

What Information Behaviour can offer to Competitive Intelligence

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This paper is an exploratory review of the literature with particular reference to Competitive Intelligence and Information Behaviour. Since the 90', discourses on Competitive Intelligence (CI) were often concluded by an invitation to deal with behaviours, culture, state of mind, curiosity, motivation, etc. Despite these incantations on human information behaviours, CI has rarely covered the individual dimension as a cornerstone. From the start, CI approaches have mainly presented economic concerns, geopolitics, processes for organisations, information management, methods and tools, often ignoring the individual level. When mentioned, behaviours were seen through the lence of large organisations behaviours and nearly not specifically dedicated to individuals or small groups of people. behaviours have mostly been limited to organization behaviours and Human Machine Interactions. And yet, the author of this article strongly believes that « people are much better than the structures that govern them¹ ». Positioning CI at the level of individuals is likely to end up with a necessary review of its sustainable implementation in companies-in particular in small-and-medium-size companies. After nearly two decades of promotion and implementation it is time now to strengthen Competitive Intelligence with a little help of other sciences that have been ignored so far. Discovering new models, theories, methatheories, concepts, and building bridges will allow to question ourselves on our own CI practices, beliefs, expertises and improve CI roots. Is Information Behavior more open to other sciences than Competitive Intelligence? What Information Behavior can offer to Competitive Intelligence?

¹ according to Alain Glon, a humanist head of one hundred companies in « Bretagne » (France), at the Second Spring University of Locarn Institut, on 2009, August 28th.

1 - Context and Definitions

1.1 – The Context of the Study

Small and medium enterprises have been the target of public policies in order to implement Competitive Intelligence (CI), in particular in France. We could call this first attempt the Political Intelligence era. So far, no easy magic spell has been found to make some adopt Competitive Intelligence attitudes and concerns. Human dimension (Achard, 2005), has been neglected. Human Information Behaviours have been mostly ignored in the CI literature.

The purpose of the article is to present a modest first contribution to Competitive Intelligence academics, professionals and students, over Information Behavior. Let's start by presenting Competitive Intelligence and information Behaviour.

1.2 - Definition of Competitive Intelligence

Competitive Intelligence is not a legitimate profession yet (Fleisher, 2003). However, probably tens of thousands of people know well what it is and consider themselves as CI professionals. Many expressions are synonymous to Competitive Intelligence in companies throughout the world:

- Competitive Intelligence (worldwide except France?),
- Economic Intelligence (France, Spain),
- Business Intelligence (data-mining oriented, Worldwide),
- Scanning, monitoring, gathering, collecting (worldwide)
- Strategic Watching, (prospective oriented, mostly France?),
- Economic Security (security oriented, mostly France?),
- Territorial (Economic) Intelligence (mostly France?),
- Competitive Technical Intelligence (worldwide),
- etc.

In each country we find different expressions in use with various understanding of these different expressions². In France, for instance, the security side of Competitive Intelligence is well established, and is sometimes dominant. On the contrary, in the Anglo-Saxon literature, security is less frequently an integral and dominant part of CI.

Competitive intelligence can be seen as non-exclusively covering the following topics (in alphabetical order):

- analysis,
- communication,
- counter-espionage,
- data-mining,
- decision making,
- distribution,
- documentation,
- information systems,
- knowledge-management,
- lobbying,
- management,
- marketing,
- protection,
- searching,
- seeking,
- sense-making,
- strategic questioning,
- watching (environment watching, technological watching, etc.)
- etc.

Among more than one hundred and forty CI definitions collected over a period of 14 years, the author chooses to present a French definition of CI by the planning agency (Martre, 1994):

- « Economic Intelligence can be defined as a set of coordinated actions of seeking, treating and diffusing information, in order to make the most of information that is useful to economic

2 Scip Usa has published a series of articles over the years presenting CI in various countries (www.scip.org)

agents. [...] Economic Intelligence exceeds incomplete actions like documentation, monitoring, etc. ».

1.2 - Definition of Information Behaviour

There are also multiple definitions of information Behavior. Here are three of them:

- Pettigrew, et al. (2001, p 44) defined information behavior as « how people need, seek, give and use information in different contexts (Fisher, Erdelez, McKechnie, 2005, p xix),
- Information behavior ... encompasses information seeking as well as the totality of other unintentional or passive behaviors (such as glimpsing or encountering information), as well as purposive behaviors that do not involve seeking, such as actively avoiding information (Case, Looking for information, 2007, p 5).
- Wilson (1999, p 249) encapsulation that information behavior is « the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use » (Fisher, Erdelez, McKechnie, 2005, p xix).

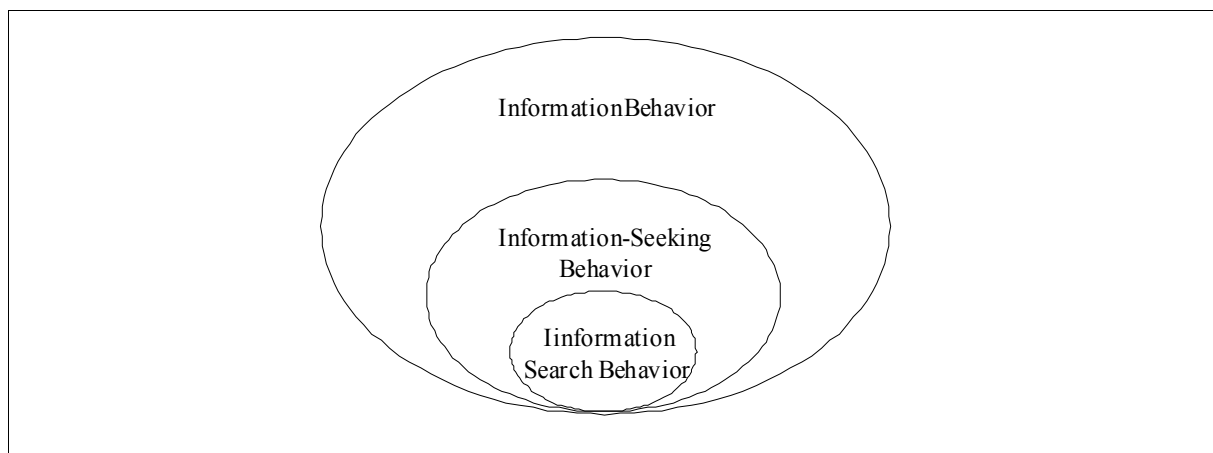


Figure 1: A nested model - from information behaviour to information searching (Wilson, 1999)

For a french speaking person, there is only « seeking » and there is no such thing as « searching », the french word « chercher / rechercher » is unique and covers searching and seeking. In english:

- « Information Seeking Behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the World Wide Web) » (Wilson, 2000), Human Information Behaviour, Informing Science, vol.3, n°2
- « Information Searching Behavior is the 'micro-level' of behavior employed by the searcher in interacting with information systems of all kinds. It consists of all the interactions with the system, whether at the level of human computer interaction (for example, use of the mouse and clicks on links) or at the intellectual level (for example, adopting a Boolean search strategy or determining the criteria for deciding which of two books selected from adjacent places on a library shelf is most useful), which will also involve mental acts, such as judging the relevance of data or information retrieved. » Wilson Tom D. (2000), Human Information Behaviour, Informing Science, vol.3, n°2

1.3 – Similarities Between Competitive Intelligence and Information Behaviour

As Pettigrew, Fidel & Bruce mentioned it (Pettigrew Fidel Bruce, 2001), « the field has broadened to include such concepts as information need and information giving, in addition to the basic concepts of information seeking and information use. ». Therefore, even though Competitive Intelligence uses a different vocabulary, the similarities are real (see table 1).

Table 1: Semantic Comparison Between Competitive Intelligence and Information Behavior

Competitive Intelligence	Information Behavior (Pettigrew, Fidel & Bruce, 2001)
Needs analysis, Strategic questioning, planning & direction, etc.	Information Need
Seeking, gathering, collection, acquisition, etc.	Information Seeking
Analysis, treatment, etc.	Information Use
Distribution, dissemination, feedback, sharing, lobbying, influence, etc.	Information Giving
Protection, confidentiality, counter intelligence, etc.	–

Apart from the information protection aspects, at this step, Competitive Intelligence and Information Behavior seem to strongly overlap on four major topics (Need, Seeking, Use, Giving) out of five.

2 - Corpus Covered in this Article concerning Information Behaviour and Competitive Intelligence

During an impromptu meeting in his university office in Toronto in april 2009, Chu Wei Choo suggested the author two recent books in particular concerning Information Behavior. This article is therefore limited to these two books as major references:

- Fisher Karen E. (2005), Information Grounds, in Fisher Karen E., Erdelez Sanda, McKechnie Lynne (E.F), Theories of Information Behavior, Asist, Information Today Inc., Isbn : 1-5787-230-x, 185-190 pp. (made of 73 shorts articles presenting concepts, theories, etc.),
- Case Donald O. (2008), Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior, Second Edition, Emerald, Isbn:978-0-12-369430-0, 423 pp.

These two books provide us with a lot of concepts, models and theories that can be of great help in CI activities and research. This study will expend over the time and cover a larger range of IB literature. As fas as Competitive Intelligence is concerned, the corpus covered ranges from specialized databases (see below) and the extensive electronic database and printed material of the author.

3 - Foundations of French CI

Competitive Intelligence in France comes in different flavors. It finds and develops its roots in differents sciences and fields:

- political sciences, balance of power and invisible chequered (Harbulot),
- counterintelligence, counter-spying activities,
- regional and economical networking between territories and companies, regional alliances, etc.
- information protection,
- organizations and not individuals,
- information systems, computing, data processing,
- economic competition and business performance,
- military strategy,
- work activities only and not everyday life activities,
- etc.

3.1 - Methods and Models in Competitive Intelligence

One method is widely presented in Competitive Intelligence: The Competitive Intelligence Cycle. According to McGonagle, The Competitive Intelligence Cycle (CI Cycle) has been expressed in wide variety of ways (McGonagle, 2007). The CI Cycle is generally considered to be a continuous process of 5 steps³:

1. Planning & direction (working with decision makers to discover and hone their intelligence needs),

³ According to Stephen Miller, Society of Competitive Intelligence Professionals, (2007). Competitive Intelligence – An Overview by Miller, <http://www.scip.org>, quoted by McGonagle in 2007

2. Collection activities (conducted legally and ethically),
3. Analysis (interpreting data and compiling recommended actions),
4. Dissemination (presenting findings to decision makers),
5. Feedback (taking into account the response of decision makers and their needs for continued intelligence).

The Intelligence Cycle is the structure over which many academics and practioners build their recommendations for CI.

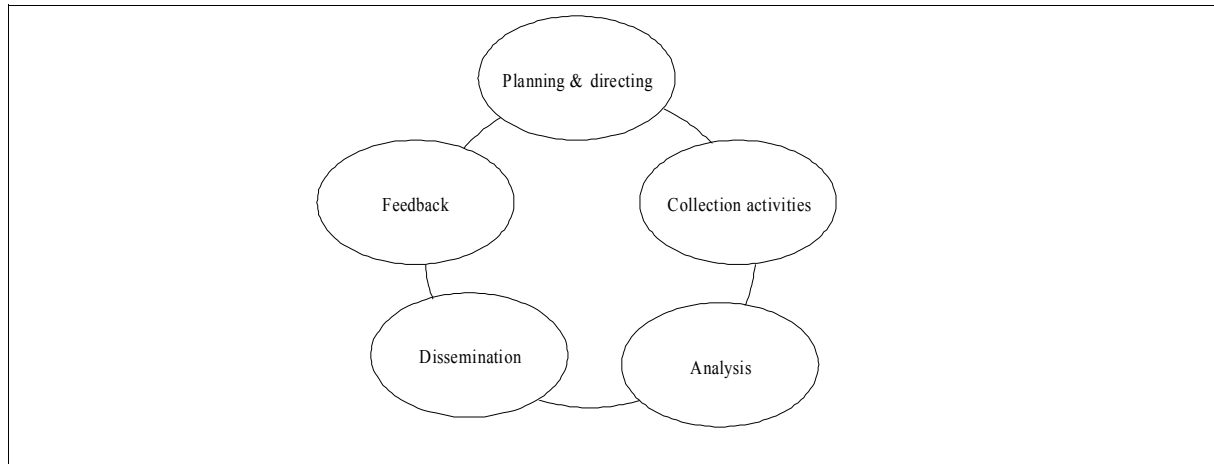


Figure 2: The Classic Competitive Intelligence Model (from Miller, 2007, in McGonagle, 2007)

Similarly, other academics and professional suggest a 4-5-6 step cycle. For instance, John Prescott (Prescott, 1989, p. 6) draws a 5 step loop to describe the core tasks of a Competitive Intelligence project:

1. objectives,
2. collection of data,
3. data interpretation,
4. implementation
5. end of project or updating and monitoring

The classic model of Competitive Intelligence Cycle⁴ has been presented worldwide with four or five main steps. It has been presented and thought for years and now it is criticized by some CI authors like Clark (Clark, 2004), Bulinge (Bulinge, 2006), and McGonagle (McGonagle, 2007).

3.2 - There Seem to be Two Main Approaches in Acquisition of Information in CI

As far as the acquisition of information is concerned, the most popular approach can be summarized as Filtering and Sense-Making. In figure 3 below, one can see that the wide-start and narrow-stop funnel-shaped approach can be explicitly found with Rodriguez (Rodriguez, 2002), Gilad (Gilad, 2004, p. 222), and implicitly found with many authors such as Porter (Porter, 1980, p.73), Afnor (Afnor, 1998, p 7), Ansoff (Ansoff, 1975), Luhn (Luhn, 1958). A lot of information is accepted or tolerated (Frion & Samier, 2009) and is filtered and transformed into value-added information, knowledge and material for decision-making. First, information is gathered, sought, sought, collected, looked for, etc. and then it is filtered. The first part is highly bureaucratic and it is a process-based activity that can be ongoing.

The other main approach can be summarized as Strategic Questioning and Targeting. An opposite funnel-shape approach is the narrow-start and wide-stop funnel-shaped approach. In different models

⁴ Also found under the names of Information Cycle, Intelligence Cycle, Knowledge Cycle, Cycle du renseignement, cycle de l'information, cycle de la connaissance, etc.

such as the Intelligence Cycle (Moinet, Jacques-Gustave & Hassid, 1997), Key Intelligence Topics (Kits) by Herring (Herring, 1999), Key Intelligence Topic Identification (Kiti) (Hasanali *et al*, 2004 cited in McGonagle, 2007), targeting and monitoring (Lesca, 2003), target-centric approach (Clark, 2004), seeking plans (Frion, 2009), information is first avoided or methodologically refused (Frion & Samier, 2009) while a questioning phase takes place during which needs and requirements are discussed. Then, a few missing information are being sought or « invented ». It can be highly bureaucratic (McGonagle, 2007) but can also be driven as a light project-based activity.

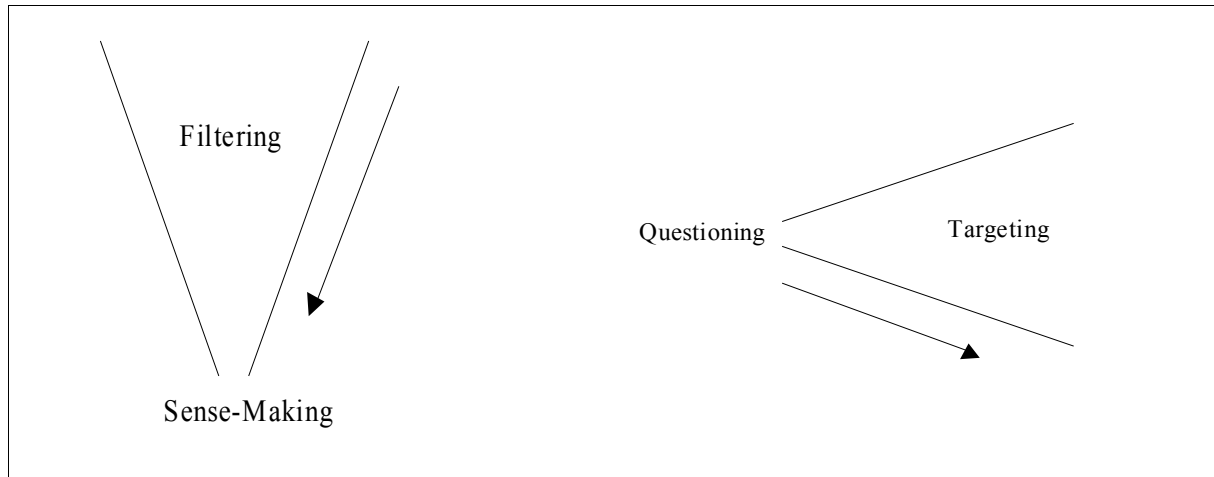


Figure 3: The Two Main Approach to Acquire Information with Competitive intelligence

Of course, the filtering-Sense-Making couple is not exclusive of the questioning-targeting couple.

These are mostly presented as organizational methods rather than human methods. When the word « practice » is used with CI methods, it relates to the practice of organisations instead of human practice. The human side is ignored or hidden by organizations' considerations.

3.4 - Authors Explicitly Interested in CI

A review of literature has been launched in CI to investigate if there is any reference to Information Behavior in Competitive Intelligence literature. First, in a quantitative and electronical manner among the accumulated material since 1996 by the author of this study:

- Among french authors: Baumard, Besson, Boutin, Bruneau, Bruté de Rémur, Bulinge, Dou, Dousset, Frion, Harbulot, Guilhon, Jakobiak, Kislin, Larivet, Lesca, Levet, Marcon, Marti, Martinet, Massé, Moinet, Pateyron, Rouach, Salles, Samier, Vidal, etc.
- Among anglo-saxon authors (mostly): Aguilar, Ansoff, Brouard, Calof, Choo, Davenport, Fleisher, Fuld, Gilad, Heuer, Herring, Hohhof, McGonagle, Porter, Prescott, Sawka, Simon, Wilensky, Wright, etc.
- Among authors from the Rest of the World: Alvarez, Carvalho, Cavaller, Comaï, Dedijer, Neugarten, Rodriguez-Salvador, Solberg Soilen, etc.

Unfortunately, these authors almost never mention Information Behavior at the level of one individual (see table 1).

A few articles, books, and presentations, by french authors explicitly CI oriented, mention human-related topic like cognitive bias (Lesca, 2000), cognitive war (Harbulot and Lucas, 2002; Baumard, 2002), cognitive obstacles (Baumard, 2004a; Baumard, 2004b), cognitive intelligence (Hamon & Pichot-Duclos, 2005).etc. However, many implicate references to information behavior deal with strategy, organizational behavior rather than starting from the individual level.

Table 1: Number of Hits with Information Behaviour and Competitive Intelligence in CI databases

Number of hits	Information Behavio(u)r(s)	compétence(s) informationnelle(s)	pratique(s) informationnelle(s)	Information Practice(s)	Comportement(s) informationnel(s)	Human Practice(s)	Competitive Intelligence	intelligence économique
Scip ⁵ (articles)	2*	0	0	2	0	1	1373	3
Cimitri ⁶ (titles)	0*	0	0	0	0	0	2072	0
Author's CI database (articles) ^{****}	47***	10	48	0	14**	0	1005	1726

Remarks: *There are some results in Scip and Cimitri with « behaviour » but they refer to organizations behaviour. **Same comment for the author's database: Baumard, 2007 ; Bergeron, 2001 ; Brouard & Larivet, 2007 ; Chaudiron, 2004 ; Chaudiron et Ihadjadene, 2007, 2008 ; Larivet, 2002 ; Maurel & Bergeron, 2007 ; Simonnot, 2008, Kamoun-Chouk 2005). *** Many of the result are from Choo.****There may be some double counting with the two previous rows, but it doesn't appear to be significant (not all of these references are scientific articles).

The word behavior alone can be read more than ten times in Cimitri, probably with regards to human behaviours, over 4529 references (0,3%) over the period 1930-2006.

As for the word human alone, it can be found in 27 titles in Cimitri list, most of them seem to deal with Human Practice(s), such as Dishman (2003) or Simon (2002).

Indeed the level chosen for most studies in CI is organizations. As an example, Francis Aguilar says « the concept of scanning modes would not be particularly valuable were it is used only to describe the observed behaviors of individuals. What we really wish to do is to understand the behavior of organisations » (Aguilar, 1967, p.22).

4 - Authors Explicitly Interested in IB

Here is a list of IB authors that are often cited in IB literature (by alphabetical order): Bates, Belkin, Case, Chatman, Dervin, Ellis, Erdelez, Fisher, Ingwersen, Kuhthau, McKechnie, Spink, Vakkari, Wilson, etc. This list is arbitrary and should be extended.

These authors and other IB authors happen to mention Competitive Intelligence in some occasions (see table 2).

Table 2: Number of Hits with Information Behaviour and Competitive Intelligence in IB databases

Number of hits	Information Behavio(u)r(s)	compétence(s) informationnelle(s)	pratique(s) informationnelle(s)	Information Practice(s)	Comportement(s) informationnel(s)	Human Practice(s)	Competitive Intelligence	intelligence économique
InformationR.net ⁷ (articles)	523	0	0	116	1	102	55	0
Annual Review of Information Science and Technology (articles)	17	0	0	4	0	3	5	0
Author's IB database (articles)*	777	27	26	84	22	6	195	180

Remarks: *There may be some double counting with the two previous rows, but it doesn't appear to be significant (not all of these references are scientific articles).

If we only consider a simplistic comparison between the Competitive Intelligence databases Scip and Cimitri on one side and InformationR and Arist on the other side, it is clear that Information Behavior shows more hits on CI (respectfully 55 + 5 hits in table 2) than Competitive Intelligence shows on IB (respectfully 2 + 0 hits in table 1). In this first study, being restricted on the IB side, there should be found even more openness in IB as we widen the study to more information Behavior literature.

5 Society of Competitive Intelligence Professionals [Www.Scip.org](http://www.Scip.org)

6 Competitive Intelligence – Marketing Interface – Teaching and Research Initiatives www.dmu.ac.uk/faculties/business_and_law/business/cimitri/index.jsp

7 [Www.informationR.net](http://www.informationR.net)

The following expressions give us some articles in the CI literature:

- information behavior(s) (Bouthillier & Jin, 2005b; Solomon, 1996). Information Behaviour is the main spelling(492), ahead of information behavior (163), information behaviours (44) and information behaviors (7).
- pratique informationnelle (Ihadjadene & Chaudiron, 2010);
- pratiques informationnelles (Michel, 2000; Bruté de Rémur, 2006; Thivant, 200; Ihadjadene-Favier-Chaudiron, 2003; Frion, 2009a; Bulinge, 2002; Bulinge, 2003; Kislin, 2007; Chaudiron & Ihadjadene, 2008; Serres, 2008; Larivet, 2006);
- compétence informationnelle (Serres, 2008; Tricot, 2003);
- compétences informationnelles (Simonnot, 2008b, Simonnot, 2006);
- information compoortment (no reference found);
- information practice (no reference found);
- information practices (Bouthillier & Jin, 2005a; Ehrlich, 2006; Calof, 1997);
- human practice (no reference found);
- human practices (Mursu et Alii., 2007; Downey, 2007; Cora Garcia & Alii, 2006; Finholt, 2002; Savolainen, 2006; Ljungberg & Sorensen, 1998; Bouthillier & Jin, 2005);
- comportamiento informational (Carvahlo, 2009).

In the following table (see Table 3), we explore the CI literature in order to identify the IB references.

Table 3: First Browsing of Identification of Quotations of Authors Specialized in Information Behaviour by Authors Interested or Specialized in Competitive Intelligence

	Bates	Belkin	Case	Chatman	Dervin	Ellis	Erdelez	Fisher	Ingwersen	Kuhlthau	McKechnie	Saracevic	Savolainen	Spink	Vakkari	Wilson
Afolabi & Thiery												1				
Auster & Choo					1							1				
Baumard															3	
Bergeron					1		1	1								
Blanco & Lesca		1														
Boubée, Tricot & Couzinet										1						
Boutin	1					1			1			1				
Brody					1											
Carvahlo																1
Choo	1	1		4	2	1				1		1			2	
Choo, Bergeron, Deltor & Heaton															1	
Choo, Furness, Paquette, van den Berg, Deltor, Bergeron, Heaton			1		1			1							1	
Choo, Deltor & Turnbull						3			1						1	
Choo & Marton						1						1		1	1	
Davenport					1											
Dufour															1	
Goria, Knauf, David, Geoffroy		1														
Goria		1				1				1		1			1	
Heuer																
Ihadjadene, Chaudiron	1	1			1	1	1*	2**				1	1	1		1
Kislin		1			1	1			1	1		1		1	1	
Le Coadic		3	1		1		1*		1			2				
MacIntosh-Murray & Choo					1										1	
Marton & Choo				1								1		1		
Menif															1	
Michel						1			1	1		1				
Polanco, Roche & Besagni									1							
Prescott			1													
Quoniam									1							

Shelfer					1										
Simonnot		1			1	1			2	2		2		1	1
Thivant & Bouzidi		1			1	1			1	1		1	1		1
Tricot		1													

Remarks : * Erdelez, Fisher and McKechnie, ** Fisher and Fisher née Pettigrew

Mostly within the electronic articles within the author's database, and in a few books from the author's library. Most authors who mention Belkin do not mention his Anomalous State of Knowledge.

There is no doubt that a bridge exists between CI and IB in literature and it can be personified by Chun Wei Choo. He is the author who writes most and who is most recognized both in CI and in IB to date. Apart from Chun Wei Choo, explicitly and extensively referring to Competitive Intelligence, we can hardly find any author specialised in Competitive intelligence and Information Behavior. There are a few french speaking academics who cover these two topics, like Simonnot, Thivant & Bouzidi, Kislin, Gorla, Boutin, Michel, Bergeron, Ihadjadene, Chaudiron. No english-speaking author, « specialised » on Competitive Intelligence has been found writing on information Behavior except Chun Wei Choo. Brigitte Simonnot has been mentioned in this study for the interest of her work in CI, but she does not claim to be in the Competitive Intelligence field and rather in the Information and Communication ones-which form one field in France and two distinct fields out of France. Most of these authors do not necessarily declare themselves as CI authors.

Now that we have analysed quantitatively this study, we turn to a qualitative complement. Here are a few authors and works that are concerned by IB and IC.

- Richard Heuer has written a book « Psychology of Intelligence Analysis » which presents CIA analysts coping with stressful situations of intelligence services and counterintelligence. He explains psychological influences and behaviours in large Intelligence Organizations.
- An author like André Tricot is underrepresented in this study compared with his psycho-cognitive work that can be applied both in CI and in BI.
- Madjid Ihadjadene and Stéphane Chaudiron should also be included in this study. Their work should be integrated for his contributions to CI and BI and will be in a further investigation. They explicitly declare working on information behavior and Competitive Intelligence.
- Another author must be read in France concerning the topic of information Behavior for Competitive Intelligence: Doctor Pierre Achard. In his book « The Human Dimension of Competitive Intelligence » (Achard, 2005), he is suggesting organizations to take more into account the individual dimension. He is also inviting the monitoring staff to a « personal watching » in order to run a CI activity at the level of the individuals. His original positioning and his absence in the table above comes from his medical, behaviorist and cognitivist background. And even though he does not refer to the authors in the study explored in this article, he is clearly a « must read » with regards to this matter of Competitive Intelligence and Information Behavior.

One major finding of this study has been to identify an english-speaking author, that is not very often mentioned in the french CI literature: Blaise Cronin. Surely this author should be read and a good place should be given to him in this study.

5 - What IB can offer to CI

Information Behavior and Competitive Intelligence are very much concerned with information acquisition. Therefore this paper stresses first on information seeking. As we described above, there are not many models and methodologies over Information Seeking in Competitive Intelligence: mostly based on organizational concerns. On the contrary, there are many IB models of interest for CI, such as models suggested by the following authors: Byström & Järvelin, Dervin, Ellis, Erdelez, Foster, Hansen, Ingwersen, Johnson, Krikelas, Kuhlthau, Lecki Pettigrew & Sylvain, Sandstrom, Saracevic, Savolainen, Spink, Wilson, « Models of information behaviour do not all attempt to describe the same set of phenomena or activities » (Wilson, 1999), however, when we browse the various IB models and concepts in the two books covered in this study, we can notice that the following topics could greatly improve CI practice and CI research.

5.1 - Contexts, Situations and Needs.

One major topic that are well studied in both CI and IB is « information needs ». Various CI contributions can be read, for instance Herring (Herring, 1999) but these needs are often materialized as a list of information to gather rather than a study of psychological and social constraints.

- « the person's information behaviors are situated within the context of some larger task or set of tasks. » This is what Wildemuth & Hughes tell us (Wildemuth & Hughes, 2005, in Fisher, Erdelez, McKechnie, pp. 275-279). Concerning CI, this idea should induce to reconsider our specific tasks into larger tasks: management, information management, etc.
- Anomalous State of Knowledge (Belkin). In the Ask model, information is seen at the level of a person who has a situation to cope with. In most cases, the person lacks information and feels a need to seek information, whereas in CI, information is sought for the good of the company, whether or not individuals have an unusual feeling about the situation, and whether or not they have a preexisting project or target.
- Dervin & Nilan (1986) are regularly cited as a change in paradigm from system-oriented research to user-oriented research. As for CI, a lot of literature still stick to system-oriented paradigm.
- The user's environment or situation has a critical effect upon the nature of the information needed, according to Taylor (Palmquist Ruth, 2005, in Fisher, Erdelez, McKechnie, pp. 354-357).
- Erdelez's functional model of Information Encountering (IE), describes the six steps that we can witness when an Opportunistic Acquisition of Information (Oai) or Accidental Acquisition of Information (Aai) happens: Seeking, noticing, stopping, examining, capturing, returning. This model has to be related to what CI people call Serendipity-without explaining in steps what really happens. The model stresses on « cognitive, affective and behavioral processes ». In the IE model, there are four profiles of persons: superencounters, encounters, occasional encounters, and non-encounters. Describing CI profiles is not a familiar thing among the CI researchers, so far (Erdelez, 2005, in Fisher, Erdelez, McKechnie, pp. 179-184)
- Hansen's conceptual framework of Information-Seeking and Retrieval Processes is putting forward the necessity to take into account the context in an information searching and retrieving (IS&R) task. In CI, with the Intelligence Cycle for instance, there is no explicit incitation to take into account the context of the company and the situation of the individual. According to Hansen, « IS&R should not be treated in isolation, but rather as embedded in a larger task context » (Hansen, 2005, in Fisher, Erdelez, McKechnie, pp. 392-396)
- Allen Foster (Foster, 2005, in Fisher, Erdelez, McKechnie, pp. 254-258) presents a functional model of information encountering. It is a non linear model of information-seeking. The core processes is made of orientation, consolidation and opening, nested in a cognitive approach, which in turn is nested in an internal context and further nested in an external context. In CI, for instance with the intelligence cycle, the models are often linear and ignore the internal and external contexts-whereas CI is supposed to care about the environment!
- Katriina Byström (Byström, 2005, in Fisher, Erdelez, McKechnie, pp. 174-178) presents her theory of information activities in work tasks of varying complexity. Among other contributions « Task complexity frames the relationships between information types and source use. As perceived complexity of the task increases : people tend to acquire more types of information; and they are less certain to predict what type of information are necessary to acquire. Task complexity modifies the source use even directly: people in the role of experts are relied to an increasing extent for acquiring of all types of information as tasks are perceived as more complexe. »
- Philip Edwards (2005, in Fisher, Erdelez, McKechnie, pp. 356-362) presents Taylor's Question-Negotiation."in [question negotiation], one person tries to describe for another person not something he knows, but rather something he does not know" (Taylor in 1968). It is a very common situation in CI.
- Karen Fisher presents information grounds (Fisher, 2005, in Fisher, Erdelez, McKechnie, pp. 185-189). Pettigrew drew upon Tuominen and Savolainen's (1997) social constructionist approach to define information grounds as synergistic "environment(s) temporarily created when people come together for a singular purpose but from whose behavior emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information" (Pettigrew, in 1999, p. 811).
- Henefer and Fulton (Henefer & Fulton, 2005, in Fisher, Erdelez, McKechnie, pp. 225-229) present Krikelas information-seeking behavior. « He was concerned by the recurring failure in

library and information science to establish a distinction between use studies and user studies and the difficulties encountered in reaching a consensus on how we define information. It is in addressing this latter point that Krikelas takes his first major step away from the traditionalist approach. He dismisses the tendency to equate information with use of records or the literature as too narrow and conceptualizes information as any stimulus that affects one's certainty (a definition that encompasses the potential of information to create, as well as reduce, uncertainty) ».

- Peter Ingwersen introduces his Integrative Framework for Information seeking and interactive information retrieval (Ingwersen, 2005, in Fisher, Erdelez, McKechnie, pp. 215-220). « The framework reflects the understanding that IS&R is a process of cognition for the information-seeking actor(s) or team in context. »
- Marcella and Baxter present the information Interchange Theory (Marcella and Baxter, 2005, in Fisher, Erdelez, McKechnie, pp. 204-209). « Information Interchange Theory recognize the significance of the different roles and objectives of the information "actor" in holding, providing, withholding, accessing, and using information in a complex interaction between (at least) two parties with potentially conflicting conceptions of the purpose of the interchange process, where all actors are influenced by their context or agenda. It recognize that information actors will demonstrate varying degrees of activity or passivity in differing information behavior contexts and that each actor may assume different levels of activity / motivation / informedness in varying life contexts. » In CI, most authors do not stress on the human nature and personal feelings when performing a CI activity.
- In Case (Case, 2008, p. 137) Wilson's new model is that it recognizes that there are different types of search behaviors: passive attention, passive search, ongoing search.

5.2 - Psychology, Satisfaction, Efforts and Anxiety

- Wilson's 1981 information behavior model, provides us with the notion of satisfaction and non-satisfaction, directly related to the need of the information user. Indeed, in CI, the notion of satisfaction is usually hidden by the notion of process. In CI information users don't seem to be satisfied, instead, they seem to be complying with the monitoring and sense-making process (Wilson, 2005, in Fisher, Erdelez, McKechnie, pp. 31-36).
- the concept of information needs should be complemented with the concept of information interests, power relations, and occupational identities (Sundin & Hedman, 2005, in Fisher, Erdelez, McKechnie, pp. 293-297).
- we have found that people invest little in seeking information, preferring easy-to-use, accessible sources to sources of known high quality that are less easy to use and/or less accessible (Bates, in 2005, in Fisher, Erdelez, McKechnie, pp. 1-24).
- People "satisfice" in all realms of life, including information seeking. The idea of satisficing comes from Simon (1976), who argued that in decision making, people make a good enough decision to meet their needs, and do not necessarily consider all possible, or knowable, options (Bates, in 2005, in Fisher, Erdelez, McKechnie, pp. 1-24).
- People underestimate the value of what they do not know, and overestimate the value of what they do know (Bates, in 2005, in Fisher, Erdelez, McKechnie, pp. 1-24).
- Kuhlthau (Kuhlthau, in 2005, in Fisher, Erdelez, McKechnie, pp. 230-234) shows in her Model of information Search Process that anxiety falls from the first step (initiation) to the second one (selection) before raising to the third one (exploration). After this point, anxiety falls regularly during the three subsequent steps (formulation, collection, presentation). This pledge CI professionals not to leave the information searchers without attention and support between step 2 and step 3 (Kuhlthau, 2005, in Fisher, Erdelez, McKechnie, pp. 230-234).
- The theory of Library anxiety developed by Constance Mellon is presented (Katopol, 2005, in Fisher, Erdelez, McKechnie, pp. 235-238) and says that anxiety is legitimate in a library. For CI we should bear in mind that a lot of information and an impressive place like a library or a trade show can give anxiety to a person and modify his/her way to seek and treat information.
- Case states that « information seeking is not always motivated by the need to « solve a problem » or « make a decision » - activities that have clear-cut and short-term end. Sometimes it is a desired simply to have more or less of some quality; more information, stimulation, or assurance; or less uncertainty, boredom, overload, or anxiety. » (Case, 2008, p. 88).

- Reijo Savolainen (Savolainen, 2005, in Fisher, Erdelez, McKechnie, pp. 143-148) introduces sociology, culture and psychology in the information seeking activities. According to Savolainen « the source preferences and use patterns are ultimately socially conditioned ». Way of life⁸ is a cornerstone of this model and it is an « order of things » that provides individuals with preferences. Savolainen suggests a four cognitive style in mastery of life: optimistic-cognitive mastery of life, pessimistic-cognitive mastery of life, defensive-affective mastery of life, pessimistic-affective mastery of life. No doubt that such cognitive styles would lead to different way to run and to perform CI activities!
- Case states-while he is presenting Johnson 's work- that « ignorance by itself is not typically a motivator for information seeking. People are only motivated to seek information when they both know that they are ignorant and the missing information becomes salient. » (Case, 2008, p. 134).
- Leckie, Pettigrew and Sylvain (Leckie, 2005, in Fisher, Erdelez, McKechnie, pp. 158-163) have found that work roles and tasks influence the characteristics of information needs of the professional. Sources of information and also awareness of information also influence the way information is sought.
- Donald Case (Case, 2005, in Fisher, Erdelez, McKechnie, pp. 289-292) reminds us of the Principal of Least Effort (PLE). « Zipf initially developed the PLE through statistical analysis of word occurrence in documents, and by analyzing other artifacts of human activity, such as the census and other government records. Zipf intended to develop a broad explanation for human activity. The PLE's premise is that, in performing tasks (e.g., writing or speaking) individuals adopt a course of action that will expend the probable least average of their work-the least effort... The PLE is certainly related to psychological theories that posit the avoidance of "pain" as an instinctual urge. »
- Much of information seeking research could be said to relate to, if not descend directly from, a single psychologist: Sigmund Freud. Freud's (1992) « pleasure principle » encapsulates the view that both social and psychological activities stem from a need to reduce emotional tension – a type of « drive reduction ». People seek pleasure to alleviate unpleasant internal states – painful feelings or felt desires – and thus reduces tension (McQuail & Winhal, 1993, pp. 288-289 cited in Case, 2008, p. 149).
- Let's turn to the Flow theory, developed by Mihaly Csikszentmihalyi (Naumer, 2005, in Fisher, Erdelez, McKechnie, pp. 153-157). This theory « seeks to explain a mental state that occurs when a person becomes intensely engaged and absorbed in an activity. People in this mental state experiencing feelings of great enjoyment and fulfillment... His work has focused on better understanding the nature of human experience as it relates to positive aspects of human behavior. Csikszentmihalyi is one of the pioneers in the field of positive psychology and the study of optimal human functioning... Happiness is not the result of external forces but internal forces. Therefore, he contends that happiness can be cultivated and developed by learning to control inner experience... Csikszentmihalyi's research examines the qualities of experience that lead to happiness and identifies conditions of optimal experience, which he defines as "flow". The mental state of flow is defined as a state in which people are so involved in an activity that nothing else seems to matter. In this mental state, the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it (Csikszentmihalyi, 1990). ». Related to CI, we would have to learn from this theory how to take a step back from watching and monitoring for the sake of it and for the pleasure it offers. Giving monitoring tools and information to read can offer pleasure but does-it provides us with performance?
- Sears and Freedman (1967), cited by Case (Case, 2008, p.98) « noted a sense in which selective exposure is common: while there are instances in which we may welcome contradictory statements, in the long term we drift toward information that supports our point of view. In other words, we tend toward a usual diet of information that is mostly congruent with our beliefs and opinions. » For CI activities, this point is implicitly questioning the performance of a continuous monitoring over a long period of time.
- Morrison says (Case, 2008, p. 106) « that new employees are often anxious and thus afraid to ask too many questions of oldtimers in an organization ».

8 drawing on the idea of habitus developed by Bourdieu in 1984. He is regularly mentioned in IB and absent in CI literature.

5.3 - Information Overload

Information Overload has been put aside, because it concerns different categories highlighted here.

- There is an optimal foraging approach, beyond which the optimal mix of resources; pursuing a greater number of resources would cause a greater increase in handling time than decrease in search time (Jacoby, 2005, in Fisher, Erdelez, McKechnie, pp. 259-264; citing Sandstrom). When the optimum foraging point is reached, Sandstrom suggests an information diet. In CI, to date, Information Overload is cited as illustrative topic and not investigated in depth in the CI literature.
- Information Overload is not considered as a taboo, as it can be in Competitive Intelligence. With Johnson and Miller, for instance, Information Overload is not only an illustration but also a theoretical framework. Case (Case, 2008) discusses the Information Overload point over (only) 5 pages, which is much more than CI that usually ignores this topic. David Johnson is cited page 3 of Case's book with this clear citation « Beyond obsessions, curiosity, and creativity, lies a host of motivations not to seek information » David Johnson (1997, p70).
- David Johnson (Case, 2008, p. 133) is one of the only IB authors that mention the information avoidance that is frequently seen in a medical situation when a patient prefers not knowing. Therefore Johnson uses the concept of « utilities » before the actions-seeking for instance. And previously to utilities, Johnson presents in his model that salience and beliefs-among other factors-influence utilities (see also Case, 2008, p.97). Can we deduce for CI that with no salience, no belief, or no utilities, there will be no action of seeking?
- As the number of information items increase or as the amount of available time decreases – people resort to simpler and less reliable rules for making choices to shorten their search time (e.g., Brucks, 1985; Ozanne, Brucks & Grewal, 1992; Urbany, Dickson & Wilkie, 1989). (Case, 2008, p 87).
- « Perow reverses the typical view of libraries when he says that ? I require libraries to hide most of the literature so that I will not become delirious from the want of time and wit to pursue it all. There is just too much material. The problem is not access, it is the reverse, containment... Where I now to browse the stacks. I would drown, or panic, and certainly lose my way ? » (pp. 29-30) (Case, 2008, p. 99). Containment is simply not covered in CI, where information is considered as a « good thing » in the progress paradigm.
- Monitoring and blunting is a common topic in the information Behavior field. For instance, Baker (Baker, 2005 in Fisher, Erdelez, McKechnie pp. 239-241) presents the psychologist Suzanne Miller's work on stress and information. As Baker says « The theory posits that, when faced with an aversive event, people differ in their preference for information. Monitors are the people who seek information to keep apprised of the threat-related situation because knowing "what is happening" helps to decrease their stress. Blunters use distracting behavior to avoid information about a stressful event because it increases their stress levels. They may, however, seek information after the stressful event has passed (Baker, 1994).
- We tend to be more sensitive to increases in the number of attributes than we are to increases in the number of alternatives we must examine. Once the number of alternatives and attributes rises above 10 each, individuals are likely to experience overload (Case, 2008, p. 87).
- As the number of information items increase or as the amount of available time decreases – people resort to simpler and less reliable rules for making choices to shorten their search time (Case, 2008, p. 87, citing Brucks, 1985; Ozanne, Brucks & Grewal, 1992; Urbany, Dickson & Wilkie, 1989).
- In case (Case, 2008, p. 103), Mintzbers states (1975) that « brains have difficulty processing all the relevant information-there is too much, it may not fit with expectations and previous patterns, and some of it may simply be too threatening to accept ».
- « The related problem of information overload was addressed by Farhoomand and Drury (2002). In their four-nation survey, 124 managers in companies and government were asked to define "information overload" and to identify its frequency, sources, effects, and the actions they take in response; over half experienced information overload frequently and typically responded by "filtering" information. » (Case, 2008, p. 274). There seem to be the same approach in CI, based on acceptance and tolerance of information (filtering), rarely on avoidance (Johnson for example) and never on refusal except Frion (Frion & Samier, 2009b).
- In saying « Several thousands studies have appeared and, clearly, it is impossible to review all

of this literature » Tom Wilson (1994, p. 15 cited in Case, 2008, p.237) makes it clear, that information overload is real. In Competitive Intelligence, there are still some people who refute the information overload (and claim that it is rather a human incapacity to treat the volumes of information).

5.4 - Sociological Concerns

- « Chatman's theoretical work is further founded in her fascination with the notion of information poverty, which she came to realize was not necessarily linked to economic poverty » (Solomon Paul, 2005 in Fisher, Erdelez, McKechnie pp. 308-312). With regards to CI, there would be a great deal of research working on the various social groups and their respective information richness and information poverty, and how they interact with other groups in order to innovate.
- Individuals will cross information boundaries only to the extent that the following conditions are met: the information is perceived as critical; there is a collective expectation that the information is relevant; a perception exists that the life lived in the round is no longer functioning (Chatman, 1999, 214) (Solomon Paul, 2005 in Fisher, Erdelez, McKechnie pp. 308-312).
- The ground is, thus, the social construction, which shapes the individual rounding of its members and, thus, gives meaning to the activities of a social unit. There is a strong potential for grounds to become dissonant when people from different grounds come together to engage in activities that involve coordination on interaction (Solomon Paul, 2005 in Fisher, Erdelez, McKechnie pp. 308-312). Again, with CI, different cultures meet and different profiles try and work together, such as employees and chief executives, often with great difficulties.
- The Reader Response theory says in substance that it is used to be believed that « good literature had good effects on readers ». Some people were supposed to know what was good to read for the others. Now we know that the reader is text-active and that he/she brings with him/her « horizons of expectations », making the reading as a transaction (citing Rosenblatt) (Ross Catherine Sheldrick, 2005, in Fisher, Erdelez, McKechnie, pp. 303-307). What we can figure out of this is that good information does not exist by itself, and there is no such thing as a good source by itself either.
- « For most of us, a worldview is played out as life in the round. Fundamentally, this is a life taken for granted. It works most of the time with enough predictability that, unless a critical problem area arises, there is no point in seeking information » (Solomon Paul, 2005 in Fisher, Erdelez, McKechnie pp. 308-312).
- Patrick Wilson says "what one needs to know also depends in part on what others expect one to know" (P Wilson, 1983, p. 150) (Sundin Olof & Hedman Jenny, 2005, in Fisher, Erdelez, McKechnie, pp. 293-297). In CI, the information seekers and information analysts will be implicitly influenced in their work by their team-mates and hierarchy.
- Theory of professions, together with the concepts of cognitive authority, occupational identity, and information interest, contributes to a deeper understanding of issues concerning how practitioners's information behavior is formed, maintained, and mediated in society (Sundin Olof & Hedman Jenny, 2005, in Fisher, Erdelez, McKechnie, pp. 293-297). For instance in CI, there should be a distinction made when we consider marketing people and IT people, in their ways they assess their needs, they seek, use, give and protect their information.
- Karine Barzilai-Nahon stresses on Network Gatekeeping (Barzilai-Nahon in Fisher, Erdelez, McKechnie, pp. 247-253) « The concept of Network Gatekeeping was coined by the social psychologist Kurt Lewin (1947, 1951). His theory of "channels and gatekeepers" was developed as a means of understanding how to produce widespread social changes in communities. »
- Lisa Given Lisa (2005, in Fisher, Erdelez, McKechnie, pp. 334-338) puts forward that « Social positioning theory examines the influences of contextual discursive practices on individuals' lives. This theory allows researchers to explore postmodern tradition where personal identity is relative, socially constructed, contextual, and highly individual... Social positioning represents a dynamic extension of role theory. »
- Steven Joyce (2005, in Fisher, Erdelez, McKechnie, pp. 349-353) presents Pierre Bourdieu's symbolic violence and cultural theory of action (Bourdieu) « in which one develops a habitus (an internalized set of dispositions) on a field of struggle (a network that constitutes the

distribution of capital and power)... Symbolic systems serve as instruments of domination. Through knowledge and communication, a dominant symbolic system integrates all the members within that system, establishes a hierarchical order for less dominant systems, and legitimizes the distinctions of social ranking by the "fictitious integration of society as a whole ". This integration Bourdieu calls symbolic violence. »

5.5 - Information Literacy

Information literacy is very much at stake today and goes further than reading, counting, writing, like assessing his own information needs and managing his own personal information for instance.

- Dervin identifies 10 myths about information and information seeking (Case, 2008, p.7, citing Dervin, 1976a). The first two myths gives us a very good feeling of what we should put into practice, and that we keep ignoring very often in Competitive Intelligence: 1) Only "objective" information is valuable; 2) More information is always better.
- Sense-Making mandates that communicating be conceptualized as gap bridging-not in the purposive, problem solving sense (although that is one subset of all gap-bridgings) but in the sense of gap-bridging as a mandate of the human condition (Dervin, 2005 in Fisher, Erdelez, McKechnie pp. 25-29).
- Recognizing (and expecting) dissonance as teams, units, or other organizational forms come together (or not) to accomplish activities has important implications for both understanding information behavior and the practice of information professionals (Solomon Paul, 2005 in Fisher, Erdelez, McKechnie pp. 308-312).
- Ruth Palmquist (Palmquist, 2005, in Fisher, Erdelez, McKechnie, pp. 354-357) refers to Taylor's Information Use Environment, and says that « situation had a critical effect upon the nature of the information needed. ». « He identified the idea that the user must express to an information system not what is known, but the very thing that is not known...Taylor (1968) also suggested that the experience of user's information need could be viewed as proceeding through four basic cognitive levels: visceral, conscious, formalized, and compromised... He saw that only the potential for value was carried by the information; it was in the head of the user or in the use of the information that a message had value. » We often read in CI verbing that many people are looking for hard facts, presuming that information bears a value by itself. Taylor is giving us his opposite point of view on this topic.
- « even with competent readers, however, variations in interpretations occur because there are always "gaps" in the text that reader have to fill in by drawing on their own experience and imagination » (Ross Catherine Sheldrick, 2005, in Fisher, Erdelez, McKechnie, pp. 303-307).
- Louise Rosenblatt who wrote a classic text *Literature as Exploration* (1928/1995), claims that the reader "brings to the work personality traits, memories of past events, present needs and preoccupations, a particular mood of the moment, and a particular physical condition. These and many others elements, in a never-to-be-duplicated combination, determine his response to the peculiar contribution of the text" (Rosenblatt, 1995, pp. 30-31). (Ross, 2005, in Fisher, Erdelez, McKechnie, pp. 303-307).
- Melissa Gross (Gross, 2005, in Fisher, Erdelez, McKechnie, pp. 164-168) « developed the imposed query model... It describes and explains the imposed information, seeking process as comprised of six stages that follow the query from its initiation, transfer to, and transaction by the imposer's agent and ends with the imposer's evaluation of the agent's response to the query (Gross, 1995). The basic premise of this model is that questions are of two types: self-generated and imposed. Self-generated questions arise from the context of a person's life and are pursued by the person who is asking the questions. Imposed questions occur when the person who constructs the question asks someone else to transact it. Questions that are imposed upon and transacted by an agent have many opportunities for mutating away from their original intent over the course of their life cycle. »
- As far as sensemaking or Sense-Making are concern, Information Behavior authors refer more to Dervin's Sense-making than to Weick's sensemaking. In competitive Intelligence, very few authors quote Dervin, like Choo for instance. For Dervin , see Dervin (Dervin, 2005, in Fisher, Erdelez, McKechnie, pp. 25-36) and Tidline (Tidline, 2005 in Fisher, Erdelez, McKechnie, pp. 113-117). For Weick, see MacIntosh-Murray (MacIntosh-Murray, 2005, in Fisher, Erdelez, McKechnie, pp. 265-269). in which Weick says that sensemaking is "a central activity in the construction of both the organization and the environments it confronts" (Weick,

1995, p. 69), and he describes sense making as "less about discovery than it is about invention" because "to engage in sense making is to construct, filter, frame, create facticity, and render the subjective into something more tangible" (1995, p. 14). whereas, in Tidline's chapter, Dervin presents Sense-Making as « integral to understanding how human beings derive meaning from information ». "information is not "something that exists apart from human behavioral activity." Rather, information is "created at a specific moment in time-space by one or more humans" (Dervin, 1992, p. 63 in Case, 2008, p. 158). Can we deduce from this that Weick (and CI) is more organization-oriented than Dervin who is more human-oriented?

- Wathen & Harris (Wathen & Harris, 2005, in Fisher, Erdelez, McKechnie, pp. 363-367) present the Transtheoretical Model of health Behavior Change. This model helps to explain how people go through « stages of change ». It could help CI people to suggest CI implementation in companies.
- Case states (Case, 2008, p. 110) that « we have a tendency to dichotomize (fact versus opinions, information versus entertainment), phenomena that are not really that discrete. »
- As Mendelsohn (1966) noted (Case, 2008, p. 161), « when we have a choice, we tend to choose entertainment over information. Even while engaged in serious work we may prefer to have our information presented in a stimulating format and style - "sugar-coated" to some degree. ». A direct finding for CI is to lower the will to be right-perfect or nothing-and to engage into the will to be red and understood.
- In Case (Case, 2008, p. 175), some human errors are presented from various authors: « Many methodologists (e.g., Babbie, 2005; Katzer, Cook, & Crouch, 1998; Schutt, 2006) have pointed out common sources of human error, including the following:
 - People are by nature poor observers;
 - People tend to overgeneralize from small samples of evidence or opinion;
 - We tend to notice those things that support our beliefs and ignore evidence that does not;
 - We sometimes make up information to support our beliefs, no matter how illogical it might appear to another person.

Our ego is often involved in what we "know" and profess to be true. In the extreme case that we can "prejudice," we may simply close our minds to any new evidence about an issue. In such a case, no further observations or arguments will ever change our beliefs or opinions. People are prone to mystify anything they don't understand. If an issue is too complex, the easy way out is to say that it is something that simply cannot be understood. » To date, in CI, there was no research published on human errors, organizational errors nor on software problems.

5.6 - Group Level vs Individual Level

- Two major distinctions are: whether the decisions are made by individuals or by groups, and whether these are one-time decisions versus repeated choices. (Case, 2008, p. 85). In CI, there is usually no such thing as this distinction.
- The traditional focus at the two levels of individual and workplace is not always sufficient, for a study of information behavior in occupational practices. Instead, workplaces and their concomitant groups should also be related at a social level. The workplace is a meeting place, not just for practitioners and their clients, but also for competing professional interests, power (Sundin & Hedman, 2005, in Fisher, Erdelez, McKechnie, pp. 293-297)
- « From the constructionist viewpoint, the concept "information practice" is preferred over "information behavior," since the former assumes that the processes of information seeking and use are constituted socially and dialogically, rather than based on the ideas and motives of individual actors. All human practices are social, and they originate from the interactions between the members of a community. » (Tuominen, Talja, and Savolainen, 2005, in Fisher, Erdelez, McKechnie, pp. 328-333).
- Harry Bruce (Bruce, 2005, in Fisher, Erdelez, McKechnie, pp. 270-274) introduces the Pain hypothesis. The PAIN hypothesis explicates, in five propositions, the concept of Personal Anticipated Information Need. The attributes of this concept are derived from elaborations of the concepts information need and anticipated information need (in particular, Taylor's four levels of information need, Belkin's ASK hypothesis, Dervin's Sense-Making theory, Kuhlthau's uncertainty principle, and Erdelez's information encountering). PAIN is introduced as the motivation and underpinning framework for information behavior that relates to personal

information management, specifically, to the thoughts and actions of building and maintaining a personal information collection (PIC behaviors).

- Pamela McKenzie presents the theory of interpretative repertoire (McKenzie, 2005, in Fisher, Erdelez, McKechnie, pp. 221-224). « The interpretative repertoire is a theoretical and analytical concept used in some forms of discourse analysis... Such an understanding assumes that language and people are separate entities, and that language is a neutral medium between the social actor and the world... A constructionist perspective, on the other hand, places an emphasis "on discourse as the vehicle through which the self and the world are articulated, and on the way different discourses enable different versions of selves and reality to be built" (citing Tuominen, Talja, & Savolainen in 2002). ». In CI a lot of research is done on information in databases and the theory raises the alarm on the richness of human behaviours and the difficulty to rely on verbing and writing.

Within the two books taken as main references, many other concepts, theories, etc. are presented such as:

- Willingness to Return (Durance);
- Strength of Weak Ties (Granovetter);
- Radical Change (Dresang);
- Information Encountering (Erdelez);
- Nonlinear Model of Information-Seeking (Foster);
- Value Sensitive Design (Friedman, Khan, Borning);
- Serious Leisure (Hortel);
- Social Capital (Coleman, Putman, Lin);
- Symbolic Violence (Bourdieu);
- Habitus (Bourdieu);
- Phenomenography (Marton);
- Social Learning Theory (Bandura);
- Practice of Everyday Life (Certeau);
- Information Acquiring-and-Sharing (Rioux);
- Information Horizon theoretical framework and methodology (Sonnenwald);
- Institutional Ethnography (Smith);
- Information Intends (Todd);
- Etc.

Words like, salience, avoidance, selective exposure, gap, poverty, underload, motivators, ignorance, beliefs, intellectual ferment, testing, mood management, diffusion of innovation, time, space, etc. are also used in IB and merely not used in CI.

More topics would be of interest to CI such as the theory of maximum variety, etc.

Now we can venture in comparing the foundations of CI and IB (see Table 4).

Table 4: Comparisons of Foundations between Information Behaviour and Competitive Intelligence

Information Behaviour	Competitive Intelligence
Decisions are made by individuals one-time decisions Decision making research also assumes uncertainty reduction as a key process, even though it cannot be assumed that possessing more information always reduces uncertainty (Bradac, 2001; Yovits & Foulk, 1985). Everyday life information seeking Information Seeking (often) Can cover individuals and small groupes of people More global	Decisions are made by groups one-time decisions or repeated choices More info reduces uncertainty Company strategic information seeking Information searching and seeking Usually covers larges groups of people More analytical and limited

6 - Salient Roots of Information Behaviour from this Study

Rather than inert foundations, one can refer to roots to present IB beliefs, competencies, spectrum of observations, point of view, etc. Here are a few of the salient roots noticeable from this study:

- According to Wilson, « we can take its origins back to the Royal Society Scientific Information Conference of 1948 » (Wilson, 1999),
- IB is « emphasizing people rather than systems » (Case, 2008, p 6). Behaviour relates to individual(s) rather than to firm(s),
- Citing McKechnie, Pettigrew and Joyce⁹ « The vast majority of theories cited in information behavior research were from the social sciences (64.4%), followed by information science (28.7%), the natural sciences (5.9%), and the humanities (1.0%) », Pettigrew, Fidel and Bruce make clear that Human Information Behaviour is strongly greatfull to social sciences (Pettigrew, Fidel, Bruce, 2001), whereas Competitive Intelligence probably relies more on business, administration and computing sciences,
- Most of the time information already exists in IB (Case, 2008, p. 58 citing Stonier in 1990) and in CI, even though activities like sense-making are covered, which allow information creation,
- Work life and personal life are studied in Information Behaviour, whereas only work life is implicitly supposed to be relevant in Competitive Intelligence,
- Information seeking is necessarily in context with IB whereas CI often ignores theses special circumstances,
- Human subjectivity is accepted and worked upon in Information Behaviour, when hard facts and raw information are often believed to be more appropriate as a starting and unbiased point in Competitive Intelligence,
- « A frequent concern in decision making research is the degree to which our rationality is bounded. » (Case, 2008, p. 86),
- « A common assumption of information behavior research is that information seeking and retrieval are affected by cognitive, affective, and task-related factors » (Tuominen, Talja & Savolainen, 2005¹⁰),
- Information Behaviour started with system-oriented studies and progressively shifted to user-need oriented studies (Dervin & Nilan, 1986).
- Kuhlthau alerts us over « The axiom that information reduces uncertainty is not necessarily the person's experience in information seeking » (Kuhlthau, in 2005, in Fisher, Erdelez, McKechnie, pp. 230-234).
- there are some « distinctions among Information, Knowledge, and Data » (Case, 2008, p. 64). « Information implies transfer », says Machlup, « while knowledge is a state (knowing) » (Case, 2008, p. 64).
- Openness to sciences. As we saw earlier, IB is open to various sciences and fields.
- People who are interested in a topic tend to acquire more information about it (Chew & Palmer, 1994; Reagan, 1996 cited by Case, 2008, p. 97).
- people often prefer getting information from other people, even that information might be less authoritative or reliable (Case, 2008, p. 201).

Many authors in IB mention works from the french De Certeau and Bourdieu, for instance, and what is noticeable is that no french CI author do mention any of them but they are red and cited in information-communication in France. Does that mean that CI neglects Information-Communication?

7 - Discussion

For the purpose of this first study on what IB can offer to CI, only two major books have been examined in depths (Case, 2008; Fisher, Erdelez and McKechnie, 2005). Databases like InformationR, and conferences like Annual Review of Information Science and Technology (ARIST), should also be studied thoughtfully in order to widen and to improve our knowlege in this literature. Therefore, the list of authors used for the evaluation of IB and CI in this exploratoty scientific study should be revised,

9 McKechnie Lynne, Pettigrew Karen E., Joyce Steven (2001), The origins and contextual Use of Theory in Human Information Behavior Research. In Höglund L., ed., Information Seeking in Context: Proceedinds of the 3rd International Conference on Research in Information Needs, Seeking and Use in Different Contexts; 2000 August 16-18; Göteborg, Sweden, London, UK: Taylor Graham.

10 The Social Constructionist Viewpoint in Information Practices, in Fisher Karen E., Erdelez Sanda, McKechnie Lynne (E.F), Theories of Information Behavior, Asist, Information Today Inc., Isbn : 1-5787-230-x, pp. 328-333

respectfully with the work done by more authors in these fields (academics and professionals). Of course, the quantitative study that has prepared this article on the number of references in various databases, only has been realized with a few expressions in English and in French¹¹. It should be extended to a richer vocabulary, made with synonyms for instance, in order to exceed this first sounding and turn it in a more precise study. The same idea applies to the competitive intelligence literature review: it should be extended.

Some people use the expression « information behaviour » or « comportement informationnel » to mention companies and not individuals: should these results be excluded from the study?

With this article, we have started to enlighten what IB can offer to CI. Other topics like communication, psychology, sociology, philosophy-among other sciences-offer a lot of material for the understanding and the enrichment of Competitive Intelligence. These sciences are being investigated to that respect. Many authors in IB mention works from De Certeau and Bourdieu, for instance, and what is noticeable is that no French CI author do mention any of them but they are read and cited in information-communication in France. Does that mean that CI neglects Information-Communication?

Of course, CI can also offer to IB some thoughts. This last point of view is currently under investigation and is due to be published in 2010. Here is a short list of what CI can offer to IB:

- social engineering (socializing with people in order to elicitate some grey information),
- monitoring staff's behaviour and the information hunters' behaviour,
- political sciences, geoeconomics, geopolitics,
- economic warfare, ethics, and dishonest behaviours (espionnage, deceptions, etc.) in business,
- protection of information (confidentiality, mild paranoia, etc.),
- lobbying and influence,
- monitoring personnel seen as a social group, a community of practice,
- etc.

Competitive Intelligence often refers to the « mastery of information¹² » and we could believe it is an awkward first step towards information behaviour.

Lobbying and influence are frequently presented in CI, in particular by practitioners, and they offer various psychological concerns to explain, more than to behave.

In this article, there is no intention to discuss the fact that « debate lingers over whether information behavior is an appropriate term for describing a body of academic study » (Pettigrew, Fidel & Bruce, 2001).

8 - Conclusion

Information Behaviour is more open to Competitive Intelligence than Competitive Intelligence is to Information Behaviour. Information Behaviour has a lot to offer to Competitive Intelligence. The most important message information Behaviour can offer to Competitive Intelligence is the individual level of approach needs to be more present in topics such as business management, information management, strategic planning, organization, computing. No doubt that behavioural considerations suggest new ways to initiate and run a CI activity in organizations. The CI « invisible college » must widen his spectrum of research to Information Behaviour and recruit new members.

With the bringing-in of IB one can put forward the hypothesis that CI would be presented in a drastically different way, with innovative suggestions to promote and implement CI in organizations. From organizational and hi-tech foundations we would turn to ever-growing «human behaviour rootedness ».

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¹¹ information behavior, comportement informationnel, comportements informationnels, competitive intelligence, intelligence économique, pratique informationnelle, pratiques informationnelles, compétence informationnelle, compétences informationnelles, information comportement, information practice, information practices, human practices.

¹² In particular in the French CI definition from the former High Official for Competitive Intelligence Alain Juillet.

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