

Competitive Intelligence—A Strategic Process for External Environment Foreknowledge

Introduction

Since the early 1990s, globalization and the consolidation of the new knowledge-intensive organizational paradigms have been redefining competition processes while highlighting the non-price factors of competitiveness, such as quality, sales, design, and service. Moreover, with the advent and widespread adoption of microelectronics and cybernetics, products have become easy to access and even easier to replicate, which eventually jeopardizes the first mover advantage of companies that once believed in the sustainability of competitive advantage (D'aveni et al. 2010). This scenario is also characterized by a greater segmentation of demand and by the increasing volatility of markets, in which uncertainty hampers strategic decision making. In such a rapidly

changing environment, firms afflicted by organizational inertia seem doomed to failure. So how can companies outperform their rivals while dodging any potential threat regardless of the nature of their business environment, whether hostile or benign? The answer is not straightforward. Company performance depends on the interaction of the organizations that influence the creation and delivery of value. Complexity increases because organizations are not islands and are affected by both competitive dynamics (attacks and counterattacks) and a need to exist symbiotically with their business ecosystems (Lansiti and Levien 2004).

Consequently, firms ought to understand their environment and learn to cope with any change capable of jeopardizing their survival. Ultimately, the game then shifts to a knowledge race among companies within the same ecosystem, which involves companies' competitors, customers, suppliers, partners, and institutions. With the advent of the industrial Internet and the Internet of things (IOT), this thirst for information becomes a survival necessity, in the age of digitization where data bypasses human approval and is automatically exchanged between the physical object and the software.

Theoretical Foundation

The industrial make and sell model of the twentieth century is long gone. The polar opposite of Fordism, the new techno-productive paradigm, is based on a sense-and-respond framework baked into the rationale of today's information age (Haeckel 2004). As a result of the increase in competitive pressure, firms have started to pursue new strategic responses while combining scale and scope economies, introducing changes in the marketing and the business management, and moving toward the consolidation of quality and complex knowledge—and service-intensive value propositions. Accordingly, the role firms assign to the development of information-intensive innovation activities must expand, which can be conceived as a process of static and dynamic accumulation of competences (Teece et al. 1997). These learning processes aim to adapt new knowledge—or new combinations of knowledge—in order to develop and improve value propositions and processes,

progress organizational change, and forge new links with the market (Ernst and Lundvall 1997). Undoubtedly, such an approach resonates with Drucker's (1959) concept of the knowledgeable worker, skilled at capturing and translating happenings into meaningful insights, which in turn supplement the day-to-day decision making of managers. The process of information retrieval and scrutiny suddenly becomes a major link between a firm and its environment, through which it can comprehend external events and remain vigilant to changes (Hambrick 1981).

Through either human or open sources (Fleisher 2008), organizations adhere to this new rule and direct the utmost attention to information gathering, notwithstanding the risk of obsolescence or falseness. The new millennium, with its economic, political, and technological discontinuities further fueled this soaring thirst for knowledge and drove most companies to create formal or informal cells tasked with scanning their business ecosystem, and inferring meaning from what might have seemed mere noise. That concept was termed Competitive Intelligence (CI).

Competitive intelligence is a strategic cycle that involves not only the collection, combination, and analysis of key information on the competitive environment and its trends (which includes competitors, customers, suppliers, and potential business relations), but also the distribution of that information throughout the organization, and also the management of the learning process to translate the information into strategic knowledge.

The CI Concept

A quick look at the definitions prevalent within the CI literature stream clearly reveals the multifaceted nature of the concept (Table 1). These interpretations, though eclectic, have more homogeneity than might at first appear, as they voice a plain distinction between two descriptions of CI: as a product and as a process.

CI is typically considered the outcome of a focus on the market, competitors, and customers; collaboration with other firms; an experimentation with new avenues of value creation; and/or accumulated experience (Slater and Narver 2000). Thus, CI can be seen as a product

Table 1 Definitions compiled from the extant literature

Author(s)	CI definition
Wright and Calof (2006, p. 454)	"... CI is creating knowledge from openly available information by use of a systematic process involving planning, collection, analysis, communication, and management... synonymous to BI."
Liu and Wang (2008, p. 749)	"... Systematic process involving planning, collection, analysis, communication and management of intelligence or knowledge from competitors, customers, suppliers, technologies, environments, and potential business relations... using human, electronic and other means... from openly available information for the decision maker..."
Bernhardt (1994, p. 13)	"Both a process and a product ... is an analytical process that transforms disaggregated competitor, industry, and market data into actionable strategic knowledge about the competitor's capabilities, intentions, performance, and position... and the end product, or output, from that process."
Wright et al. (2009, p. 942)	"The process by which organizations gather information on competitors and the competitive environment."
Vedder et al. (1999, p. 109)	"Synonymous to BI... is both a process and a product . As a process, it is the set of legal and ethical methods a company uses to harness information. As a product, it is information about competitors' activities from public and private sources and its scope is the present and future behavior of competitors, suppliers, customers, technologies, acquisitions, markets, products and services, and the general business environment."
Dishman and Calof (2008, p. 768)	"... A systematic and ethical process involving, planning, collection, analysis, communication, and management..."
Tanev and Bailetti (2008, p. 5)	"... Actionable recommendations arising from a systematic process involving planning, gathering, analyzing, and disseminating information on the external environment for opportunities, or developments that have the potential to affect a company's or country's competitive situation..."

(continued)

Table 1 (continued)

Author(s)	CI definition
Society of Competitive Intelligence Professionals, http://www.scip.org/	“The process of ethically collecting, analyzing and disseminating accurate, relevant, specific, timely, foresighted and actionable intelligence regarding the implications of the business environment, competitors and the organization itself ... is of strategic importance to the organization...”

often acquired at a high price from third-party sources (e.g., consultancy companies and market analysts), or distilled from customers’ reviews, and Web 2.0’s abundant, and often overwhelming volume of information. The last two sources are largely accessed in-house; therefore, they offer a far cheaper route for companies to acquire valuable information to determine key competitive measures such as market penetration, market share, and competitors’ share of wallet, based on site-centric data alone (Zheng et al. 2012); or to identify potential weaknesses and benchmark strengths of competitors’ products by extracting comparative relation features from entities and words (Xu et al. 2011).

In addition, CI is a process. The process focus tends more toward the complete gamut of sources yielding the intelligence. In other words, CI is seen as more of a system—an iterative sequence that typically involves four steps: (1) management direction, (2) information collection, (3) information analysis, and (4) intelligence dissemination (Bernhardt 1994). A priori, this process often originates and is engineered according to two approaches: a comprehensive approach and a project-oriented approach. The first is an all-inclusive approach that fits best with broad strategic decisions and prompts the need for holistic formal CI activity within organizations; whereas the project-oriented tactic is a narrowly focused method launched to nurture ad hoc agendas with more specific objectives (Prescott and Smith 1987).

Obviously, the product–process distinction generates more confusion than it could ever resolve, and most importantly it distracts both researchers and managers from the real issue at hand, which is how the information gathered might be turned into actionable intelligence.

How could CI specialists separate the quantity from the quality? How might they ensure that management gets what it needs and what it considers valuable intelligence? As a corollary, it appears vital to rejuvenate the existing plethora of CI definitions with this all-encompassing description: In an order of hierarchy where environmental scanning occupies a zero order, CI ranks first at filtering information gathered through the scanning of the focal firm's external environment (i.e., customers, suppliers, rivals, industry/market, government or legal institutions) then analyzes and evaluates the material via strategic analysis tools, mathematical models, technological applications, before it is disseminated to the business user in a customized format appropriate to both need and level of responsibility. In other words, CI should be thought of as a system that guarantees an updated flow of external information to the firm before it filters and transforms it into meaningful insights, and then communicates it to the business user as a form of actionable intelligence capable of supplementing the decision-making process.

The CI Cycle

When defined as a process, CI is believed to be ideally orchestrated around a set of steps commonly referred to as the CI cycle, which incorporates four phases: (1) planning; (2) collection; (3) analysis; and (4) dissemination (Fig. 1).

The Planning Phase

The planning phase starts in the boardroom where the top management team plans and produces roadmaps to achieve quarterly or annual targets. Once the destination is defined, attention moves to the path choice. There is an evident requirement to understand the needs, strengths, and weaknesses of the focal firm and the road to be taken, especially if that involves other contestants in the race to the same finish line. Therefore, a wise decision maker would ultimately initiate this

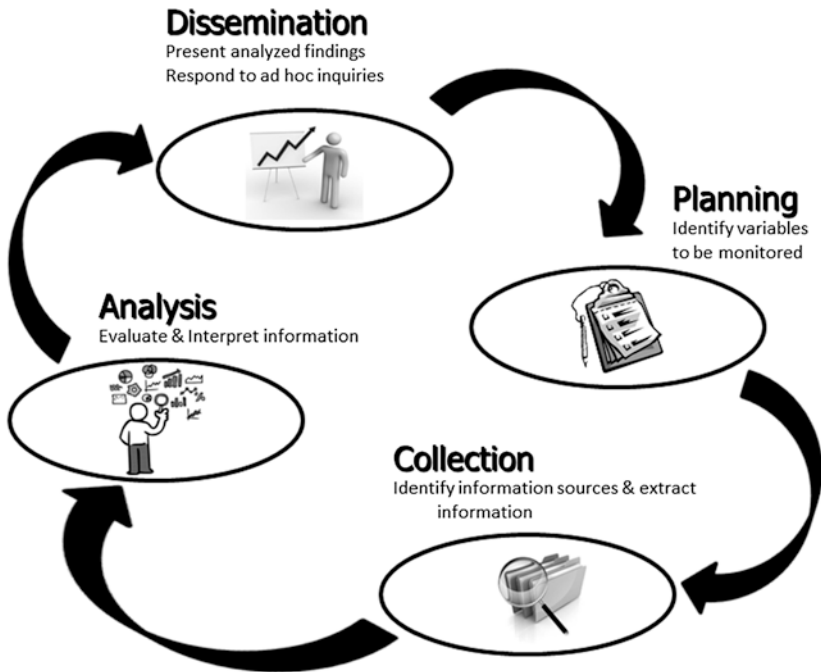


Fig. 1 CI cycle (Developed from (Bernhardt 1994))

process by thoroughly delimiting the ecosystem on which the focal firm depends, (i.e., the external environment mentioned earlier) lest any variable ought to be monitored or neutralized.

The Collection Phase

At this stage, all the constituents of the outer layer environment of the competitor firm have been identified and targeted for a lawfully executed infiltration. The dilemma herein is the fine line between transparent, legitimate practices, and industrial espionage. Whereas the former is legitimate practice under the umbrella of jurisdiction, the latter is considered a felony. In this context, organizations should be wary to gather (legally) primary and secondary data through open (reports, Web2, etc.)

or human (salesmen, customers, etc.) sources, which currently are still a common currency among firms and have the advantage of trustworthiness compared to third-party sources that are often historical.

The Analysis Phase

If the two previous stages can be called observe and learn, the analysis phase is definitely that where the transition from *what's out there?* to *why does it matter?* takes place. While much ink has been expended on recommending more emphasis on analysis, the available body of knowledge on CI still lacks tangible models and applications to evaluate and interpret the external information collated. Hence, the prevalent confusion of the concepts of CI and BI, for the latter at least offers specific technologies to help the business user slice and dice the data via online data processing (OLAP) or data mining. Tools such as Porter's five forces, scenario analysis, fishbone analysis, Pestel and SWOT frameworks have been around for decades, despite their quantitative issues. Although these frameworks fall short in evaluating the validity and reliability of the collected information, they have undoubtedly repeatedly established their suitability to interpret and draw conclusions on tactical or strategic endeavors. In addition, commercial software, available through third parties, is often utilized to discern key competitive measures (Zheng et al. 2012). Although costly, commercial engines seem incapable of transcending the sheer clustering and display of tactical data in a user-friendly manner, leaving tasks such as scenario analysis and predictive planning to the user's interpretation.

The Dissemination Phase

As mentioned previously, whether it stems from a holistic or an ad hoc approach, the outcome of the analysis stage will become no more than an obsolete piece of advice if it is not communicated correctly and on time. This means the intelligence product must be channeled to the concerned business user promptly via clear and user-friendly platforms.

Sadly, a rift between the CI and decision support system (DSS) literature is the advanced reporting tools developed in the latter, which have left the body of knowledge defining CI far behind. An example would be the user interfaces that allow managers to access findings in a customized and sophisticated manner. Empirical studies, however, show that written forms of communication, as well as informal channels, remain popular among managers as means to receive requested intelligence.

The CI Function

The Wright-Pickton best practice model epitomizes the ultimate tool capable of deciphering the CI function within any given organization (Wright et al. 2009). This model is used to elucidate the CI practice within a given

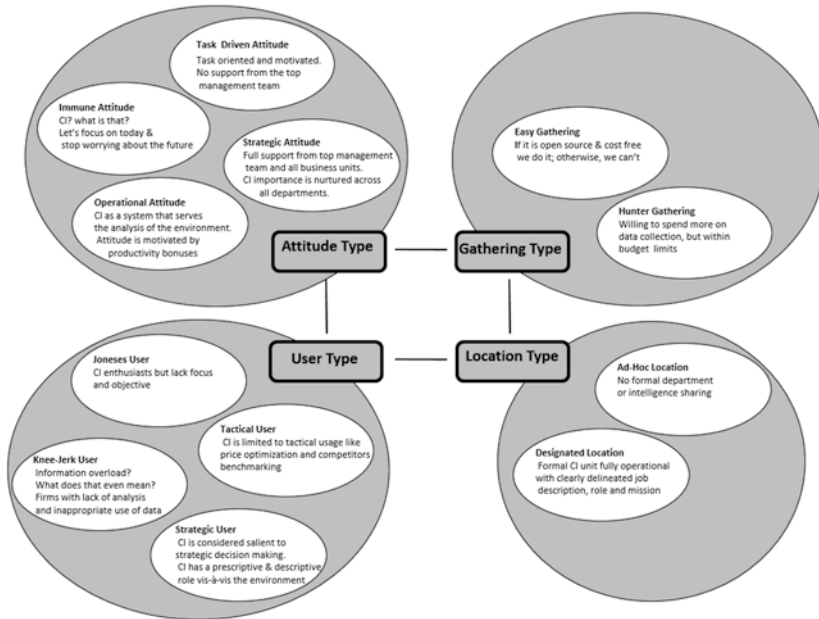


Fig. 2 Wright-Pickton best practice model (elaborated based on Wright et al. 2002, 2009)

organization via four pillars: (1) attitude type; (2) gathering type; (3) user type; and (4) location type (see Fig. 2). In the process, this model provides a clear idea of whether the firm is properly involved in a strategic use of CI and grants the utmost salience to its outcomes, by allocating the right resources to its operation in the best possible circumstances.

The Wright-Pickton best practice model represented an ideal benchmark against which CI practices in Finland were juxtaposed as shown in Fig. 3. We incorporated data from a sample of scholars, experts, and representatives of 38 companies participating in five thematic workshops organized on the sidelines of the strategic service business intelligence sub-project of the FIMECC S4Fleet research scheme.

While the dashed rectangles point to the utopian CI situation advocated by Wright et al. (2009), the shaded boxes indicate how participants in the workshop operated at many different levels with respect to the four strands of the model. There follows a discussion of each typology:

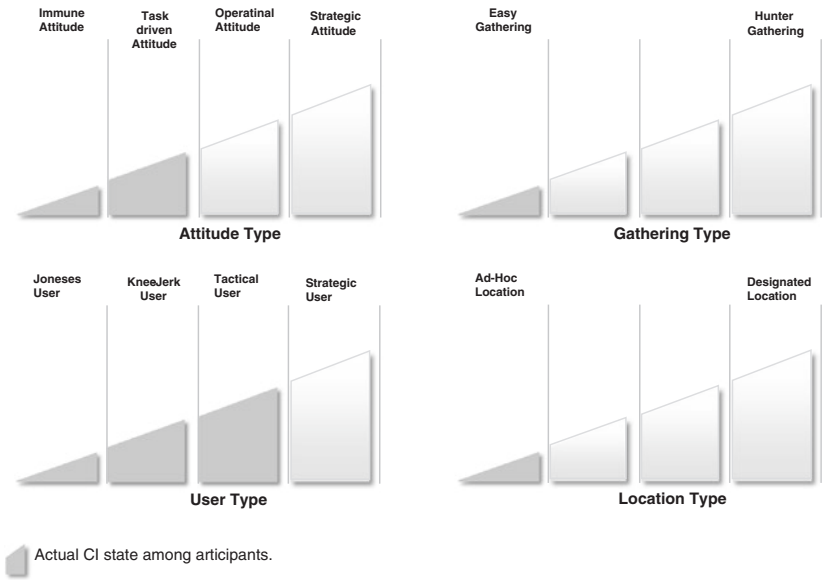


Fig. 3 A benchmark between CI best practice and actual CI performance of S4Fleet consortium participants (elaborated based on Wright et al. 2002, 2009)

Attitude Type

The disparate importance of CI to participants, let alone the various definitions they adopt to refer to the concept, raised questions about the attitude of participants to CI. This consideration investigated the longevity of CI usage and the terminology adopted by participants to refer to the intelligence process (Wright et al. 2009). When asked to give a specific start date for any CI-related activities, most participants suggested that CI was always present in some form in their respective companies, and yet the majority failed to provide a timeframe for the claimed CI practice.

It is possible to conclude a priori that CI is an integral part of the participants' practice, although it remains unclear whether such a practice is standardized, let alone how it is implemented. Therefore, the CI attitude of the participants falls into the task-driven attitude of the Wright-Pickton typology. Furthermore, the terminology used to identify CI was also tested during a two-panel workshop, as it can reflect the place CI occupies in the minds of participants (Wright et al. 2009). The workshop responses were similar to the findings of Wright et al.'s (2009) study of the CI practices of UK banks, which revealed two themes that prompt the use of CI: benchmarking and fostering business insight.

Within the first theme, competitor intelligence was used interchangeably with CI. However, ample research calls for a distinction to be drawn between the two terms (Wright et al. 2002, 2009). CI is oriented toward activities whereby a company assesses its industry and competitors to anticipate their actions, making the competitor a component of the broader and more comprehensive CI (Lauginie et al. 1994; Lendrevie and Lindon 1990). According to the participants, the perceived importance of CI resides in a firm accessing data on its customers, and its competitors' private and public data on their business activities, and on their respective customers (Table 2).

The second theme of the findings revealed a willingness to improve the understanding and awareness of the events in the industry. Such

Table 2 Participants' perceived importance of CI

Actual use of CI	
Customers	Customer size, number of employees, net sales per customer, customers' feedback, deficits, faults, product recalls, current products/service utilization or categorization, and customer satisfaction
Competitors	Revenues, employees, profit margin, strategic insights, structure, geographical presence, real decision makers, bid winners and offerings, products, pricing and technical features, number of patents, share price variations, M&A history, value proposition, market share, and customer satisfaction
Suppliers	Suppliers' R&D plans, technology investments, competences, capabilities, shipping capacity, pricing track record, products quality, cost structure, profit and loss statements, capacity levels and current clients' database, and the on time delivery risk
Industry	Environmental regulations, labor unions, within country investments, consumer trust levels, industry data (quantitative), electricity information, data ownership laws, technology hypes, and the overall EU policies and protocols

willingness emanates from a perceived need to sustain innovativeness and creativeness (Wright et al. 2009). Table 2 indicates how respondents also viewed CI as means to obtain a comprehensive picture of industry intricacies, such as historical trend patterns and suppliers' cost structures.

Finally, bringing together the two themes above highlights two different behaviors: a reactive behavior emanating from CI; and a proactive demeanor resulting from R&D investments (Wright et al. 2009). Overall, participants showed a common understanding of intelligence despite the lack of a common terminology, which in turn validates the clustering of their CI attitude as *Task Driven*.

The Gathering Type

Following the workshops held as a part of the S4Fleet project, four intelligence types were discernible based on the purpose driving the use of intelligence. First, most participants reported employing a collection of intelligence that supports a better understanding of customers such as: market share values, product feedback, customer preferences, and sales trends. For this purpose, Web 2.0 and market research companies

were the primary sources of knowledge. Second, participants seemed determined to improve their understanding of their competitors' moves. Although such determination is essential if the participants' firms are to have effective strategic positioning, their emphasis on public domain data excludes any dynamic approach to understand their competitors' behavior (Wright et al. 2009). Third, participants unanimously voiced a very strong desire to acquire their supplier's financial data, particularly the cost structure, and similarly, sought the opportunity to review R&D investments and technological patents obtained via public and informal data. Fourth, participants showed an interest in better positioning within the confines of industry trends, and shielding their firms from political intrigue or legal issues and from disruptive technological threats. Unfortunately, this proactive orientation was hampered by a simplistic reliance on free public reports, which become obsolete almost as soon as they are published.

Moreover, as shown in Table 3, the participants suggested they used an eclectic data gathering approach relying on a wide range of sources. Ostensibly, intelligence gathering is undertaken daily and sources are selected according to pressing momentary need. This method seems identical to a scatter gun approach that almost inevitably produces overlapping efforts and coordination deficiencies (Wright et al. 2009). Overall, the intelligence gathering process reported by the participants is superficial at best and fragmented at worst. Such a rearward facing effort is far from effective, as it lacks fertilization across intelligence foci

Table 3 Sources of information used according to participants

Sources of information	
Customers	Customers, annual reports, workshops, internal information, LinkedIn
Competitors	Marketing materials, technology fairs, job advertisements, scientific publications, competitors' customers, social media, social events
Suppliers	Engineers' feedback, and assistant aids, information spreadsheets are filled and data needs are identified. The collection then takes place via supplier meetings—discussions with chosen suppliers
Industry	Newspapers and third-party agencies

and falls short of offering a well-prepared future assessment (Wright et al. 2009). Firms applying the previously stated conclusions fall right into the *Easy Gathering* type.

User Type

A close scrutiny of participants’ responses regarding the stated purpose of CI practices revealed two purposes of CI: strategic planning and comprehension of competitors or markets. Table 4 itemizes the workshop responses in tandem with those two purposes. According to the respondents, CI varied according to whether the associated purpose was strategic planning or understanding markets or competitors. Obviously, little is known of how the CI process or its perceived value changes based on the original need. Needless to say, the listed responses reveal a multifaceted drive of CI that fluctuates and is ultimately tailored to suit its intended use. This reality therefore labels those favoring the approach *Tactical Users* of intelligence.

Furthermore, in line with the findings of previous studies (Fleisher and Bensoussan 2007; Wright et al. 2009), there seems to be a real weakness with respect to analysis heuristics. A lack of familiarity with,

Table 4 Purpose of competitive intelligence reflecting participants’ responses

Purpose of CI	Matching responses
Strategic planning	Potential strategy of customer (short next year, long 5-year plan), real decision makers, customers’ needs and association with strategy, customers’ outsourcing strategy, strategic changes, core innovation development, product life cycles, product and service development
Competitors and markets comprehension	Disruptive technologies prediction, key features and technologies, customers’ value drivers, matching products, customer relationships (partnership, seller–buyer, symbiosis), customers’ markets and market share, underexplored markets and segments, demand expectations, earnings’ variations, deals profitability

Table 5 Analytical tools and dissemination methods applied by the participants

Analytical tools	Communication tools
SWOT	E-mail
Brainstorming	Intranet
Data mining	Upon request
Statistical software	Reports
Financial analysis	Meetings

and a failure to implement, advanced analytical tools was clearly evident among the participants. The responses tabulated below (see Table 5) clearly indicate a weak use of tools rather than organizations seeking predictive actionable intelligence to sustain their competitive advantage in a dynamic market where only proactive players prosper. These findings run counter to the astute user typology and confer on the relevant participants the *Joneses* user status.

The workshop discussions also identified the face-to-face, electronic, and paper form of communication tools the participants' used (see Table 5). Whereas the interpersonal mode is by far the most preferred channel of intelligence communication for its ability to offer speed, feedback, and dialogue, both electronic and print modes were seen as jeopardizing the effectiveness of the dissemination of intelligence, owing to the absence of dialogue in the former, and lack of speed and feedback in the latter (Wright et al. 2009). That being said, it seems that the average user in Finland could be classified as a *Knee-Jerk* user.

Lastly, participants reported using no mechanism to check the accuracy of information. It seems information quality depends on the trustworthiness of its source, while every piece of data is believed valuable for some task. Such findings appear to straddle both types: *Joneses* users and *Knee-Jerk* users.

Location Type

The workshops also revealed the absence of procedures or designated teams for conducting tasks related to the CI cycle (Table 6). Moreover, most processes communicated during the workshops shared two common characteristics: mainly informal and situational. Despite the unanimous belief among participants that CI practices

Table 6 Existing processes of competitive intelligence among participants

Intelligence topic	Processes
Customers	Interviews, surveys, observation
Competitors	Hiring key persons, scenario planning, war, game, networking
Suppliers	Product analysis, benchmarking
Industry	Scenario planning and analysis, data mining, data analytics

were established in their organizations, there was no strong evidence to substantiate the existence of a standard system deemed crucial (Wright and Calof 2006) for any mature CI unit. That notwithstanding, it seems that participants were overwhelmed by data overload and the propensity of their respective departments to adopt informal tools. If this is indeed the case, it would raise another question vis-à-vis the intelligence communication and sharing, not to mention the organizational structure of CI (centralized vs decentralized). As a corollary, participants might not have, and/or might not know who has, direct control over the generation and dissemination of intelligence within their organizations. In a nutshell, the situational basis of intelligence tasks along with the lack of sharing mechanisms casts significant light on the descriptor that best fits the location type of intelligence across findings: Ad hoc *location*.

The Value of CI

The current research points to the rudimentary nature of the CI practices of companies, which is in line with past research (Dishman and Calof 2008; Wright et al. 2009). In fact, between the absence of a common understanding of the matter and shallow usage, CI seems more of a trend companies adopt for the sake of compliance rather than expediency. After all, no evidence supports or rejects CI's role in enhancing return on investment or performance in any form. The salience of the concept itself lies more in a perceived importance that has been around for decades now and prophecies that the more managers know, the better off they (Bernhardt 1994) will be. It goes without saying that CI is becoming a necessity for organizations to acquire;

however, most companies seem to run their CI activities in an ad hoc fashion, not to mention with a low level of formality (Dishman and Calof 2008).

Tremendous efforts have been made to ensure CI produces tangible results, but as yet to no avail. This is not to say that the investment in CI is pointless; on the contrary, it is a survival aid useful in today's unpredictable business environment. However, evidence overwhelmingly points to a tactical side of CI rather than a strategic aspect, which could be equated to the achievement of long-term goals (Hughes et al. 2013; Mariadoss et al. 2014). Thus far, the perceived contribution of CI to strategy has its roots largely in a common belief as opposed to any tangible outcome. This could be traced back to the scarcity of rigorous explanatory studies, or even the hesitance of managers to open their secret practices to scrutiny. Notwithstanding the ambiguity surrounding the strategic value of CI, this concept is surely associated with other outcomes of a tactical order; that said, CI seems highly regarded for its ability to inform users about price optimization, expanding product lines, service improvement, and new customer acquisition (Peyrot et al. 1996).

Furthermore, CI is also associated with defensive measurements—those deployed by organizations to protect their databases from infringement. Such a defensive aspect of CI would constitute a preemptive measure taken by the focal firm to create what is commonly referred to as: “Commercial Information Operations,” that is, an information gap created to degrade the competitor's capabilities and protect those of the focal firm (McCrohan 1998). This gap is formed after a firm utilizes CI to identify the information the competitor seeks, and how the firm envisages acquiring it.

CI Challenges

CI has been around for more than three decades now; yet it seems that the root cause of the issues related to its proper practice has not been addressed properly and neither have the barriers to information acquisition. For instance, findings from the

S4Fleet workshops repeatedly indicated organizational culture and structure were impediments to proper data collection, for employees often lack the proper training and necessary resources to conduct scanning activities. Similarly, heterogeneous mindsets within organizations might lead to dissimilar priorities, a lack of trust, and conflicting views over the information required, not to mention over where it should be sourced. Furthermore, except for repetitive attempts to pinpoint the lack of analysis and tools permitting the necessary knowledge transformation, little is known of the real barriers to its usage (Dishman and Calof 2008; Michaeli and Lothar Simon 2008). Therefore, it appears essential to raise the lack of a clear idea about what information is really needed, the existence of a huge amount of disconnected systems, and the lack of a single user interface, not to mention the absence of an exploitation phase within the CI cycle.

Merging the CI cycle with the process of knowledge absorption (Zahra and George 2002) nonetheless suggests a striking similarity

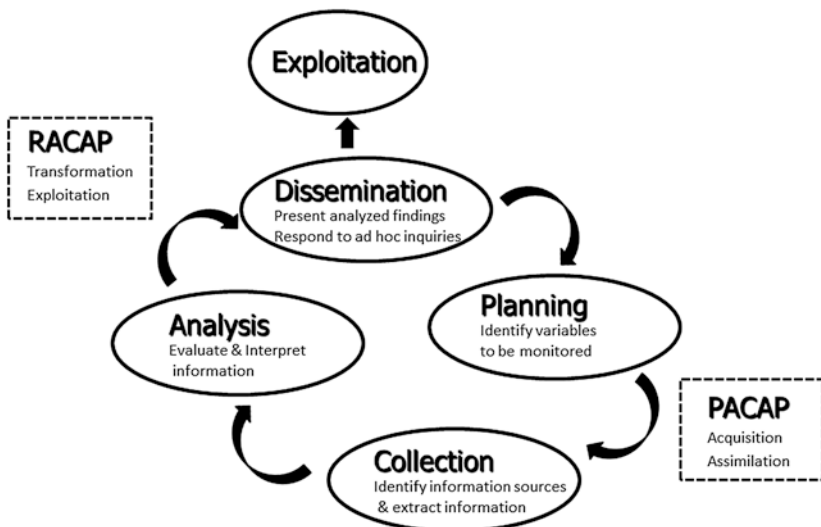


Fig. 4 New CI cycle (Authors' elaboration based on Bernhardt 1994; Zahra and George 2002)

between the two sequences, bar the missing exploitation phase. Accordingly, research should focus on updating the CI cycle that seems incapable of coping with a shifting business environment, where even CI should switch to a continuous learning process. Accordingly, Fig. 4 complements the old CI cycle with: (1) potential absorptive capacity (PACAP) that highlights a firm's level of readiness or receptiveness to acquire and assimilate external knowledge; and (2) realized absorptive capacity (RACAP) that mirrors the capability of implementing the intelligence disseminated (Zahra and George 2002). Adding both elements of absorptive capacity would prompt a new phase for the CI cycle: exploitation that follows organizational actions and traces synergies and/or conflicts back to the communicated intelligence.

Conclusion

Despite the significant number of publications rooted in the strategic management and marketing fields, the body of knowledge on CI is still in an embryonic stage. It seems that throughout the last two decades, scholars have been preoccupied with deciphering whether or not companies are incorporating CI in their business activities. These explorative journeys have been marked by unsophisticated methods that might give the appearance of a profiling of CI characteristics within the focal company, but certainly fail to add any prescriptive value for both research and management practice, as exemplified by, for instance, there being no common definition of CI; the equivocal approaches to the CI process; the strong focus on data collection; and inappropriate analysis (Dishman and Calof 2008; Wright et al. 2009).

Although primary sources appear to be more trusted than open or third-party sources, which are considered archaic or unreliable (Fleisher 2008), using such information, mainly collected from corporate employees, necessitates a certain competence to decode soft data. In response, organizations opt to renew their interest in open source data, primarily inexpensive information derived from Web 2.0, despite the information overload, as well as the volatility of the Internet, which thwart the transformation of data into actionable intelligence (Fleisher

2008). Besides the aforementioned transition, at the other end of the user interface, a significant disparity exists between real and reported intelligence needs; a situation that fuels managerial skepticism of the suitability of CI as a tool to support decision making. Moreover, the contradiction between the CI approaches, that is, the comprehensive versus the project-based modes, does more harm than good to the soaring need for resilience, because it shifts attention to the structure of the CI unit rather than the outcome.

In this context, strategic agility becomes a prerequisite of CI; not its result. Thus, managers and researchers alike face a chicken-and-egg causality dilemma. In fact, creating a formal CI unit responsible for both comprehensive and project-based CI, or nurturing an informal ad hoc approach to support a formal broad CI unit, is easier said than done, unless organizations are already agile or ambidextrous to a certain extent. This is undoubtedly a hard-to-measure condition for practitioners and academics, since the concept of agility is in itself a very nascent one and still subject to exploration, not to mention being one that is remarkably challenging to measure.

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