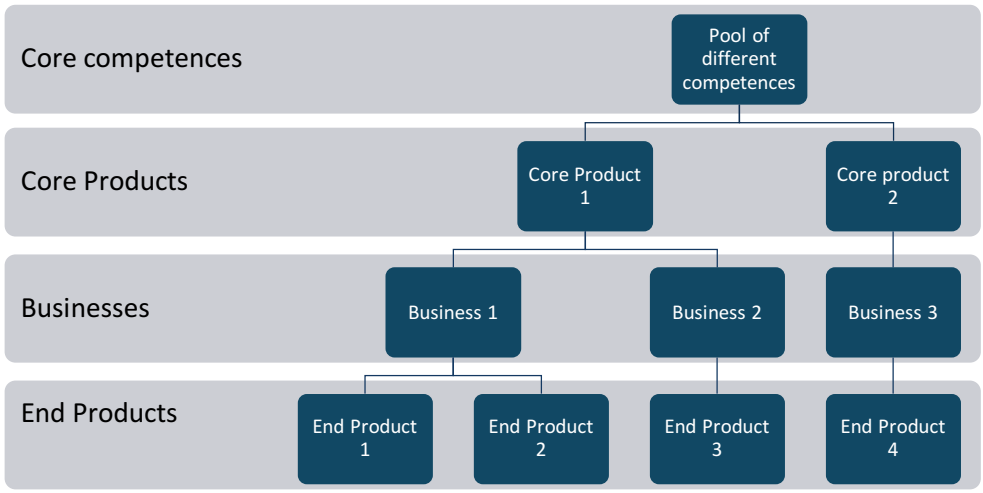
This concept of emergent strategy implies 'strategic learning', because it acknowledges the organization's capacity to experiment. A single action can be taken, feedback can be received, and the process can continue until the organization converges on the pattern that becomes its

strategy (Mintzberg *et al.*, 1998).

Going further, the concept of learning has been related to the concept of *competencies* (or capabilities), which is about *what a firm can do*. According to Prahalad and Hamel (1990), the company's *core competencies are the collective learning process of the organization*–the company's collective knowledge about how to coordinate diverse production skills and technologies. The management's ability to consolidate different corporate resources into competencies enables businesses to exploit new opportunities.

Hamel and Prahalad focused on a new conceptualization of the firm, not as a collection of SBUs, but as a pool of core competencies spread across businesses. From these core competencies derive the core products–the physical concretization of one or more core competencies–which engender business units that create the end products (Figure 2).

Figure 2– Competences: the source of Competitiveness



Source: Adaptation from Hamel and Prahald (1990)

In this vision, the diversified corporation forms a metaphorical tree, where the trunk and major limbs are core products, the smaller branches are business units; and the leaves, flowers, and fruit are end products. The root system that provides nourishment, sustenance, and stability is the core competence.

"You can miss the strength of competitors by looking only at their end products, in the same way you miss the strength of a tree if you look only at its leaves." (Hamel and Prahalad,1990)

Therefore, in their model, companies need to develop and invest in building these core competencies that are hard to imitate since they are mostly 'hidden' to the competitors who just see final products. The competition exists at different levels and ignoring the roots of the system means ignoring the source of competitive advantage.

Later on, Teece *et al.* (1997) conceptualized *capabilities* as the key role of strategic management in appropriately adapting, integrating and reconfiguring internal and external organizational skills, resources and functional competences to match the requirements of a changing environment. Yet, they changed the focus to environments of rapid technological change. They formulated the *Dynamic Capabilities* framework, analyzing the sources and methods of value creation and capturing under turbulent market conditions. Their focus was not only on the acquisition of valuable resource and capabilities, but also on the company's ability to be rapid and flexible to adapt to the changing environment. Thus, the word 'dynamic' refers to the firm's capacity to renew and reconfigure internal and external competences with the right timing.

They formulated their argument sustaining that the essence of competences and capabilities is embedded in distinctive organizational processes–current practices and learning paths inside the company. But the content of these processes and the opportunities they offer for developing competitive advantage at any point in time are shaped significantly by the assets the firm possesses and by the evolutionary path it has adopted or inherited, i.e. 'history matters' (Teece *et al.*, 1997).

Acting as an antithesis to the *Planning* and *Positioning Schools*, the contribution of the *Learning School*'s conclusions was crucial for those companies that operate in dynamic and unpredictable conditions and that require a flexible learning approach; the ability to create new strategies driven by collaboration, experience, risk taking and initiative necessary to an adaptive strategy.

2.4 From the Strategic Value Chain to the Strategic Value Network

The previously reviewed traditional strategies conceived firms as autonomous entities intended to build valuable resources and establishing market positions that create sustainable competitive advantage. However, several authors reclaimed the necessity to broaden this perspective *"chained to Porter 's Value Chain model"* (Normann and Ramirez, 1994).

Conceiving the firms as complexly connected to each other in multiple networks and understanding the consequences of the global growth of strategic networks would help to identify new insights about firm performance and conduct, complementing and extending the traditional strategy frameworks (Hakanson and Snehota, 1989; Normann and Ramirez, 1994; Gulati *et al.*, 2000; Stabell and Fjeldstad, 2002; Allee, 2003; Schieffer, 2004; Peppard and Rylander, 2006; Pil and Holweg, 2006).

Moreover, according to Allee (2003) and Schieffer (2004), the traditional value frameworks do not show the *intangible dynamic relationships* nor interdependencies, while the network perspective helps to understand what really happens. From this standpoint it is also possible to *map the knowledge exchanges* in the context of relationships and networks. This approach expands the visible, tangible dimensions of business transactions with the invisible, intangible dimensions around business activities. The mapping model of Allee (2003) demonstrates how and why making visible the intangible dimensions of relationships and knowledge exchanges significantly contributes to value creation and business self-organization.

"The core objective of this system diagramming technique is about facilitating a process which enables people to engage in the right kind of conversation–so that people are seeing their own work more systemically and are able to talk about how the system really works." (Verna Allee apud Schieffer 2004)

Gulati *et al.* (2000) discussed the importance of considering network effects on the traditional sources of competitive advantage to gain more meaningful insights about a firm's performance. Considering the previous literature review about the various *Schools of Thought*, the main

sources of differential returns were: *Industry Structure*, *Positioning* of the company, valuable and inimitable firm *resources*, and its *static* and *dynamic capabilities*. Now, it is important to discuss these sources of competitive advantage in the terms of the network perspective, according to Gulati *et al.* (2000):

- *Industry structure* includes the degree of competition and barriers to entry. Three types of relational characteristics have been explored by the network perspective: network structure (the overall pattern of relationships within which the industry is embedded), network membership (the composition of the network in terms of resources, access, status…etc.), and the tie modality (rules and norms governing the behavior in the network).For example, Burt (1992) proved that when firms are positioned in *structural holes*, i.e. when two or more firms are connected only through the *focal* one controlling the source of value, they make more profits, since they are able to appropriate a larger share of the resources that flow through them.
- The *Positioning* within an industry includes strategic groups and barriers to mobility. The network perspective highlights that instead of similarities in attributes (typical of strategic groups), similarity in *relational space* has an influence on the patterns of competition and differences in the firms' profitability within an industry. This approach would use firm interactions and relationships to identify intra-industry cliques. As Nohria and Garcia-Pont (1991) suggested, the cliques are groups of firms with alliances with each other but not to others in the industry. It is clear that *structural equivalences*– referring to the condition where two or more members hold a similar position within the network–may behave similarly and enjoy similar returns.
- A comprehensive view of a firm's *inimitable, valuable resources* would not only include elements developed internally (brands, technological capabilities, management talent, and so forth), but would also include elements established beyond the firm's boundaries: the network resources or relations (social capitol). The relationships a firm has are a unique and inimitable asset. Both the specific network to which a firm belongs and its relative position in that network are likely to be important. Firms whose relationships allow them to occupy a more central place in the strategic network enjoy superior returns because of access to better information and opportunities than those firms that are more peripheral. Therefore, the possession of alliance formation capabilities can be another significant resource for firms.
- A network perspective can help to better understand the exogenous and endogenous

dynamics that have caused changes in the competitive environment. Analyzing the network in which firms operate provide a way of understanding why some firms get *locked-in* and why others get *locked-out* of old and new dominant designs.

Value networks are very complex and dynamic (Pil and Holweg, 2006) and are made of tangible and intangible interactions enabling thousands of opportunities. According to Pil and Holweg (2006), some of these opportunities are straightforward, but many more opportunities (and potential threats) are difficult to identify. Because of this, companies must constantly explore the broad competitive environment and analyzing the value network landscape must become an integral part of the Strategic Formulation Process.

2.5 Strategy as a Link Between Internal and External Environments

Analyzing the various *Schools of Thought* placed emphasis on the importance of considering both external and internal environment in the strategic process. In particular, several authors advocated *strategic analysis* as a crucial initial step of the Strategy Formulation Process, in order to determine the necessary *strategic fit* between the internal and external environment (Ansoff, 1985; Andrews, 1987; Porter, 1991; Houben *et al.*, 1999).

"Analysis is the critical starting point of strategic thinking. Faced with problems, trends, events, or situations that appear to constitute a harmonious whole or come packaged as a whole by common sense of the day, the strategic thinker dissects them into their constituent parts. Then, having discovered the significance of these constituents, he reassembles them in a way calculated to maximize his advantage." (Ohmae,1982)

One of the most famous analytical tools is still, to this day, the mentioned SWOT framework, which aims to collect all of the information about internal (strengths and weaknesses) and external (opportunities and threats) factors which have, or may have, an impact on the company's business (Pickton and Wright, 1998). It has always been regarded as a simple, yet highly valuable tool and, therefore, it is widely recommended for spotting key factors which could affect business development. Thus, it has come to be a key element of the planning

process (Bracker and Pearson, 1986; Houben *et al.*, 1999). Yet, less attention has been given to the limitations that the simplistic view of the model could imply, potentially putting companies in jeopardy.

According to Pickton and Wright (1998), the main limitations that should be considered are: inadequate definitions of the factors (factors fitting in more than one category, general factors, nonspecific factors), lack of prioritization, and risk of over-subjectivity. Pickton and Wright (1998) suggested the Kotler ‘s (1991) solution to the problem of prioritization: an *opportunity and threat matrix* that encourages an assessment of the likely probability and the impact any factor may have on the business.

Moreover, Pickton and Wright (1998) embrace the social, informal and incremental views of business planning and, consequently, of the SWOT analysis, which opposes the common view of the SWOT framework as being a part of a formal strategic planning process and as a mechanistic and formal analytical tool. Finally, they attempted to emphasize the value of SWOT not just as an output, but also as a management process involving managers at different levels and any other relevant staff, i.e. as a group activity that can reduce potential over-subjectivity.

For the internal analysis aimed at spotting the firm’s strengths and weaknesses, the Value, Rarity, Inimitable, Organization (VRIO) framework of Barney and Hesterly (2010) tells us when a firm’s resources can enable it to gain and sustain a competitive advantage. On the other hand, the Porter’s Value Chain framework allows us to assess the firm’s source of competitive advantage in terms of cost or value by analyzing the internal firm’s primary and secondary activities (e.g. Operations, Logistics, Marketing and Sales, Procurement, etc.). However, competitive advantage also depend on the way company manages the links between those internal activities (internal links) and the activities of customers and suppliers (external links). For executing the external analysis aimed at identifying opportunity and threats, the principal tools used are:

- The PEST analysis (political, economic, social, technological) by Aguilar (1967), to set the macro-environmental variables affecting the industry area;

- The Five Competitive Forces Model by Porter (1980), aimed at describing the competitive forces operating in the micro environment of the business. Assessing the intensity of these forces is necessary to determine how attractive the industry is: the lower the intensity of business competition, the more attractive the industry area (Azzone and Bertelé, 2007).
- The Value Network Model by Normann and Ramirez (1994), Gulati *et al.* (2000), and Peppard and Rylander (2006), analyzing the relationships of the company with suppliers, customers and partners.

2.6 The Strategic Levels

Lorange (1980) specified three levels of strategic planning–the corporate, business and functional levels–and described the logical information flow along them. To this day, this framework characterizes many companies' organizational structure. At every strategic level the management pursues different objectives and, therefore, executes different tasks. At the corporate level the aim is to develop a favorable portfolio strategy, thus, the primary task is to define in which industries the company is going to compete, then a resource allocation plan is developed in order to balance the different businesses in terms of risk and resource absorption.

The business strategy focuses on how to succeed in a given market–i.e. how the company will compete against competitors. The aim is to improve the competitive position of the firm, to concentrate on future developments of the business within attractive segments, and to develop complementary business activities such as utilization of plant, equipment or sales organization.

At the functional level, finally, the task is to contribute to the strategic success of the business by focusing on the particular strategic variables in the domain of a particular function (product or market) manager.

2.7 Business Model Design

A *Business Model* (BM) is generally defined as the 'business architecture', 'the method of doing business' through which the company generates value and recaptures it through revenue (Timmers, 1998; Rappa, 2001; Weill and Vitale, 2001). Teece (2010) wrote that the essence of a BM is in defining the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit. Despite the various definitions of BM, the term *value* is recurrent and has a key role in defining the concept.

A vast amount of literature agrees that a BM should be analyzed through a multi-element approach, as a combination of multiple design dimensions, categories or building blocks, not simply restrained to revenue and cost models (Ghezzi *et al.*, 2011).

Shafer *et al.* (2005) included four components in their model: strategic choices, value networks, creating value, and capturing value. Morris *et al.* (2005) propose six components and an extensive list of questions and possible alternatives. Ballon (2007), on the other hand, distinguishes control parameters (value network and functional architecture) and value parameters (financial model and value proposition). Richardson (2008)'s model distinguished the value proposition (what the firm will offer, the target customers and the basic strategy to win against the competition), the value creation and delivery system (VRIO analysis, Value Chain and Value Network), and value capture (revenue sources and economic system). Amit and Zott (2010) proposed an 'activity system perspective', considering the network and the connections beyond the firm's boundaries. They established two set of parameters: the design elements that describe the activity system's architecture–content, structure and governance–and the design themes, describing the source of value creation creation–novelty, lock-in, complementarities, efficiency.

The most famous and widespread BM framework is the *Canvas Business Model* proposed by Osterwalder and Pigneur (2010) who created a simple and intuitive nine blocks scheme to represent strategic decisions.

The nine building blocks can be aggregated into four main groups:

- *Value Proposition* that seeks to solve customer problems and satisfy customer needs. It includes the bundle of products and services that create value for a specific customer segment.
- *Customer Interface* that includes the channels through which the company offer the value proposition to the customers and the types of relationships established with each customer segment.
- *Value Infrastructure* that considers the key activities, resources and partnerships to run the business and, thus, to create value.
- *Value Monetization* that describes the economic model, considering the cost structure and the revenue stream.

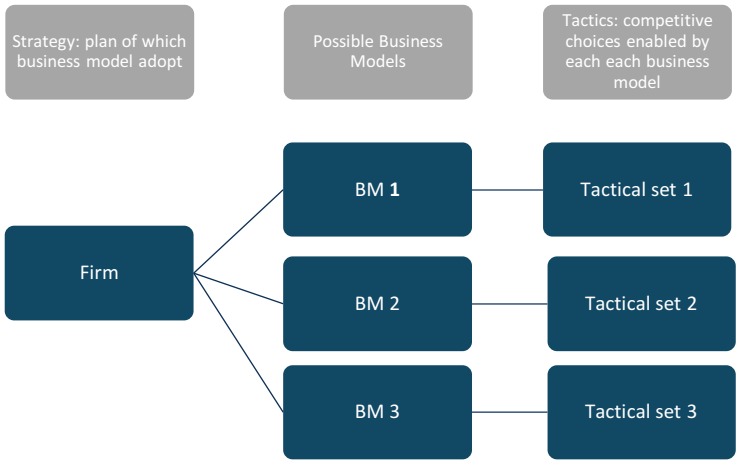
Considering all these frameworks, the BM results in being a conceptual model describing the relief provided to the pains of customers, how the company organizes to accomplish this goal, and how it will capture back a portion of the value that it delivers. Developing a successful BM (no matter how novel), however, is insufficient in and of itself to assure competitive advantage. Coupling strategic analysis with a BM is needed to protect the gained competitive advantage from imitation by competitors (Teece, 2010).

Even if the topic has recently received great interest and various frameworks have been proposed, there is still a lack of homogeneity along with various aspects to clarify. Among those aspects, there is the relationship between a BM and a firm's strategy, which has been investigated by Richardson (2008), Casadesus-Masanell and Ricart (2010), and Ghezzi (2013). According to Richardson (2008), the BM provides an intermediate logical structure between the firm's theory of how to compete–the strategy–and its activities; it is interpreted as an *integrative framework for strategy formulation and execution* that creates a consistent logical picture of how all of the firm's activities form a strategy.

Casadesus-Masanell and Ricart (2010) highlighted how strategies and BMs are strictly related (Figure 3). According to the authors, a strategy is a contingent plan of action as to what BM to use. Strategy is a high-order choice that has profound implications on competitive outcomes. The firm's available actions for strategy are choices (of policies, assets or governance

structures) that constitute the raw material of BMs. Thus, strategy entails designing BMs (and redesigning them as contingencies occur) to allow the organization to reach its goals. *Business Models are reflections of the realized strategy*. Choosing a particular BM means choosing a particular way to compete, choosing a particular logic of the firm and a particular way to operate and create value for the firm's stakeholders. In the same way (but at a lower, more detailed scale) tactics are also plans of action, which take place within the bounds drawn by the firm's BM.

Figure 3– Strategy, Business Models and Tactics



Source: Adaptation from Casadesus-Masanell and Ricart (2010)

According to Ghezzi (2014), interpreting the BM as a substitute or as a simplification of the strategy formulation process corresponds to a misunderstanding of its role. The BM does not analyze the industry where the company is entering, not even the competitors' strategies and the relative company positioning, and therefore, disregards the sources competitive advantage. That stated, it could be extremely useful framing BM design within strategic planning.

In the early stages of strategic planning, a BM could be used to sketch the initial business idea. At a later stage, *the Business Model serves to support strategy execution*, and, in turn, strategic innovation, because operating or changing a strategy essentially refers to acting on the BM's components (Ghezzi, 2013).

2.8 A New Elaboration for The Strategy Formulation Process

The analyzed strategy literature allowed for the review of the concept of the Strategic Formulation Process and the newer concept of the BM, and to compare the different Schools of Thought, emphasizing the limits and the contributions of each.

As shown, several authors supported the theory that formal planning implies superior performance. Yet, interpreting the strategy only as a formal and rational process that ignores the unruliness of the fast-changing and uncertain external environment can put the company in jeopardy. Equally, conceiving strategy as informal and evolutionary, i.e. emergent, does not mean that management decisions can be unclear and undeliberate (Ghezzi *et al.*, 2010).

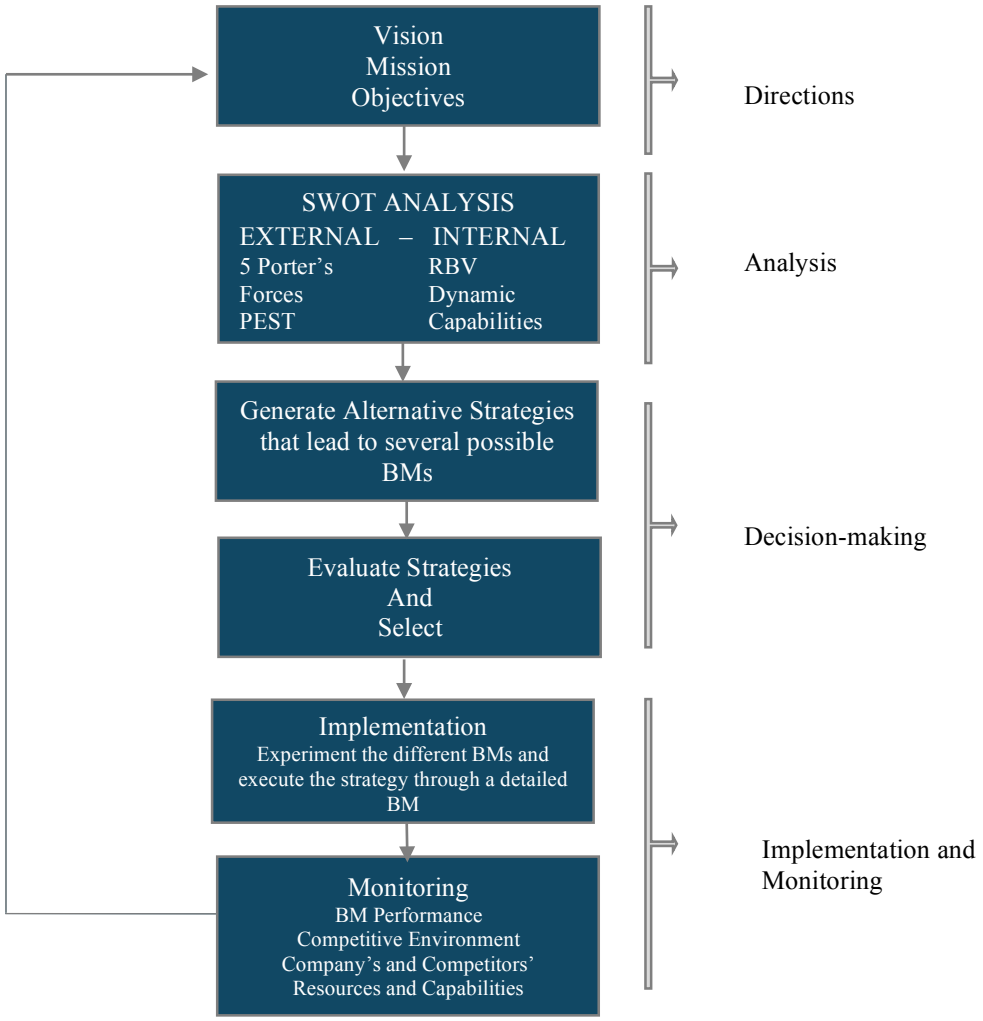
Furthermore, the *Positioning, Learning* and *Cultural Schools* make us aware that looking merely at the external environment to establish strategic positioning is dangerous, as is looking just inside the company's boundaries without connecting company resources and capabilities to any business area or timeframe. Therefore, both internal and external perspectives need to be considered in the Strategy Formulation Process, and both these perspectives need to consider the value of the network in which the company operates.

Moreover, embracing the theories of Richardson (2008), Casadesus-Masanell and Ricart (2010) and Ghezzi (2013), BM design is the missing link between strategic formulation and implementation. Thus, it is necessary to integrate it in the Strategy Formulation Process:

- In the execution phase, where different BMs can be tested to achieve the strategy goal, mixing the BM blocks until the defining of a detailed BM through which to execute the strategy;
- In the monitoring phase, where the BM performance can be controlled and a source for innovating the framework can be found.

Considering the overview above, a reformulation of the Strategic Formulation Process of Armstrong is presented in Figure 4.

Figure 4– The Strategic Formulation Process



Source: Author's Reformulation from Armstrong (1983)

This framework does not need to be intended as rigid and static. On the contrary, it is limited to underline the fundamental aspects to be considered in the strategic planning process– ensuring that strategic objectives are developed within a realistic perspective that considers both the external and internal business competitive environment.

As opposed to the stable, domestic, slow changing competitive environment of a few decades ago, the new competitive panorama is ever more rapidly changing, being global, knowledge and information based. This pressing shift requires a new approach to strategy. In most of the business sectors highly accurate, long-range forecasting is not possible anymore, nor is looking

in the rear-view mirror: Using past data no longer helps when planning (Hammoud and Nash, 2014). Therefore, instead of the rigid hierarchical strategic programming typical of the early twentieth-century, today there is a need for *strategic thinking* and *foresight*.

According to Mintzberg (1994), strategic thinking reflects human thinking and it is a synthesis of intuition and creativity, while Ohmae (1982) describes it as a marriage of information and insight (that is, intelligence) that allows a clear understanding of how to reorder elements to maximize results within an emerging and often discontinuous context.

Considering this new perspective Fleisher and Bensoussan (2003) declared that companies need to be more flexible, perpetually self-reorganizing, and network based, and better yet, they need to improve and enhance their *Competitive Intelligence* and make intelligence-driven decisions.

"While strategic planning can tell an organization in which direction to head and where the journey should end, intelligence identifies and illuminates the storms on the horizon and allows the pilot to benefit from the best airways, making the right choices hinges upon the quality of the information available. Intelligence often spells the difference between success and failure." Fleisher and Bensoussan (2003)

Ultimately, FOR-LEARN included intelligence as part of the foresight process: "*Foresight is a systematic, participatory, future-intelligence-gathering and medium-to-long-term vision-building process aimed at present-day decisions and mobilizing joint actions." (FOR LEARN 2017)*.

As a consequence, the following section aims to delve into this perspective, considering the roots of the *Competitive Intelligence* (CI) concept and exploring the characteristics that make its practice a contribution to company strategy and, ultimately, a source of competitive advantage.

2.9 Competitive Intelligence

2.9.1 Introduction to The Concept

"Today, 90 percent of all Fortune 500 companies have some form of formal Competitive Intelligence activities. Yet, ask top executives to recall one occasion of how Competitive Intelligence affected their strategy, and they go blank. Ask them who their intelligence analyst is, and they have no idea. At an age when 'rising global competitive pressure' is on every executive's lips, why has Competitive Intelligence failed to leave real impact on companies' C-suites?" (Gilad, 2011)

According to Gilad (2011), often companies interpret Competitive Intelligence (CI) mainly as Competitor Intelligence. However, CI is very different from simply 'birdwatching' competitors. Strategic (i.e. competitive) intelligence is about forming a particular insight into the competitive environment, not only collecting detailed data about competitors. As companies often misunderstand CI, they use it ineffectively. Instead, they tend to execute the same routine of imitating, benchmarking, copying and following what seems to work for competitors at the time.

Competitors might reveal the underlying strategic problem, but they are not the strategic threat itself, nor the cause of a company's failure. Of course, competitors can eat away at profit if the company is not competitively superior, but this does not necessarily change the industry dynamics. Driving daily tactical decisions at the top level of a company based solely on the actions of competitors can not only be a waste of energy, but even dangerous. Specifically, having a blind trust in the direction that competitors are taking may, in fact, lead the company in the wrong direction. Thus, strategic intelligence can have a much larger impact than tactical competitor information, and its absence leaves executives vulnerable to strategic surprises and severe blind spots.

Since most of the Fortune 500s have no serious *strategic intelligence capability*, it is common for top-level decisions to face much less scrutiny than one would expect for those decisions that can cost millions, can make or break careers, and can even bring down the whole enterprise.

2.9.2 The Origins of Competitive Intelligence

CI is not a new concept; it has a history of more than 2,000 years. Its origins can be traced back to 500 B.C., when the awareness of the enemy in war was essential to make decisions and to be victorious (Prescott, 1995; Juhari and Stephens, 2006; Calof and Dishman, 2008; Calof and Wright, 2008).

"If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." (Sun Tzu, 1988)

Over the following centuries, various Commercial and military events revealed the importance of gathering information and building CI, thus, some examples are reported. Juhari and Stephens (2006) described how in the V century, the Byzantine emperor Justinian I employed monks to steal silk worms from the Chinese in order to understand how to make silk. Centuries later, the British tea industry was started in a similar manner. The English East India Company, in 1615 sent an agent, Mr. R.L. Wickham, to China to gather intelligence on their method of tea production. Over a ten-year span, Wickham was able to gather enough intelligence to be able to successfully start a tea industry in Britain (Calof and Wright, 2008). Since the 1960s, more formal theoretical elaborations about intelligence in companies have been presented, but the first significant empirical studies of the field were not published until the late 1980s, approximately the same time frame during which the first book-length publications appeared (Fleisher *et al.*, 2007).

Across several decades, the concept developed under many different labels, including: environmental scanning (Aguilar, 1967; Fahey and King, 1977; Daft *et al.* 1988), corporate intelligence (Eells and Nehemkis, 1984), competitors' analysis (Porter, 1980; Ghoshal and Westney, 1991), Business Intelligence (Pearce, 1976; Gilad and Gilad, 1986), strategic intelligence (Montgomery and Weinberg, 1979) and marketing intelligence (Maltz and Kohli, 1996).

The ability to explore the competitor environment and to find an advantage from the acquired information was a central idea of Porter (1980), whose interpretations have been deeply influential in the modern world. His framework for competitor analysis underlines the need for some kind of structured competitor intelligence process in order to collect, compile, catalogue, digest and communicate the data (about the competitor's future goals, assumptions the competitor has about itself, the competitor's current strategy, and the competitor's capabilities) and, in turn, use them in the strategy formulation process. However, Porter did not describe how to achieve this organized mechanism or its scope (Bernhardt, 1994).

Entering the 2000s, the much greater complexity of the business environment necessitated more effective and formal CI processes, systems and tools; moreover, there was a greater need for CI to become more pervasive throughout organizations (Juhari and Stephens, 2006). Fleisher and Blenkhorn (2001) states that the CI boom of the last decade was driven by the increasingly widespread recognition that good information has a direct impact on the bottom line.

As such, while the term grounds its origins in spying on and monitoring competitors, today it incorporates other organizational facets such us ethics, marketing, structure, strategy and culture (Calof and Wright, 2008). The progress in the CI field formerly described have been comprehensively summarized in 1995 by Prescott's evolutionary framework of CI, as shown in Table 1.

Table 1– The Evolution of Competitive Intelligence

	Pre-1980	*1980-87*	*1988-1999*	*2000-future*
Stages	Competitive Data Gathering	Industry and Competitor Analysis	Competitive Intelligence	Competitive Intelligence as Core Capability
Characteristics	Informal Tactical No link to Strategic Formulation Process Focus on data acquisition	Little formality Tactical Weak Link to Strategic Formulation Process Focus on data analysis	Formal Tactical-Strategic Strong link to Strategic Formulation Process CI technology Demand vs Supply driven CI	Formal-Informal Direct input of the Strategic Formulation Process CI as learning Network analysis

Source: Adaptation from Prescott (1995)

2.9.3 Defining Competitive Intelligence

Before defining CI, it is worth mentioning and clarifying the concepts of data, information and knowledge. These terms are frequently used interchangeably, but they are actually very different and, even if companies often possess huge amount of data, they may not have the capability to mature it into intelligence.

According to Davenport and Prusak (1998), data is a set of discrete, objective facts about events, while, in an organizational context, data is most usefully described as structured records of transactions. By adding meaning, data is transformed into information that has value, relevance, and purpose. The idea of form and structure is central to the concept of information; from its origins in the Latin word *informare*, 'to give form to, to describe' (Sukovic, 2008). As information is derived from data, knowledge is derived from information. Knowledge, which is composed of framed experience, values, contextual information, and expert insight, is what the so called 'knowers' draw upon to make sense of and incorporate new experiences and information (Davenport and Prusak, 1998).

One of the most famous models around which the definitions congealed is the Ackoff' s (1989) Data-Information-Knowledge-Wisdom (DIKW) hierarchy suggesting that intangibles proceed from raw data to information, then to knowledge and wisdom. In this hierarchy, intelligence has often taken the place of wisdom in more contemporary applications. In general, the disciplines moving from knowledge to intelligence suggest some additional level of insight or understanding. Knowledge, information and/or data subjected to analysis and applied to decision-making can be considered intelligence (Erickson and Rothberg, 2015).

Thus, despite the innumerable definitions of CI, these concepts are ever present in its core idea of collecting fragmented data, making sense of it and creating insights to better understand the competitive environment of an organization and to better make strategic decisions. In this perspective, information is collected for a purpose, aimed at specific actions (Erickson and Rothberg, 2015; Bernhardt, 1994).

In today's world all the companies, large and small, have virtually the same access to information, but it is the ones who convert that information into *actionable* intelligence that will end up winning the game, so to speak (Fuld, 1995). In order to support CI, organizations need systems and processes to gather and analyze *reliable*, *relevant*, and *timely* information that is available in vast amounts about competitors and markets (Trim and Lee, 2008).

Currently, one of the most used and known definition of CI is by the Strategic and Competitive Intelligence Professionals (SCIP) community: *"Competitive Intelligence is a systematic and ethical program for gathering, analyzing, and managing external information that can affect your company's plans, decisions, and operations. In other words, CI is the process of enhancing marketplace competitiveness through a greater–yet unequivocally ethical–understanding of a firm's competitors and competitive environment."*

Therefore, effective CI is the capability of learning from the continuous process involving the legal and ethical collection of information, the meticulous analysis that does not avoid unwelcome conclusions, and the controlled dissemination of actionable intelligence to decision makers.

2.9.4 The Competitive Intelligence and The Strategic Formulation Process

Bose (2008) described CI as the essence of *Strategic Analysis*. According to the author, CI can help formulate strategy through an understating of the company industry, the company itself and its competitors. Yet, when comparing the CI scope to that of traditional Strategic Analysis, CI specialists have different perspectives.

In the book of Margaret Metcalf Carr (2003) many CI experts, when asked to distinguish CI from Business Analysis, define CI as *"business research plus thinking a step ahead",* underlining the added value of the *insight* creation that was not distinctive of the traditional Strategic analysis.

"Competitive intelligence differs from business research in that you are creating your unique information to make decisions. It includes yours and your company's perspective of the landscape out there and what you are going to do with it." (Carr, 2003)

In 1995, John Prescott had already asserted that CI moves beyond the traditional environmental scanning and market research by focusing on all aspects of the firm's environment (i.e., competitive, technological, social, political, economic, and ecological) and at various levels of the firm's ecosystem (i.e., remote, industry, operating). Ultimately, according to the author, CI is designed to serve several key roles including early warning of opportunities and threats, decision making support, competitor monitoring and assessment, and *strategic planning support.*

In fact, the CI practices can support not only the Analysis step of the Strategy Formulation Process, but also all the other phases. Herring (1992) described some roles of the CI in the Strategic Formulation and implementation process:

- Describing the current competitive environment through a particular dynamic analysis of how particular situations are likely to evolve–*competitive response model.*
- Forecasting the future competitive environment, producing what is called a *business intelligence estimate.*
- Making intelligence an explicit input in the Strategy Formulation Process, including identifying and challenging underlying assumptions.
- Consider whether the new strategy requires the company to assess weaknesses and vulnerabilities.
- Prepare ahead of time to assess and monitor competitor's initial and secondary responses to the firm's new strategy, assessing counterintelligence operations.
- Monitoring the strategy viability, determining when the strategy is no longer sustainable–i.e. assisting the controlling stage.

According to Badr *et al.* (2006), although there is an extensive body of literature on strategic planning and strategy formulation, which we reviewed in the previous chapter, there is still a lack of a suitable framework, which can provide the basis for integrating CI into the Strategic Formulation Process.

The authors notice that the current relationship between CI and the Strategy Formulation Process is not fully integrated and more effort and commitment may be required to effectively incorporate CI into strategic planning. In fact, the result of their study indicate that the strategic decision making of some firms is bereft of CI at some key stages of the process (such as Strategy Alternative Formulation and Strategy Implementation and Monitoring), and just as important, this could detrimentally affect the value to be derived from the entire CI effort.

Failure to obtain intelligence early and throughout the entire Strategy Formulation Process may result in companies obtaining intelligence at a late stage when it is impossible for them to make the necessary adjustments. De facto, CI is a multidisciplinary practice that can deeply contribute to the various stages of the company's strategic planning and, thus, in its capacity to gain competitive advantage. For this reason, the following aims to deepen the characteristics of the CI practices: the techniques used to create the intelligence and the enabling and inhibiting factors influencing it.

2.9.5 The Competitive Intelligence Practices

CI is both a *product* (the produced Intelligence) and a *process* (Bose, 2008). A vast amount of literature has explored CI as a business activity. The bibliography articles are explored in detail by Fleisher *et al.* (2003) and Fleisher *et al.* (2007) in the Journal of Competitive Intelligence and Management. However, mentioning some of the earliest, most relevant work the author present: Prescott and Smith, 1987; Bernhardt, 1994; Cartwright *et al.*, 1995; Gilad, 1989, Herring, 1992; Fuld, 1995; Prescott, 1995; Kahaner, 1996; Prescott and Bhardwaj, 1995; Krizan, 1999; Miller, 2000; Fleisher and Blenkhorn, 2001; Prescott and Miller, 2002)

Despite some minimal differences, the main recurrent activities of the CI Production Process are *Planning*, *Collection*, *Analysis* and *Dissemination*. These activities are often considered as a cycle that starts with *intelligence needs* and ends with its communication to the original inquirer. Moreover, several authors have delved into the factors influencing this cycle, such as the organizational awareness and culture, the employee involvement and the formality of the infrastructure to process the information and create the intelligence.

According to the framework of Saayman *et al.* (2008), this research paper recognizes the aforementioned activities–Planning, Data Collection, Data Analysis, Dissemination–as the *CI Production Process* and defines the affecting factors as *CI Contextual Factors*.

2.9.6 The Competitive Intelligence Production Process

There is strong support for the idea that a formal and systematic CI process has a positive impact on a company's performance (Cleland and King, 1975; Gilad and Gilad 1985, Gilad and Gilad 1986; Ghoshal and Kim, 1986; Porter, 1980; Bernhardt, 1994; Calof and Dishman, 2008; Saayman *et al.*, 2008), but empirical studies reveal that many companies have informal and short term oriented CI practices in the place of structured systems (Prescott and Smith, 1987; Calof and Dishman, 2008).

In addition to a formal and ongoing comprehensive intelligent process, Prescott and Smith (1987) suggested a project-based approach. By definition, projects are action-oriented and, consequently, operationalizing the intelligence production process is a project (Prescott, 1995). Each step in the intelligence process is not followed for every project. Since each project is unique, one must use those steps in the production process that best fit the current demand.

McGonagle (2007) analyzed the ′classic′ CI cycle model, emphasizing the potential problems deriving from high bureaucracy, rigid separation of its activities, and limitations to the long-term strategic perspective. The author asserted that the traditional, slow-moving, long-term oriented CI cycle is not expected to serve tactical issues (such as the one needed in sales and marketing) nor technology issues. Ultimately, its implicit separation of the collection and analysis steps has limited applications to one of the more common CI situations, the so-called lone operator: the person who does everything in the CI cycle, and may even have CI as just one of the tools in their personal management portfolio.

The literature review about Strategy and Strategic Planning revealed the need to develop a new vision for corporate planning over time: from the rigorous bureaucratic activity to the current flexible, network oriented and learning-based business planning. In analogy to this evolution

of strategic planning, a new CI model must find a way to *"diffuse the collection, production and use of intelligence"* throughout the enterprise (McGonagle and Vella, 1996). Taking into account this perspective, the main activities of the CI cycle are presented and intended as a process that should be used by many, rather than a function to be manned by and serving only a few (McGonagle, 2007).

2.9.6.1 Planning and Focus

An effective and efficient intelligence process does not aim to collect all possible data, but focuses on the issues that have relevance for the decision-makers. In fact, CI is about identifying *actionable* information (Aguilar, 1967; Bernhardt, 1994; Gilad and Gilad, 1985; Gilad, 1989; Herring 1999; Porter, 1980; Prescott and Smith, 1987; Prescott, 1995; Trim and Lee, 2008).

In the traditional intelligence cycle, the identification of intelligence requirements must be the first stage (Meyer, 1987; Fuld, 1988; Prescott, 1989; Herring, 1999). According to Bernhardt (1994) and Fleisher and Blenkhorn (2001), it is necessary to answer three basic questions at this phase: *What do we need to know?, Why do we need to know it?* and *What decision is to be made, or action taken, once we know it?*.

Herring (1999) considered this step of management-needs identification as crucial to produce meaningful intelligence for the company and promoted the use of a systematized and formal *"management-needs identification process"*. The company's intelligence needs, defined by the author as Key Intelligence Topics (KITs), can be categorized into three main categories that are not mutually exclusive:

- Strategic Decisions and Actions, including the development of strategic plans and strategies.
- Early-Warning topics, including competitor initiatives, technological surprises, and governmental actions.
- Descriptions of the Key Players in the specific marketplace, including competitors, customers, suppliers, regulators, and potential partners.

Despite KITs being a very practical approach for initially establishing the intelligence needs, there is a risk of simplifying the issue when the CI practice matures and, in particular, when the intelligence needs come from different strategic levels in the organization (McGonagle, 2007; Prescott, 2001).

The intelligence demanders can hold different managerial roles (decision-makers with business development, financial planning, market planning or research, product planning…etc.) and, it is evident that the intelligence needs are different at different hierarchical levels of the company: the senior-level managers ask for intelligence to solve strategic issues, while intelligence needs at the tactical level of the organization have a more concrete focus. As a consequence, Miree and Prescott (2000) suggest to first distinguish strategic (long-term oriented) and tactical (short-term oriented) intelligence needs and then coordinate them, facilitating the process of (re)learning the organizational intelligence needs.

Unfortunately, few CI practitioners regularly interview executives to truly understand their strategic or decision-making needs. According to Herring (1999), the two-way communication between senior management (users) and CI professionals is the link to identify organizational intelligence needs. Therefore, it is urgent that a more productive dialogue about strategy making takes place between the executive leadership and the team responsible for creating critical marketplace insights (Fahey, 2007).

This conversation is often a difficult part of the process, as CI professionals often need to face three type of managers: (1) reticent managers, good at using intelligence, but unable to ask it, (2) *"tell me everything"* managers that cannot explain their needs in terms of future decisions, and (3) *"you tell me what intelligence I need"* managers that expect intelligence professionals to do everything. Thus, management needs to be trained to ask for intelligence and to better articulate its need, so that the operational intelligence can successfully produce and deliver the correct and appropriate intelligence, creating actual value for the company. On the other hand, intelligence professionals might take the initiative and ask the management how intelligence could help them in making decisions.

The cogent identification and clear articulation of intelligence needs are, thus, shared responsibilities of intelligence users and intelligence professionals (Herring, 1999). Without this level of clarity from the start, the CI process is at risk to be ineffective and even fail.

2.9.6.2 Data Collection

The collection function rests on research–on matching validated intelligence objectives to available sources of information, with the results to be transformed into usable intelligence. Before the execution of the collection phase, the collection process should be planned. This planning will help define the collection strategy. That is, one has to identify what evidence is required to address the KITs and what types of collection sources would provide that evidence (Bose, 2008; Krizan, 1999).

Data are then collected from several sources including formal, informal, internal, external, published, unpublished and human sources (Aguilar, 1967; Cox and Good, 1967; Daft *et al.*, 1988; Fahey and King, 1977; Fleisher and Blenkhorn, 2001) and CI practitioners must manage the overflow of information and organize it so that analysts can make sense of the incomplete, fragmented data mass (Fleisher and Blenkhorn, 2001).

Rouach and Santi (2001) distinguished three types of information: *white information* that are open source data (i.e. public) and about 80% of information normally collected, *grey information* that covers private domain information such as trade shows or publications that are ignored by competitors and that are collected by visiting firms, and *black information* that are illegally obtained data. The first two categories are in the domain of CI, while the last one is considered industrial espionage.CI professionals must be able to access all the different necessary sources, verify the reliability and validity of their data, and know the legal practices and ethics related to this data collection.

Today, the main problem data collectors face is the *"too much data"* issue. The information overload costs the company many hours wasted on researching. However, there is an issue that presents a larger problem: researchers often abandon their task when they cannot find the

information they need quickly. As a consequence, most companies are full of data, but they are lacking in intelligence to make use of this data. Ultimately, this leads to uninformed decisions, overlooked risks and lost opportunities (Rao, 2003).

Given the importance of timing, it is necessary to possess mining tools (data/text/web) that allow one to rapidly extract the relevant information and provide some analytical capability (Bose, 2008; Cobb, 2003 apud Bose, 2008).

Bose (2008) distinguished collection tools in relation to the types of problems they support. Data collection problems include surveying knowledge domains and targeting specific questions–*active collection*–and supporting ongoing informational needs–*passive collection*. According to the author, active collection tools support searching, through developing search terminology and intelligently categorizing results. Passive collection tools are instead directed at supporting ongoing informational intelligence, providing timely information on daily updates on news, competitor activities and changes to competitor web sites.

2.9.6.3 Analysis

The purpose of the analysis is to reveal to a specific decision maker the underlying significance of the selected target information (Krizan, 1999). Accordingly, in this phase, information analysis is conducted and real intelligence is created. The output of this step should be actionable, i.e. future oriented, and it should be an answer to the initial demand, as well as an input for gaining better business results and, in turn, competitive advantage (Fleisher and Blenkhorn, 2001).

Analysis requires creativity, intuition and insight. *Pattern recognition, trend analysis, deductive* and *inductive reasoning* are fundamental in order to convert information into exploitable intelligence on which strategic decisions can be made (Bose, 2008; Saayman *et al*., 2008). Inductive reasoning is the ability to combine separate pieces of information or answers to problems, to form general rules or conclusions (why things go together). Deductive reasoning

is the ability to apply general rules to specific problems to come up with a logical resolution (does the resolution makes sense?) (Bose, 2008).

A key issue is synthesizing information quickly enough that the conclusions from the analysis are still viable. Thus, rapidness or 'speed' of analysis is one of the dimensions describing the efficacy of the analysis process (Jaworski, 2002). Analysts can count on the technology of CI tools to quickly understand the collected data, but, according to Bose (2008), this phase is highly dependent on non-computerized methodologies and, mostly, on human evaluation to make the final conversion of data into intelligence.

Bose (2008) discerned analytical *techniques* and analysis *tools*. The former (SWOT analysis, Porter's Five Competitive Forces, environmental analysis, PEST analysis…etc.) enable CI researchers to place the collected data within a useful context for strategic decision making, while, the latter (data/text mining, statistical technics, visualization based tools) support CI analytical techniques by efficiently sifting large sets of collected data to identify trends, hidden relationships and patterns.

According to Badr *et al.* (2006), it is important to point out that any specific strategic analysis techniques or model has its own advantages and limitations. There is no one tool, which on its own adequate in dealing with the complexity of strategic analysis. CI managers must be fully aware of all the techniques available and how each one can be used in an efficient manner to maximize the benefit of strategic analysis.

Despite the crucial role of this step, the growth and spread of information technology, the Internet and digital tools transferred the general attention to data collection, with a disregard for the core activity of the CI process: the competitive analysis in which the insightful and actionable intelligence is generated.

2.9.6.4 Communication

The effective dissemination of the generated intelligence closes the loop between those who will use the intelligence in their decision-making and those who collected the data and analyzed it (Prescott and Bhardwaj, 1995). The created intelligence must be formatted, stored and disseminated among managers, so that they can always access and use it for decision making. It is important to deliver intelligence quickly to the right people, since the value of the intelligence decreases overtime. Prescott (1995) refers to the CI Product as *TAR*: *timely, actionable and relevant*. Bose (2008) included more attributes such as *objectivity* and *accuracy*, i.e. all sources and data must be evaluated for the possibility of technical error or misperception. Asa consequence, the feedback from the managers becomes relevant for assessing improvements for future research (Prescott and Bhardwaj, 1995).

The output of the CI process should be disseminated in various formats, including custom reports, personal communication, competitor files, presentations, emails or regular meetings. According to Ghoshal and Westney (1991), analysts feel greater freedom in presenting interpretations in oral presentations because reactions could be elicited immediately from the audience. This immediacy of feedback was the major reason oral presentations were preferred. Bernhardt (1994) emphasized the benefits of conceiving the possible formats in a hierarchical way. In particular, the author suggested to distinguish the frequent reports about *competitor profiles* from the *special intelligence briefings* with higher strategic value.

The solution for accelerating the dissemination of the created intelligence inside and outside the company has been identified in the great enabler tool of Information Technology (IT). However, according to Prescott (2001), deeper analysis is required to understand the information flow barriers and facilitators. The authors identified four mechanisms to be considered: behavioral (related to the personalities of the individuals), political (involving the differences in the goals and aspirations among managers), organizational systems (the IT itself, the reward structure, the decision-making process) and mental models used to frame and interpret information.

As a matter of fact, the majority of literature focused on the technical aspects of the CI process and on the technologies available to improve it. However, Prescott and Miller (2002) define the creation and use of intelligence as a *Social Process*, underling that social aspects, such as organizational and individual aspects, cannot be overlooked. A consequence of this, several circumstantial and social factors have been explored in this research paper and described as *Contextual Factors* in the following.

2.9.7 The Contextual Factors

With varying levels of intent, a number of authors have discussed the infrastructure and the organizational and behavioral factors influencing the CI process (Ghoshal and Westney, 1991; Gibbons and Prescott, 1996; Maltz and Kohli, 1996; Prescott, 2001; Rouach and Santi, 2001; Prescott and Miller, 2002; Jaworski *et al.*, 2002; Badr *et al.*, 2006; Calof and Dishman, 2008; Saayman *et al.*, 2008; Garcia-Alsina *et al.*, 2013). In particular, they have indicated the factors that allow managers to participate effectively in and benefit from intelligence generation.

According to Jaworski *et al.* (2002), by solely regarding CI as a simple data-centric process, the sequential perspective of the CI process masks *organizational*, *social networking*, and *individual-level* factors that influence the whole intelligence generation process. Thus, understanding the impact of these aspects will ultimately benefit managers who are interested in improving both the effectiveness and efficiency of their CI practice.

Saayman *et al.* (2008) confirmed that the context in which CI takes place influences the success of the intelligence generation process to a large extent, thus, assessing the context in which CI occurs is essential. Revisiting Calof and Dishman (2008), Saayman *et al.* (2008) identified four constructs that need to be improved to enhance the CI process: *awareness*, *internal information*, *formal infrastructure* and *employee involvement*. Additionally, they identified *company size* as a key influencing aspect. According to the authors, this last factor affects the availability of resources required to appoint CI personnel and to acquire CI tools, while, according to Aguilar (1967), this factor dictates how broad the variety of external information sources to which a company is exposed may be.

Garcia-Alsina *et al.* (2013) commented that only a few authors have included the CI influencing factors within their frameworks, therefore overlooking the analysis of what causes the different degrees of systematization of the CI practices among companies and their level of efficacy. They concluded that more factors should be considered, having proposed a new, more comprehensive model, adding weight to the enabler and inhibitor factors that influence CI practices.

Considering the former discussion, the following will highlight the several mentioned contextual aspects which are categorized as *individual, organizational,* and *industry environment* factors; then, the diverse facets of each category will be analyzed through a literature review that includes the contribution of several authors to the issue.

2.9.7.1 Individual factors

Among the individual factors, *information consciousness* and *exposure to information* are analyzed. *Information consciousness*, as defined by Correia et Wilson (2001), considers two facets: the attitude toward the information-related activities and the value attributed to the information. These concepts include the personal sense of responsibility for environmental scanning and the communication pattern developed by the individual. A significant difference was detected by Correia et Wilson (2001) between managers of larger companies and those of smaller companies. In larger companies, managers tended to minimize their role as monitors and emphasize their role as disseminators. On the other hand, managers of smaller companies assume environmental scanning as a personal responsibility and attribute great importance to it, while the dissemination factor is largely irrelevant, because in many cases there is no-one else to pass the information to.

Evaluating manager attitude towards CI activities, one can proactively act to avoid threats and exploit opportunities or simply be reactive to problematic issues (Garcia-Alsina *et al.*, 2013). Rouach and Santi (2001) identified five types of attitudes towards CI:

- *Warrior*, very pro-active in managing the CI process, and continuously on the look-out for opportunities–tirelessly fighting against disinformation.

- *Assault,* pro-active attitude. Intelligence analysts are frequently ex-military intelligence specialists hunting for strategic information.
- *Active*, the intelligence analyst is always looking for strategic information through normal sources, but the company's information system is not exactly structured– observatory of competition.
- *Reactive*, the intelligence manager reacts only when competitors are overtly hostile.
- *Sleepers*, the firm's management team shows no interest in CI or knowledge management and does not fear competition. They are passive and often suffer the *Not in House (NIH)* syndrome.

Exposure to information encompasses the level of opportunities of contact with well- informed people and information-rich contexts–e.g. the frequency, the variety and the amplitude of contact networks (Correia and Wilson, 2001; Garcia-Alsina *et al.*, 2013; Prescott, 2001). According to Trim and Lee (2008), CI practitioners need to understand the importance of building mutually oriented relationships and partnerships that result in information sharing, which help to promote a culture of intelligence. Jaworski *et al.* (2002) have underlined how the extensiveness of a network not only enhances the comprehensiveness, relevancy, accuracy, reliability and timeliness (i.e. efficacy) of the data collection stage, but also of the sense-making process, i.e. the process to reach the conclusion about the analysis. Specifically, the more extensive, in both size and diversity, the network, the greater the availability of different perspectives to generate better intelligence in the analysis phase.

Prescott (2001) also highlighted how a well-developed human intelligence network is the most successful mechanism for gathering high quality information. Moreover, he considered two types of networks: *coordinated-tight networks* that focus on developing close-knit, high level of trust relationships among a few individuals to facilitate the transfer of tacit knowledge, and *decentralized-loose networks* that are designed to emphasize diversity and to establish relationships with a wide variety of people.

2.9.7.2 Organizational factors

At the organizational level, *"Outwardness"* and *information climate* are the main influencing factors. *Outwardness"* refers to the openness of the organization to the external environment,

both its permeability to external influences, and its capacity to influence the outside ecosystem (Correia and Wilson, 2001). On one hand, the organizations need to be permeable to external influences in order to incorporate them into designing products and services or improving processes. On the other hand, the capacity to influence the environment facilitates making contacts and alliances to try to change the environment (Garcia-Alsina *et al.*, 2013).

The climate of information refers to a set of conditions required to access and use the information (Correia and Wilson, 2001). It involves the procedures, the implemented information infrastructure, the collections of literature and products (market reports, specialized journals…), the resources participating in the information management, and the allocated time for information-related activities (Garcia-Alsina *et al.*, 2013).

Jaworski *et al.* (2002) emphasized the role of time allocation in the data collection and analysis phases of the CI process. The lesser the time allocated for these activities, the fewer the number and variety of information sources are analyzed and, thus, the lesser the thoroughness of the analysis and the confidence in the CI generated. In addition, they discussed the enabler role of the recognition systems: sharing CI is more likely if individuals within the organization are recognized and rewarded for doing so.

Ultimately, 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 (Wright, 2002, apud Trim and Lee, 2008). To realize that, Prescott (2001) suggested to develop a promotional plan to raise the level of awareness for CI capabilities and to involve all the employees in CI training. *"Virtually all employees can be trained to provide information to the CI group." (Prescott, 2001)*

Equally, Badr *et al.* (2006) suggested that organizations would benefit from a clearly defined CI ethos. They should aim to generate a certain mindset among all staff in relation to the handling of information and to encourage the practice of CI by everyone in the organization, regardless of their job function or level of responsibility. In short, CI should be everyone's concern.

2.9.7.3 Industry Environment

It is generally accepted that the structure and decision making in an organization is influenced by environmental complexity and volatility (Kourteli, 2005). The environment in which the company operates deeply influences its CI practice in terms of how often the company needs to search for information and how extensive this research needs to be. According to Garcia-Alsina *et al.* (2013), the industry environment encompasses two relevant factors: *uncertainty* and *external pressure*.

External market pressure is defined by Jaworski *et al.* (2002) as the demands placed on an organization by key external stakeholders (e.g. competitors, consumers, suppliers, stockholders). While, according to Blandin and Brown (1977), *uncertainty* is a function of individual perception and is key to the perceived clarity of environmentally-related information and the perceived certainty concerning the nature of cause and effect relationships in the decision environment. Both dimensions involve a temporal concern. Thus, the two industry factors depend on the changes required by the external stakeholders: the managers' perception of the competitive environment and the time pressure.

As pointed out by Blandin and Brown (1977), managers in environments characterized by rapidly changing constraints, contingencies, and opportunities clearly adopt more of an external orientation of information than their counterparts in relatively certain environments. In addition to this difference, in the scope of their information gathering behavior, they make more intensive (frequent) use of all information sources (both internal versus external and formal versus informal). More generally, when the uncertainties and market pressure are high, the CI organization should be more formally structured and stable, and the process practices more systematized, allocating more resources to understand the competitive environment and increasing the number of sources of information.

3 AN INTEGRATED VIEW: THE STRATEGIC ROLE OF COMPETITIVE INTELLIGENCE

In the previous chapter, the literature analysis of scholarly and practitioner articles, books and specific chapters, and theses allowed the author to delve into the topics of Strategy, the Strategy Formulation Process and Competitive Intelligence.

Specifically, this research paper started from reviewing the definition of Strategy, then, the different Strategy Schools' principles have been described in order to understand their respective limits and contributions. Moreover, analyzing the deliberate and behavioral approaches of the various Schools of Thought to decision-making allowed the author to reach the conclusion that, whether the planning process be formal or informal, managerial decisions always need to be clear, conscious and deliberate.

Finally, a comprehensive framework has been presented for the Strategy Formulation Process, showing the various steps that characterize it. It starts with the defining of strategy objectives, following with the analysis of the external and internal environment of the firm, then tests different BMs to achieve the defined strategy objectives, then defines a detailed BM to execute the chosen strategy, and finally monitors the BM performance to continually assess the viability of the strategy.

However, the current global competitive environment, the new economic and technological panorama, the competitive relevance of the information and, in turn, of the knowledge inside the company suggest a shift toward flexibility, re-learning organizations and network perspectives. That is, firms have to develop *strategic thinking* and improve their ability to create intelligence analyzing relevant data. In short, they need to improve their Competitive Intelligence practices.

At this point, the origins of CI have been analyzed and a comprehensive definition of CI has been provided. Later on, the possible supporting roles of Competitive Intelligence in the proposed Strategy Formulation Process are explored, as summarized in the following Table 2.

Table 2– CI's possible contribution to Strategy Formulation

Contribution to Setting Objectives
Understanding competitors' strategies and objectives
Providing useful intelligence which helps to set achievable objectives
Providing information that can be a platform to develop marketing objectives
Ensures that strategic objectives are developed within a realistic perspective
Helps managers to develop sensible and achievable strategic objectives
Contribution to Analysis
Aids in better understanding the business environment
Provides intelligence on aspects of the competitive environment
Helps to present the big picture regarding the business environment
Helps managers to identify opportunities and threats in the market and anticipate competitors' moves
Informs and supports marketing analysis
Provides clear understanding of the market and adds value to the analysis
Contribution to Strategy Formulation
Up to date intelligence regarding the business environment which helps managers to make their decisions
Assesses and evaluates likely competitors' reactions
Provides intelligence and suggestions to senior managers
Predicts the future position of products and markets
Focuses on what to achieve in the market and how to go about it
Contribution to Implementation and Monitoring
Indicators from CI are used as an early warning system to assess success or failure
Provides information about competitors' reactions to the strategy
Checking the validity of the strategy
Provides feedback to enable adjustments to be made
Provides feedback about the strategy's performance in the market

Source: Adaptation from Bard *et al.* (2006)

Ultimately, the author delved into the CI practices, describing each step of the intelligence creation process and the contextual factors that influence it.

In order to transform raw data into useful intelligence, the activities of Planning, Data Collection, Analysis and Dissemination have been implicated, emphasizing the objectives and the most important elements of each. Finally, the contextual factors affecting the entire CI practice have been discussed, considering three levels of granularity: individual, organizational and sectoral. This literature assessment constitutes the strong foundation on which the propositions are formulated and then tested through the methodology explained in the following chapter.

4 METHODOLOGY

To begin, it is useful to recall the Research Questions and the initial objectives of this research work.

RQ: How do Competitive Intelligence practices contribute to the traditional, external and internal strategic analysis and to the whole Strategy definition of the company?

RQ1: What is the Strategy and Positioning adopted by the companies?
RQ2: Is it possible to provide an exhaustive overview of Competitive Intelligence practices?
RQ3: How can Competitive Intelligence practices support the Strategy Formulation Process at the strategic, tactical and operational levels?

The presented literature review constitutes the basis for defining the conceptual theoretical structure related to Strategy and the Strategy Formulation Process, and it has allowed to develop a comprehensive overview about the buzz-word CI, and its potential strategic impact. This has been the starting point to formulate and validate the following research propositions:

P1: The evermore global, turbulent and knowledge based competitive environment required the development of CI practices.

P2: No matter the level of sophistication of the CI practices, they include, with reliability, Planning, Data Collection, Information Analysis and Intelligence Dissemination.

P3: Contextual factors–individual, organizational, sectorial–influence how CI practices are executed.

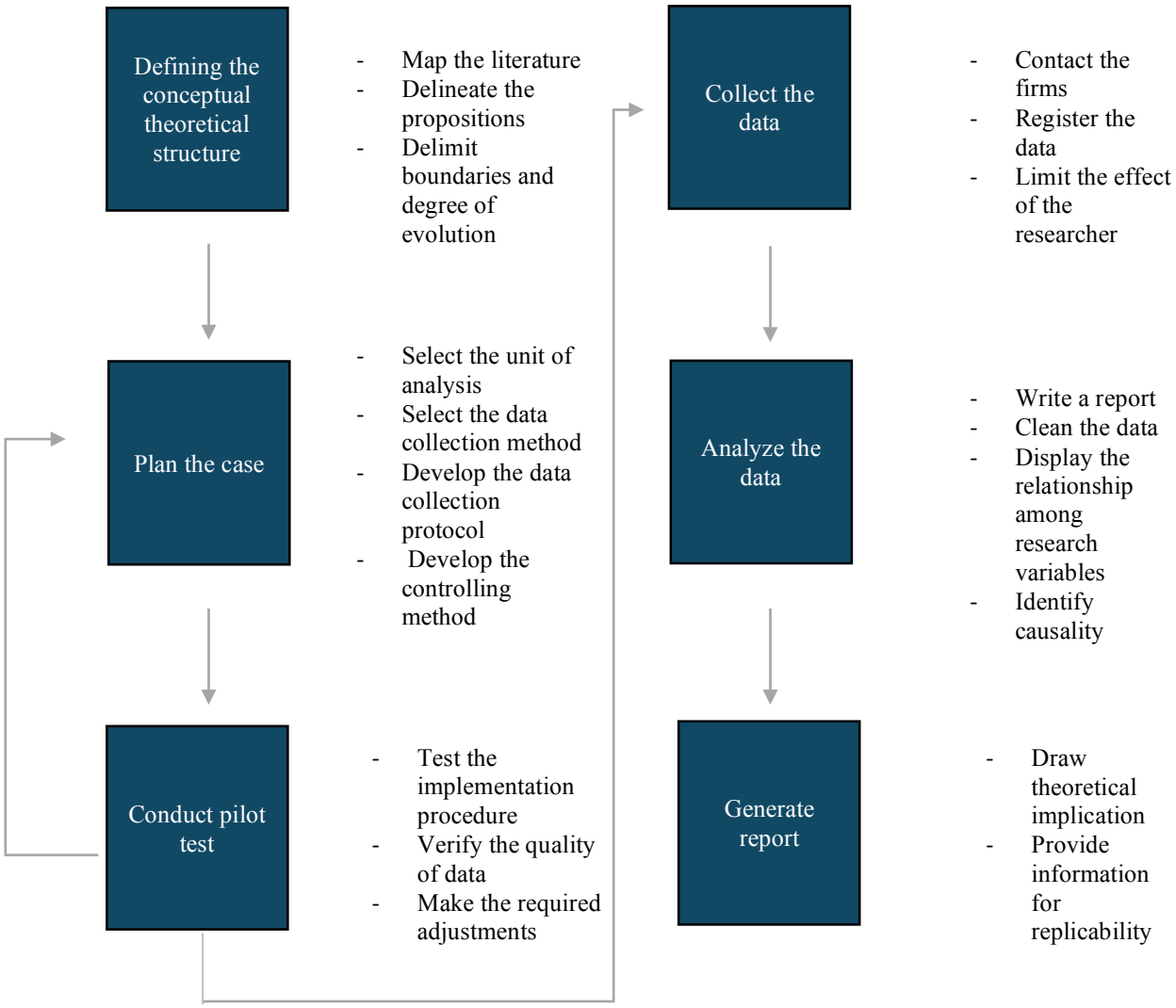
P4: There are potential benefits of CI at the various strategic levels–strategic, tactical, operational–and at every step of the Strategic Formulation Process.

Now it is crucial to deepen the study through empirical analysis. Thus, hereafter, the in-field research methodology is presented.
To answer these research questions and validate the propositions, the author employs the use of case studies. As defined by Yin (2003), case studies are "*empirical inquiries that investigate a contemporary phenomenon within its real-life context, especially when the boundaries*

between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used". This methodology has been chosen because its objective is to deepen the comprehension about a not well-defined problem, aiming to stimulate understanding, suggest hypotheses and questions or develop a theory (Mattar, 1996).

To conduct the present research, the author has adopted the framework shown in Figure 5 proposed by Miguel (2007), who detailed the necessary content and the task sequence to execute a case study.

Figure 5– A Framework for Case Study



Source: Adaptation from Miguel (2007)

A qualitative approach was selected to accomplish the research objectives, which consist of understanding the strategic implication and relevance of the most recent CI practices.

Specifically, multiple case studies of companies operating in different sectors in Brazil were performed (the company names will not be disclosed throughout the paper: no proper names of informants have been mentioned either, to preserve their anonymity).

The sectors of private banking, healthcare and retargeting have been chosen to understand the implications of operating in different levels of complexity and turbulence. Moreover, the author picked top players of each industry, and, ultimately, chose both Brazilian and non-Brazilian companies to understand the implications of operating with local and global headquarters.

The unit of analysis was the CI business unit, often identified with different labels, such as *Market Intelligence* (MI), *Customer Relationship Management* (CRM), *Business Intelligence* (BI), *Data Analytics*.

For each BU, the Managing Director and one Analyst of the area were interviewed, in order to capture the different perceptions at diverse levels of seniority. The semi-structured interviews, shown in Table 3, were divided into distinct sections, the first related to understand the perception of the Competitive Environment, the effort made to understand it and the adopted Strategy to compete; the second part explored the organization of the CI practices inside the firm and, ultimately, the author investigated to what extent CI is used in Strategy formulation. The exploratory proposal of the research and the semi-structured interviews allowed to have an open dialogue, letting new elements and issues arise from the empirical analysis. Together with the interviews, which were the primary information source, secondary sources have been analyzed (such as websites, reports, international conference proceedings) in order to increase the consistency and reliability of the case study and the quality of the data.

Table 3– Interview Questions

Topic	*Questions*
Strategy and Strategic Process	I. How does the company compete in the market? I. Who is the main competitor? Why? II. How do the main strategic shifts occur? III. How does strategic formulation occur? II. Which data do you analyze to pursue this strategy?
Environmental Monitoring	I. How is, in the company's vision, the competitive environment? II. Does the company make any effort to better understand the competitive environment? III. What are the main mechanisms used to do that?
The Competitive Intelligence Practices	I. Do you use any CI practices? I. Since when? II. Why do you use it? III. Do you have a dedicated CI business unit? IV. Would you say is it a project-base practice or more a continuous process? V. What do you normally ask for? VI. How do you use the intelligence received? VII. How is it disseminated?
	II. How do you execute CI practices? I. Why do you think CI is practiced in your company? II. Which are the steps you follow to build the CI? III. What are the techniques used in these steps? IV. Who executes these practices? V. What is the attitude of senior executives towards CI activity? VI. How is it disseminated?
Competitive Intelligence in the Strategy formulation	I. To what extent do you use CI in your Strategy formulation? Do you think it is a key component? I. In which stages do you use it more? (Objectives definition, Strategic Analysis, Strategy Formulation, Strategy Implementation and Controlling) II. How is it useful in these stages?

Source: Author's Elaboration

5 CASE STUDIES

In the following section, the different business cases are analyzed according to the research protocol presented in the methodology. Each case will be contextualized through the following information:

- Industry Information;
- Generic Strategy of the company and Positioning;
- Organization and Structure of the CI practices;
- Contribution of CI to company's Strategy.

Ultimately, a comparison among the cases will be presented to highlight the relevant aspects discovered through the research work.

5.1 Case Study A: Diagnostic Imaging Private Center

The analyzed company is a private center operating in the healthcare segment of Diagnostic Intelligence and Imaging (e.g. magnetic resonance, computed tomography, ultrasound, x-rays), which offers an additional Clinical Analysis service (e.g. blood count, cholesterol, triglycerides). It is one of the largest player in its sector, scaling organically and by acquiring regional clinics; today it has a strong reach throughout Brazil, thanks to its multiple service centers and more than five thousand employees. It merits analysis because of its pioneering in process optimization and innovation in the complex Brazilian healthcare market.

5.1.1 Industry Information

"Brazil has made health security a major priority, offering comprehensive and free medical coverage to every citizen, a right enshrined in its constitution. That simple right though is riven with challenges, from a lack of public funding, to long queues for services, to geographic disparities between urban cores and rural areas. Those with the means use private medical services, but those costs are far outside the reach of the majority of Brazil's inhabitants. The country may have made a commitment in words, but it has in many ways failed to fulfil that commitment with actions." (TechCrunch, 2018)

In Brazil, just 25% of the population of 208.000 million has access to health insurance. This simple piece of data, together with the documented poor public health system highlights the country's huge deficit in providing medical care for its people. For this reason, over the last few years, the healthcare sector has seen the entrance of many new competitors, such as *Dr. Consulta*, a network of medical centers that serves people with lower-income (those who normally do not have access to health insurance) by facilitating the scheduling of medical services. These new entrances offer a quasi-universal access to the public health system, but with the quality and timeliness of the private health market. They are a typical example of a strategy focused on unserved markets with effective pricing.

The Brazilian healthcare industry is affected by the following specific factors: the increasing technology sophistication that requires high investments, a larger elderly population and the increased longevity of the Brazilian people. This scenario points to a significant increase in demand for supplementary health services in the coming years. For example, Instituto de Estudos de Saúde Suplementar (IESS) projections indicate that the total number of medical exams will increase by 101.9% between 2015 and 2030, followed by an increase of 102.3% of therapies (Valor Análise Setorial, 2017). This trend negatively impacts the health insurance companies who, in turn, see the number of accidents increasing, which therefore force them to ask exam providers to lower prices in the effort to keep costs low. On the other hand, this also shapes the strategy of the private medical centers that are constrained to cut costs in a sector characterized by high cost of labor and heavy investments in technology. In all, the whole supply chain is stressed.

Focusing now on the sector of diagnostic medicine, it is characterized by high fragmentation since there are many small independent clinics that operate locally providing Diagnostic Imagining. Yet, it is possible to recognize the main actors, e.g. *Alliar, Dasa*, *Hermes Pardini*, and *Fleury*.

Currently, one of the main challenges for the diagnostic medicine segment–and of the health sector as a whole–is the reduction of the volume of waste. According to estimates published in a study by the Institute for Supplementary Health Studies (IESS), 25-40% of requests for laboratory tests are not necessary. Based on the amount spent on examinations in 2015, some

R$ 25.2 billion, according to Agência Nacional de Saúde Suplementar (ANS), the total cost of unnecessary laboratory tests varies from R$ 6.3 billion to R$ 10.1 billion per year. One of the solutions adopted by the health insurance companies to avoid this waste is the verticalization of the supply chain, i.e. englobing the doctors in their systems to better monitor their performance and their requests for laboratory tests.

5.1.2 Company Generic Strategy and Positioning

In the described complex landscape, the company's strategy of differentiation is pursued not only by offering high quality services in its core business–numerous medical staff and national coverage–but also *"trying to do things differently"*, such as introducing a fixed monthly fee for insurance companies, offering them quantity discounts, all the while reducing their transactional administration costs. They also spot opportunities for better managing the misalignment of capacity and demand, for example, setting price incentives in time slots with low demand.

According to the COO, they do not compete directly against competitors, "*it is more about understanding the new opportunities in the sector and exploring them".*

5.1.3 Organization and Structure of the CI Practices

The company has a high level of formalization and systematization of all CI activities. From the operational to the strategic level, there is dedicated personnel to perform data analysis and intelligence creation.

More specifically, the strategic planning area has two staff members dedicated full time to what they call *Market Intelligence* (MI). They monitor the trends of the industry and explore new ways to grow in the market. They interface mainly with the strategic planners and with the Commercial business unit, analyzing both external and internal data. Regarding the external environment, their focus is on macroeconomic trends such as inflation estimation or studying demographic trends (growing population, gender analysis) and on industry specific issues, such

as spotting growing insurance companies (i.e. clients), projecting the health insurance beneficiaries by the end of the year, developing benchmarking analysis and monitoring their competitors' performance with data available on public platforms.

The internal analysis copes with the tactical questions of the Commercial team that monitors pricing issues and controls competitors' price strategies. At this level, the analysts are in charge of elaborating upon qualitative and quantitative analysis about each insurance provider, using the data about the number of beneficiaries in each municipality and the financial data of the insurance companies that are published by the ANS. The primary information explored for each insurance company is: revenue, average ticket, exams volume, margin per transaction, and number of beneficiaries.

According to the interviewed, the access to some on payment data sets would be extremely useful. For example, the startup *NeoWay* that has a big data set of CPFs (Cadastro de Pessoas Física), which can be linked to the CNPJ (Cadastro Nacional da Pessoa Jurídica) of the company where the person works. With this data, they would have access to the health plan through the ANS dataset. By the plan it is possible to see if the person has co-participation in the payment of healthcare services, understand what laboratories this client has access to and, therefore, build some advertising campaign aimed at acquiring that audience, supporting the Marketing team.

At the operational level, the daily activities are traced. The internal data of the various Brazilian operative units (calls received, attended people, occupation rate…etc.) are supervised in real time through an automated system. There is a comprehensive broadcast of the real time operational data, which are displayed in the common work area on digital dashboards. The interviewed COO jokes about it, declaring: *"Our main expense is televisions!"*.

Ultimately, weekly meetings assess the whole panorama, considering and synthesizing the various assessments. During these meetings all the areas participate to analyze the performance trend. The company has worked since its origins to develop an integrated infrastructure driven by just four information systems: Enterprise Resource Planning (ERP), Customer Relationship

Management (CRM), a software for imaging used by the technicians, and a call center platform. All the operating units run the business through these pilasters, which are considered the real competitive advantage for the company against its competitors. As matter of fact, this system simplified the complexity of running a dispersed business across the country by avoiding adaptation costs and redundant operating costs.

5.1.4 Contribution of CI to Strategy

The firm shows a strong analytical and data driven culture, developed in a systematized infrastructure, which supports decisions at each strategic level. This turns out to be a strong differential for the company's strategy and competitiveness. The MI analysts support managers to identify opportunities and threats in the market, providing detailed 'big pictures' of the sector environment. They also serve to provide useful intelligence which helps to set achievable objectives, aligning their macro-economic analysis with the internal analysis supporting the Commercial team in negotiations with the insurance companies. In fact, this business unit focuses on what to achieve in the market and how to go about it. On the other hand, the analysts of the operations area provide feedback about strategy performance in the market, offering an automated warning system to assess performance in real time. Thusly, they cope mainly with the monitoring and implementation stages. All these activities are finally tracked, integrated and coordinated in order to avoid repeating them among the various other business units.

Ultimately, the company is exploring the new competitive opportunities deriving from all the data they collect. For example, they recently began selling this data directly to their clients, the insurance companies, providing such insights as warnings about certain doctors' performance and have thereby strengthened their partnerships. The firm is a typical example of a successful data strategy; they aligned the firm's values of *"quality, process optimization and innovation"*, with information and technology systems and with the strategy formulation and implementation process.

5.2 Case Study B: Commerce Marketing Company

The firm is a commerce marketing company that offers online retailers the ability to serve personalized advertisements to potential consumers who have previously expressed interest in acquiring one of their products advertised on a publisher website (often a third party advertiser). The company has been analyzed because of the fast-changing competitive environment in which it operates and because of the crucial importance of data for running their core business. In this research paper, the Brazilian subsidiary of the global company is analyzed.

5.2.1 Industry Information

"In the digital media arena, retargeting is defined as a marketing tactic businesses and brand marketers use to serve up ads to existing or potential customers who have already visited the brand's website. In simple terms, marketers use retargeting to stay in front of the consumer across devices and to ultimately try to reach them at the right time–the moment of purchase intent." (Forbes, 20018)

The origins of programmatic advertising and retargeting can be traced back to a decade ago. Ever since, this sector has seen enormous growth. The sophistication of the technologies together with the evolution of consumer habits triggered a network effect: new players entered the attractive market and the majority of retailers adopted programmatic advertising and retargeting in their marketing strategies, investing a heavy portion of their online advertising budget on acquiring these services and continuing to increase this investment over time. Today, the competitive landscape includes many players, among them being: *AdRoll*, *Adobe*, *Criteo*, *Oracle* and *Salesforce* and the heavy weights, *Alibaba*, *Amazon*, *Facebook*, *Google Remarketing* and *Yahoo*.

While former decades saw a great importance placed on real estate and merchandising for retailers, today, their success depends on knowing their customers and serving them intelligently. In order to do this, having access to real-time data and using predictive and optimizing technologies, i.e. retargeting tactics, is fundamental. According to an industry study presented by *AdRoll* in 2017, retargeting advertising is mainly used to increase brand

awareness, lead generation, social engagement, drive sales and retain customers, becoming, in this way, a crucial component of every digital marketing strategy.

As in all industries driven by disruptive technologies, this sector changes rapidly and is severely influenced by the constant changes of the whole advertising market (e.g. by the evolution in the publisher sector). In this environment, the technology evolved from the original focus on *post click*, to the *in App solution,* and then to the successive *programmatic* technology, today evolving toward *header bidding*. Moreover, this sector moves concurrently with the rapid variations in customer behavior, which have recently included the transition toward *Mobile Activity*, the increased involvement on *Social Media* with a relative jump in purchases directly from the social platforms, the concurrent use of *Multiple Devices,* or the more recent issue of *Ad Blocking*.

The latest revealed trends in the market also include:

- Rise of *Voice Shopping* through devices like Google Home;
- Connection *Offline-to-Online Sales* better using in-store CRM data to find and reach consumers online;
- *Data Collaborative Imperative* between brand and retailers to improve the customer relationship and compete against the internet giants;
- *Growth of Acquisition and Partnerships* to bridge offline and online worlds and generate crucial value from it (e.g. Amazon acquisition of Whole Foods Market).

5.2.2 Company Generic Strategy and Positioning

In the described fast changing and turbulent competitive sector, the chosen company offers solutions to deliver incomparable performance by connecting consumers to the products they want. The offered service is a product recommendation engine that drives sales and profit for the retailers, using an approach that is not only digital, i.e. driving traffic from store-to-web and from web-to-store.

The firm portfolio offers: ads on the world's largest retailers; placement of the right bid at the right time; dynamic retargeting and product recommendations on the items that will most interest online shoppers–including those they haven't even seen yet–and customized advertisements based on shopper-specific insights. In this way, the company re-engages existing retailers' shoppers and acquires new customers.

Compared with its competitors, the company shows greater implementation of highly performing machine learning technology, greater willingness from large advertisers to work jointly, stronger partnerships with publishers and, thus, deeper access to major inventory. These elements allow the company to maintain strong leadership in commerce marketing and a sustainable competitive advantage against the large internet players.

5.2.3 Organization and Structure of the CI Practices

The analyzed unit is the Data Analytics unit of the company's Brazilian subsidiary, the only one responsible of creating intelligence in the entire South America region. It is under the direction of the Operation department; yet, their main interface is the Commercial area. The objective of the unit is to support the Commercial team in every analysis request. As a consequence, the Data Analytics unit's goals are achieved only when the Commercial unit meets its objectives.

The unit's routine consists of collecting and analyzing the data of their clients' customers, which are under the company's ownership and directly available on the client's platform. These data may be transactions, events, generated sale volume or the related margin due to the retargeting company service.

This data is mainly used to develop reports in order to help the Commercial team to set the margin goals of the next quarter. According to the interviewed, the five analysts working in the unit try to *proactively* develop analyses and new tools that could provide the served internal department with a higher level of autonomy; *"So they can work in self-service modality for the routine issues"* having been commented. For example, they developed an automatized tool that

automatically elaborates quarter reports for their clients, which is able to directly generate the PowerPoint presentation from the collected performance data. Another example is the development of a mathematical model in order to evaluate the performance of a marketing campaign.

Moreover, this unit satisfies occasional on demand clients' requests for customized market analysis, such us studying the behaviors of their client's consumers. Finally, the unit works on projects executing more comprehensive and massive market analysis, such as evaluating the trends of *Black Friday*, specifically requested by the marketing area.

There is no formal distinction between the personnel fully dedicated to the routine activities and those managing on demand requests. *"Every kind of data-related analysis that will drive an action of the Commercial area or of a client is done by this team"* the unit manager explains. Yet, this manager declares that often they perform analysis without any additional value, mainly directed to show the progress to the clients and to improve their relationships with them: *"The relationship with the client is critical and we often present analysis without any action-related value just to make this client relationship stronger"*. The clients are not only the source of consumers' data for the company; dialoging with them, the company acquires information about other competitors operating in the local area.

As a matter of fact, the only collected data is the internal data of retailers' consumers, i.e. the *user data* constitutes the main data asset of the company and the unique driver to make decisions at this level. Therefore, the interviewed did not express difficulties related to data acquisition, the main problems are considered *urgent unexpected requests*, according to the manager of the unit, and *technical aspects* of the BI tools for the analyst.

5.2.4 Contribution of CI to Strategy

As declared by the interviewed, the function copes with supporting the tactical decisions of the Commercial team, focusing on short and middle term issues. The unit assists in the launch of new products and/or functionalities, forecasting sales and profitability, but also monitors the

product/functionality performance while it is on the market; finally, they offer support in the enhancement of the customer relationship.

Therefore, the unit contributes to the tactical strategy formulation at the local level by providing intelligence and suggestions to the Commercial area's senior managers, but primarily focuses on strategy implementation and monitoring by providing feedback about the strategy performance in the market.

Embracing a broader perspective than just serving to support the Commercial unit, the manager stated that their actions are completely *reactive* to what happens in the business environment: *"Even if we know the competitive environment is really harsh, we do not have a formal strategy about how to position ourselves in relation to clients and competitors. It is totally reactive. For example, it is about two years we know about this new strong competitor and still we did not formulate a strategy about how to face him. We do not receive any help from the higher hierarchical levels, who should be the sponsor of this counter strategy"*.

The manager highlights that there is essentially no dialogue with headquarters, which dictates the strategic objectives with a total top-down approach, leaving the company vulnerable to existing competitors' moves and new entrants.

5.3 Case Study C: Private Brazilian Bank

This case copes with one of the major private Brazilian banks, a financial institution generating more than five billion USD of profit and with more than 90 million employees–a leader in its market and one of the largest companies in the world.

5.3.1 Industry Information

Brazil's economy tends towards extremes, yet the country's big private-sector banks have flourished nevertheless. During the recession (from the late 2014 to the late 2016), not one of

the biggest players saw their return on equity (ROE, a measure of profitability) fall below 15.9% (The Economist, 2018).

Because of the high concentration of the market–increased with the retreat of *Citigroup* and *Britain's HSBC*–the major banks (*Bradesco*, *Itaú*, and *Santander*) have no need to compete against each other and their bargaining power is considerably higher than that of the other financial institutions. Moreover, according to the Economist (2018), three private-sector lenders and three public ones–*Banco do Brasil, Caixa Económica Federal* and *BNDES*–account for 82% of banking assets and 86% of loans. This just partially explains the high profitability and high interest rates of the Brazilian banks. The leaders of the sector justify the spreads with the high risk of default and the limitation of some regulations, such as a ban on overdraft. Yet, the sector remains a peculiar case. More, the interviews revealed that the main players are aware of this status. The competitive landscape is described as *"polarized"* and dominated by the mentioned major banks.

However, the fast progress of *FinTech* implies the entrance of players threating the incumbents, by using digital technology and lean structures, unencumbered by high administrative costs. Yet, according to the interviewed, these trends are marginally relevant since strong players like *Nubank* (startup offering 100% digital credit accounts) just affect small clients of the banks, while many other startups have been effortlessly acquired.

5.3.2 Company Generic Strategy and Positioning

In this relatively stable environment, the analyzed bank pursues a generic strategy of differentiation, positioning itself as a provider of premium quality products and services; further yet, as a promoter of positive change in people's lives and society.

The two main segments it serves are individual banking and business banking. Making up the first category, the offered products are: Checking accounts, Savings accounts, Debit and Credit Cards, Credit and Financing, Insurance, and Wealth Management. Making up the latter: Business loans, Checking accounts, Savings accounts, Debit and Credit cards, Investments,

Merchant Services (credit card processing, reconciliation and reporting, check collection), and Cash management (payroll services, deposit services, etc.).

5.3.3 Organization and Structure of the CI Practices

To pursue its strategy of differentiation, the bank uses a vast amount of data, mainly coming from their clients, who are a highly valued asset for the bank. However, other sources of data have been mentioned by the interviewed, such as those from external consulting companies, from the market and from public records, and from the Central Bank.

The bank's positioning within this strategy, the focus on client satisfaction, is demonstrated by the bank's structure. For each client segment that the bank serves, a dedicated area monitors client attendance, satisfaction and possible improvements in that offered service so as to retain the client.

The examined Data Analytics unit was formed in 2014, when the original unit of Commercial Planning evolved into the current area. Today, the department acts as a 'bridge' between the Product area and the Commercial area and has since shifted its focus from merely operational issues (e.g. client registering) to more tactical ones (attracting new clients and retaining existing ones). Here, around 70 employees are in charge of defining the target of the Commercial area, suggesting where it should zero-in on, and, thus, proposing the possible improvements to the bank's positioning in the specific segment.

Using the data that are collected and provided by other departments, the analysts develop monthly reports about production follow-ups (e.g. balances, flows), managers' performance, new account openings, and financial results of agencies. The gaps are mainly evaluated in relation to the planned budget for the year (e.g. opened accounts below expectations, costs above expectations). Moreover, they identify their various clients' profiles and monitor the loss of clients to their competitors, thereby investigating the cause and supporting the Commercial area to define the competition strategy to defeat.

According to the interviewed, sixty to seventy percent of the analysts' time is dedicated to the production of the reports accompanying the product and the client, while the rest of the time they satisfy on demand requests through a more project-based approach. In particular, this happens when there is a need to improve some aspect of the model. For instance, by observing the evolution of customer satisfaction due to visits with the managers, the recommended frequency of this contact was changed, according to the type of customer. Another example is the changes resulting from large projects such as digital transformation that, thus, increase the functions that the manager can do outside the agency, via digital instruments (e.g. mobile or tablet).

There are analysts dedicated to both the activities, some are allocated full time to those routine deliveries of reports and others are specialized into those more specific projects. Yet, a great lateral mobility inside the area is highlighted. Generally, younger and recently graduated employees are in charge of monthly documents and report to senior roles. On the contrary, senior functions focus on product issues. Specifically, they ensure that product team initiatives (e.g. launch of a new product, differentiated price action, etc.) are in accordance with the performance model, which must be followed properly.

From the interviewed, the main issues faced by the analysts that emerged are (in order of relevance):

- Data access; because of internal company policies, the analysts often know which data they need, but cannot access it.
- Outdated data; when the accuracy of data depends on updating client information.
- Data quality; there are obsolete databases that contain old data that cannot be used.

Ultimately, concerning the applied technology, the predominant Data Management Software available in the market are applied by the company and identified as Business Intelligence Systems. It has been also observed that the bank keeps abreast of the latest technology innovations. Yet, the executives mainly use a top down approach and headhunt experts from the professional market much more often than endeavoring to develop internal skills.

5.3.4 Contribution of CI to Strategy

Even if it is a relatively small unit, it serves a critical role for the bank and, more specifically, for the segment of clients it focuses on. The directions of the Commercial activities are shaped by the analysis of this department. Yet, the focus is at the tactical level; around eighty percent of the requests, and their relative outputs, have impacts in the short to medium run. According to the interviewed, in just five percent of the cases they look for new long-term opportunities. There are specific areas responsible for more strategic issues (including areas of economic forecasting, for example), but the interviewed did not know how the Analytics areas relate to this type of activity. Their activities are wholly uncoordinated, and, as a consequence, many times they experience overlapping efforts. Furthermore, this area's contribution is substantially at the implementation and controlling levels of the decision planning process. The monitored data are used as an early warning system to assess success or failure of the segment strategy and the analysts provide feedback about the executed strategy and enable any adjustments to be made. This perspective is confirmed by the fact that the main activities: are developing monthly reports to accompany the products and providing suggestions to improve the bank's services.

5.4 Case Study D: Digital Private Bank

The chosen Brazilian institution offers financial services to both individuals and businesses. It is a bank, born recently with a particular focus on agribusiness and grew under a digitally oriented mission.

5.4.1 Industry Information

The bank operates in the same previously described competitive environment dominated by the biggest private and public banks. However, according to its positioning, the company identifies its direct competitors as the small and medium financial institutions and as the Fintech startups that offer digital financial services and credit accounts without setup fees and with lower interest rates, such as the mentioned *Nubank*. For this reason, the environment that is perceived

as stable by the interviewed incumbent (the previous leader private bank), appears highly dynamic, fast changing, and characterized by disruptive digital technologies by the newer financial institutions.

5.4.2 Company Generic Strategy and Positioning

The institution positions itself as an innovator digital bank, which attracts people who are looking to open bank accounts without the bureaucracy. Their typical client is a young professional, who does not want the trouble of bank lines to manage its finances, but wants simplicity, easiness, low-cost fees and attractive low interest rates.

The standard offered products and services in personal banking and business banking are: Checking and Savings accounts, Debit and Credit cards, Credit and Financing, Insurance, Wealth Management, Business loans, Checking accounts, Investments, Merchant Services (credit card processing, reconciliation and reporting, check collection), and Cash management (payroll services, deposit services, etc.). Moreover, this bank strongly operates in Agribusiness, which has comprised a key part of its operations since its origins.

Ultimately, they are the first Brazilian open banking institution, with an open API (applications programming interface) platform that enables the bank to reach several customer channels.

5.4.3 Organization and Structure of the CI Practices

The analyzed unit, called *Anything Relationship Management* (*XRM*), constitutes the main source of intelligence for all the departments that work in this segment. Inside the area, they distinguish a part dedicated to acquire new clients through social networks, such as *Facebook*, and partnerships with other firms that own personal data; including as well, a part related to the retention of these clients offering customized products and services for each of them. The area, in fact, collects and uses users' data to increase their pool of clients and to better serve them.

Their main data sources are internal data, i.e. the digital information derived from their mobile App and Website. Moreover, they use governmental data, external data from the central bank and public information to monitor their main competitors. However, the interviewing of clients is also adopted to discover the moves of competitors.

According to the interviewed manager of the area, all of the other departments draw on this area's knowledge to align their strategy with reality and therefore make informed, fact-based decisions. They declare themselves as very *proactive* in client acquisition campaigns. In fifty per cent of the cases, they are able to spot new opportunities and make suggestions for the other departments, in the other cases they are demanded to execute analysis, also related to likely financial regulatory issues before launching new products that they make available on the market.

The area is described as lean and agile. Around 25 people with economic and analytical backgrounds work here and most of them have more than four years of experience in data analytics.

The area is currently working on the issue of data quality and data integration through dashboards that are able to synthetize data and provide the executive with "*one single number"*. In order to do this, they make the intelligence available through emails, intranet and weekly meetings with all the areas of their segment. They have had troubles with information sharing inside the company; thus, today they are trying to move toward a more open access culture, in order to avoid redundancy among the different areas.

Ultimately, they are living a transactional phase toward *Big Data Solutions*. The original data warehouse and management, which has been under the control of the IT unit is now moving under the control of the XRM area, in order to reduce the time of data processing, increase the agility and speed to execute campaigns, and better align with company's strategy.

5.4.4 Contribution of CI to Strategy

According to the interviewed, "*the unit supports the executives who come up with ideas"*, providing intelligence which help the top managers to better understand the client, the competitive environment and the financial regulatory environment. The objectives are defined at the top level, but just after they have consulted the analysis provided by this department. *"Every decision is based on data"*, the interviewed declared. However, they do not participate in the strategy definition directly nor actively, they mainly support decision-making via on-demand requests.

Reporting what emerged from the interviews, they do not focus just on the tactical level, even if client acquisition is a huge part of their daily activities. They have a strategic road map ever more aligned with the different data needs at the various strategic levels, and they also developed a study to understand the gaps and data requirements for each area.

In Table 4, the main characteristics of each case have been summarized. Following, the critical findings related to the original research questions and proposition are clarified.

Table 4– Summary of the Case Studies

	Industry Information	*Company Strategy and Positioning*	*Organization and Structure of CI practices*	*Contribution of CI to Strategy*
Case A Diagnostic Imagining Center	Healthcare industry Diagnostic Imaging High complexity and dispersion Increasing technology sophistication Increased longevity of Brazilian population Stressed Supply Chain (Upstream and Downstream) Main players: Alliar, Dasa, Fleury	Differentiation Quality service and innovation *"Doing thing differently"*	MI unit Dedicate Personal according to strategic level Highly coordinated Data sharing and real time monitoring 4 Software running the whole business (ERP,CRM, Call Center, Software for executing exams)	Operational/Tactical/Strategical Level Supporting the Strategic Planning and Commercial units Supporting every step of the Strategic Formulation Process (from defining strategic objectives to monitoring) Understanding the industry Monitoring competitors Spotting opportunities Supporting sale negotiations Monitoring strategy performance
Case B Top player Commerce Marketing company	Retargeting industry Fast changing and highly competitive Disruptive technologies Evolution of Customer behavior Main players: Adobe, AdRoll, Alibaba, Amazon, Criteo, Facebook, Google, Oracle	Differentiation High performance Sophisticated machine learning technology Strong partnership with publisher Will of advertiser to work jointly	BI local unit Weak coordination and support by the headquarter Users of clients' website main data asset	Local Tactical Level Support to the local Commercial unit Objectives defined globally and dictated with a top-down approach Support to tactical strategy definition, implementation and monitoring Routine analysis of *user data* to define margin projections Sporadic market analysis requested by the clients and/or Marketing department
Case C Top player Private Bank	Private Banking Stable Environment Slow changing Protected top players dominating New entrants or small players not perceived as threats Main players: Bradesco, Itaú, Santander	Individual and Business Banking Differentiation Quality service High interest rate	Evolution of the Commercial planning area Departmentalized according to the client segment Client data value asset No data sharing High level of overlap Duplication cost	Tactical/Operational Level Support to the Commercial unit Support to tactical strategy implementation and monitoring Analysis of production follow-ups (balances, flows, new accounts) Analysis of financial results (agencies of the segment) Service improvement and customization Monitoring the loss of clients to the competitors
Case D Small Disruptive Private Bank	Private Banking Protected top players dominating Technologies are perceived as highly disruptive and able to modify the environment, threating the incumbents	Total Digital Innovative solutions Low interest rate/setup fee Important segment of Agribusiness	XRM unit Departmentalized according to the client segment Highly coordinated	Strategic/Tactical Level Support to various areas Client acquisition/retention Monitoring competitors in the segment Verifying Financial regulation Campaign to Launch new product

Source: Author's Elaboration

5.5 Summary of Cases and Findings

At this point, it is helpful to recall the original formulated propositions in order to explore the main findings specifically related to the original research questions:

P1: The evermore global, turbulent and knowledge based competitive environment required the development of CI practices.

P2: No matter the level of sophistication of the CI practices, they include, with reliability, Planning, Data Collection, Information Analysis and Intelligence Dissemination.

P3: Contextual factors–individual, organizational, sectorial–influence how CI practices are executed.

P4: There are potential benefits of CI at the various strategic levels–strategic, tactical, operational–and at every step of the Strategic Formulation Process.

The empirical study revealed that:

- There is a diffuse perception of the increased relevance of the CI practices in all the analyzed sectors: in the past five years all the companies have established units dedicated to data analysis and intelligence creation;
- There is no common term used for CI: *Business Intelligence, Market Intelligence, X Relationship Management, Data Analytics*;
- There are no standardized processes nor procedures to execute CI practices, yet the main activities of collection, analysis and dissemination have been detected in all the cases (often all executed by a single person);
- Routine analysis activities are executed for the BU they are serving, yet on-demand requests are often made by other BUs;
- Companies use many data sources (internal databases, internet websites, public databases, publications about industry trends, conferences, industry experts), but clients and clients' data are always mentioned as an extremely valuable asset. The answers include: *"We first ask our clients"*, *"We look at our clients' transactions"*, *"Our main asset is the clients' information"*;
- There is no evident formality in evaluating the data quality and validity and in assessing CI effectiveness;

- There are different methods used for dissemination: *emails*, *PowerPoints*, *face-to-face meetings*, *intranet*, *written reports*;
- Organizational structure, culture and openness to data sharing have been mentioned as influential factors (inhibitor or facilitator): *"The company is enormous and the various areas do not talk each other", "The communication with the headquarter is really hard", "We had troubles with a manager who did not want to share the information, using it as instrument for power", "This company is totally driven by a data sharing culture"*.
- There is evident general agreement that CI could be critical for strategic planning and decision making, yet this seldom happens. Companies, instead, focus only on tactical issues. The answers included: *"Medium-term focus", "Just less than five per cent of the time I deal with strategic issues", "I focus on everyday problems"*;
- There is agreement that CI is about understanding the whole competitive environment; however, the majority of units focus on customer segmentation and customer value analysis, better understanding their own clients' needs in specific markets and/or segments, without considering the whole picture. The answers included: *"We support the Commercial department"*, *"We operate under the control of the Marketing unit"*, *"Our focus is on improving customer offer and acquiring new customers"*, *"We support promotion campaigns"*.
- Ultimately, in three quarters of the cases, the units participate in the stages of Strategic Analysis and mostly in the Stage of Implementation and Monitoring of the Strategy Planning Process, not contributing or contributing little to the other stages (Defining strategic objectives and Strategy Formulation).

6 CONCLUSIONS

6.1 Contribution and Evidence

The study provides contribution to the strategic management and the CI fields. The concepts of Strategy, Strategy Formulation and CI are thoroughly explored through an extensive literature review and a cross-sectoral case's study.

The literature review about Strategy and the Strategic Formulation Process underlined the urgency of considering the internal resources and capabilities of the company, while monitoring the external competitive environment. Moreover, these activities must be executed with flexibility and adaptability in fast changing markets, where creating intelligence from data is critical to succeed. Thus, the strategic role of CI must be clearly defined at the top level and systematized inside the company's routines. As such, the process for producing CI has been studied theoretically via the following facets: executed activities, possible structures inside the company, and influential contextual factors.

This literature review allowed to articulate the following research propositions: (P1) the ever more fast changing and turbulent competitive environment required the development of CI practices, (P2) these practices include the activities of Planning, Data Collection, Information Analysis and Intelligence Dissemination, (P3) contextual factors–individual, organizational, sectorial–influence how CI practices are executed, and (P4) there are potential benefits of CI at the various strategic levels–strategic, tactical, operational–and at every step of the Strategic Formulation Process.

These propositions have been used as driver during the whole empirical analysis, in order to understand their validity. However, the exploratory nature of the semi-structured interviews allowed to start from the issues identified through the literature, but also ask challenging questions and consider original elements emerged from the case studies, as detailed in the previous paragraph.

The empirical research demonstrated the recently increased importance of the concept of CI for making data-driven decisions in all the companies that have been analyzed, regardless of the

type of sector in which they operate and the generic strategy they pursue. However, the strategic role of the CI practices must be formalized and improved. Not all the potential strategic benefits of CI have been observed in the empirical analysis: companies mainly focus on tactical issues and short-term impacts. There was evidence of the recognized value of CI, but only in one case there was a real commitment to exploit its advantages at all levels of strategic planning and at every step of the Strategic Formulation Process. Thus, there is a need to develop more integrated and broader CI practices and objectives. Ultimately, the case studies showed that CI practitioners provide executives with the analysis, but often lack insights and follow-ups about this intelligence: a two-way conversation could be beneficial to improve the decision-making process and to better tailor the intelligence.

6.2 Limitations and Further Work

Of course, one of the limitations of this research paper is its sample size: taking a larger sample would assist to identify greater trends and common patterns. Secondly, the author used a qualitative, exploratory approach; this does not use systematic data and does not allow for scientific generalizations.

Moreover, the interviews were only with staff members of each CI unit (at different hierarchical levels). To better understand the CI mechanisms, it would be reasonable to investigate the CI users' perspective and, in turn, the other BUs that ask for the intelligence.

Because the focus was only on the Brazilian market, it would be interesting to extend the investigation to another country to make country-to-country comparisons. Likewise, the research work examined several sectors, each of which would be noteworthy to explore individually to understand differences among various players.

Ultimately, the investigation revealed a trend associating CI to the concept of Big Data that could be further developed. Specifically, some of the companies revealed that they are experiencing a transition phase toward applications to manage data that are characterized by high volume, variety and value.

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