The role of the infomediary in an economic intelligence process

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ABSTRACT

The infomediary takes an increasingly significant place in the information society and more particularly in the activity of economic intelligence (EI). Even if his objectives are well established, the various necessary activities to achieve them are to be clarified. Also in the digital era where automated tools are omnipresent, it is necessary to examine, when, how and why the infomediary in an EI process? Our study is on the analysis of the role of the infomediary within the human and material environments so as to understand his influence on the actors in the EI process. Our aim is therefore to understand what he does more than the watcher, whose roles seem to be more understood.

Keywords: economic intelligence, infomediary, tool of watch, portal of watch, user model, personalization.

INTRODUCTION

The information society witnessed these last years many evolutions, in particular, the development of increasingly powerful and access tools via Internet. As a result of this evolution, the professionals of information, undergoing this evolution, saw their roles redefined while seeking to further develop their traditional role. Information retrieval, data processing, distribution of information being made from now on in an increasingly automatic way make it necessary for the safeguard of their position in the medium of the Information and Communication Technology (ICT), to reconsider their profession.

The human activity being at the heart of the debate, the objective is to show the new roles brought about by the exchange of information within an organization while preserving the strategic dimension that may be involved.

It is of this evolution that the terms such as "network organizer", "supervisor", "information intermediary" which we call today "infomediary" were introduced.

An infomediary is defined as:
- a concept formed from neologism of the fusion of the information and intermediary ;
- a term that indicates a source of information or community which, starting from the information produced proposes a direct link to an approved provider in order to place order.

The infomediary thus plays at the same time the role of prescribing and that of intermediary [1].

We can notice that the major role of an infomediary is the privileged relation between him and the end - user on the one hand and the producer of information on the other hand. The question which arises today is **the role which he can play in addition to that of a watcher**. What are his strong points which differentiate him from a watcher or from another professional of information? How can we identify his roles within an EI process?

To define his activities, it is necessary to present the various actors in an EI process as well as their roles. The actors are the producer of information, the watcher, the infomediary and the end-user who can be the decision-maker.

We will present in the first part what we already know of the activities of the watcher and those that we suppose being filled by the infomediary. **Our problematic will be to understand what the infomediary does more than the watcher in an EI process**. This will enable us to understand, in a second part, the interest of the infomediary for the other actors in the EI process by attributing to him new roles within the activity of intelligence process[1].

1. ACTIVITIES OF THE WATCHER AND THOSE OF THE INFOMEDIARY

- The watcher's activities

ADBS [2] defines the watcher as: "The one who feeds the decision-makers of a company with selected and processed information in order to alert them on the evolution of the company's environment (technical, competing, economic, law, etc…) and to help them in their decision-making". Thus, the watcher contributes to time saving for the company by providing information rapidly and thereby decreases the risks for a company by providing good information at the right time. The risk is here considered as the danger which we can be more or less envisaged. The risks can concern a case of competition (monitoring of a competitor), a case of technology transfer (lack of innovation). In order to avoid the risks, the watcher carries out technological survey of patents, new processes available in the market, etc. Here, ADBS is supposing that the watcher works in the compagny. But, most of the time,

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[1] The intelligence process involves a strategic dimension in the process of watching (search, processing and distribution).

the watcher is working in a compagny service provider. Therefore, he cannot decrease the risks for a compagny, this the role of the decision - maker.

Generally, the role of the watcher is distinguished by his intervention in two major and indissociable fields: the activity related to the end-user and that related to information.

- The user aspect

The identification of the end-user's needs
One of the major activities of the watcher is to acquire a significant knowledge on the end-user. He obtains this knowledge by employing some standard models for describing the end-user's characteristics [3]. This will allow him to define the end-user's status, objectives of research (what does he want to do with the information, in which form does he want it, in what language, at what delay…), the fields covered and finally the end-user's past experience with related information problem.

The person of confidence
The advantage of calling upon a watcher is to obtain a guarantee on the safeguarding of private data. Indeed, the use of new technologies, particularly the Internet, generated new type of information flow: high speed information exchange and high accessibility to information. But these strong points, although essential for the competitiveness of a company, generate new types of problems at several levels such as the protection of private information [4].
Thus, once all the information collected on the end-user, the watcher will act as "guard of the private data" [5]. Indeed, as an expert of information, he must know the protected web sites as well as the encoding principle of information.
Another function of the watcher is his capacity to observe the end-user. It is by the documentary practices of the end-user among others activities that he is able obtain the real needs of the end-user, called documentary profile. This model is used combined with other models that the watcher may have built on the end-user.

- The information aspect
    o Data processing

Selection of information sources
The proliferation of the available information sources involves a higher cost of interaction and transaction [7] because the task of information retrieval is expensive particularly when the right sources are not known. Also the consequent accumulation of retrieved information submerges the end-user. The principle of any research is not only the response to a set of request but especially the response to a specific user's at a particular time [8].
The watcher can be defined as an operator of information, not with the pure and hard technical sense, which would consider him as a technician of documentation, but rather as a professional who is able to locate and identify new or ignored sources that will be supervised thereafter by automated tools.
As a technical expert, the watcher formalizes a request in the form of accessible, readable and acceptable query by an automated system [6]. We define him in this respect as a translator. Thus, after a targeted and major analysis of the request, the watcher draws up a list of exhaustive sources for research, leaving the care to the system of automated watch monitor them.

Analysis and the summary of the results
An automatic tool, no matter how powerful it may be cannot add a "value" to information [9]. The principle of information analysis is their characterization and categorization in order to extract useful and adapted information [10].

Filtering and organization
The principle of filtering remains the watching of information sources with the expressed need on the one hand and the user model on the other hand. Employing the user model, two users can make the same request for information for different objectives [11]. As "a human filter" between the world of information and the end-user, and as an organizer of information, the watcher must be able to restitute the good result to the right person.

The role of prescriber
The most essential role of the watcher is his capacity of providing qualified information: he brings a high level of personalization of the contents. Thus, he rationalizes information so that it is fully useful [9]. He is also called "third neutral confidence" [5] because his function requires to be honest, discreet and responsible for the private data of the end-user, on the one hand, and guarantor of authenticity of the information selected on the other hand. Indeed, the proliferation of information media inevitably involved cases of disinformation or "contrary–information" increasingly frequent, that only a professional of information can detect. A machine can in no case detect and even less checks this type of information.

Distribution
Any automated system is presently able to systematically send mails to the users. We call that "pull". These types of information are neither processed nor distributed in a personalized format. This is why the users often call on a watcher who will be able to provide information that corresponds to their needs and in various forms: bibliography, listing of references, synthesis, detailed report, etc… The role of the watcher is based here on the use of primary documents (raw information emanating directly from its producer) to produce a secondary document (processed information, with added value) that can be distributed the user.

    o Knowledge management

The guard of knowledge
Knowledge management (KM) consists in locating, enriching and developing a company's knowledge, particularly knowledge of strategic nature. Beyond the storage aspect of knowledge, it becomes vital for a company to know how to render its capital "knowledge" evolutive in order to avoid its disappearing which can result in lack of creativity [11]. The information acquired starting from the environment (scientific and technical) constitutes, for this purpose, a base that is necessary to enrich the reservoir of the company's knowledge. For this reason, the watcher is charged to capitalize the informational heritage of an organization, in order to allow an effective market position.

- Limits to the watcher's activities

We identified several problems at two levels of the EI process. The first level is at the initial stage of the process. When a watcher begins his research task, he has in his possession some indications on end-user's problem, where the end-user can be a decision–maker. However, all these indications emanate only from the representation that was made by the watcher of the problem. He thus has not studied in collaboration with the decision-maker the interpretable indicators for the decision problem which are based on internal and external information [12]. We are thus interested on how the watcher translates the decisional problem into his activities of information retrieval and processing.

This failure at the initial stage of the EI process inevitably involves a problem of information validity and the final stage of the process. By not having indicators to prove his good comprehension of the decision problem, the adequacy of the watcher solution is questionable.

2. THE FUNCTIONS OF AN INFOMEDIARY?

We present in the first part of this paper a relatively broad vision of the functions of the watcher as well as their limits. His activities, as we could note it, are many. We are then the place and the utility of the infomediary in an EI process.

Presently, many studies presented the infomediary as a person with multi-facets, versatile, observant and flexible, placed at good place and at the right time. He is "bridge" between the world of information and the end-user. He is able to anticipate the economic evolution of the company that may influence decision-making [4] and able to maintain a good contact with his who are information consumers. He is an expert, an informational genius, the last link of distribution chain, the only one in direct liaison with the end-user and the necessary way between the producers of information and the end-user [5].
However, we should not neglect the factor of the automation of the tasks allocated to the growing and omnipresent ICT.

We suppose that the infomediary intervenes at the initial stage of the EI process, while defining in collaboration with the decision-maker (the end-user) some indicators which will make it possible to understand the decision problem.
It is indeed fundamental for a decision-maker to install mechanisms of signal detection before the imminence of an event that will prevent him from reacting. Once these signals are detected, the infomediary and the decision-makers can translate them into a problem to be solved so that this problem becomes comprehensible by the watcher.
The role of the infomediary concerns therefore the comprehension of the problem presented by the decision–maker while trying to be as close as possible to the mental representation that the decision–maker has of his problem. The translation of this problem into indicators can facilitate him for the process of information retrieval.
Therefore, the infomediary has to exploit the knowledge he has about the decision–maker [13]. These indicators must be easy to handle and measurable. Their determination will thus not stop with the question "what do you want know?", but will also result in "why do you want to know?", "what do you know already?", etc…

To respond as accurately as possible to the decision-maker's problem, the infomediary will need a better representation of the end-user [12] than the representation necessary to carry out the activities of a watcher. He will need to integrate the attributes such as the end-user's identity, his behavior and the context of use of the information to be collected. He will also need to represent the company's environment [14].

These stages are essential in the definition of the decision problem and will make it possible to establish various degrees of accuracy for the solution to the problem. The infomediary thus takes part in the translation of decisional problem into the necessary indicators that will be used for information retrieval.
Presently, there are very few models that are proposed for the description of the decision problem. Some existing proposals will be presented in the last part of this paper.

We also consider the infomediary as an organizer of network partners and experts. He is able to put in place a conducive environment for the exchange of information between these actors. We think that this is a major role of the infomediary, because he is considered as a relay of information, a central actor, and developing clusters of companies either in the form of sets of themes or in the form of strategic questions common to the network.

The infomediary is also charged with the training of the actors in the network on how to use the various tools of communication and of IRS [5].

Finally, we suppose that the role of the infomediary is, in fact, a natural evolution of the trade of watcher. Indeed, all the role defined previously are already filled by the infomediary. From now on, the infomediary must play a more important part.

The infomediary can also be considered as acting between the information producer and the decision maker .

Producer - *infomediary* - decision-maker

The producer proposes raw information that is made available in the world of information through the Internet. The infomediary acts in the comprehension and the translation of the decision problem . He carries out the task of information retrieval by using the indicators. Finally he is validating and personalizing resulting information to restitute relevant information to the decision - maker. He also helps the decision-maker to obtain a better interpretation of the results since he has a good understanding of the decision problem.

3. OUR PROPOSALS

Presently, there are neither commercial tools nor methods for modeling decision problems. The result of this situation is that the information obtained through the watch process is often irrelevant to the real decision problem and very costly.

The problem that we have just posed is very significant in an EI process because the essence of the process is to save time for the information retrieval and processing, and to capitalize the knowledge obtained from past experiences. The infomediary, having the key role in the process must

be able to take into account all these performance criteria in order ensure the best results from each stage of the EI process.

Our research team SITE at the computer science laboratory center, Nancy, France has long been working on how to represent and take into account the knowledge on the end-user, such as the decision maker, in an EI process. Some models are already proposed which will make it possible to define a decision problem and the associated information need. One of the proposals is a model of the decision-maker integrating his objectives, his individual characteristics, the parameters related to the organization and those related to the environment, in order to facilitate the transformation of the decision problem into information retrieval problem. [13]. One of our objectives is to propose a model for the description of an infomediary.

CONCLUSION

The definition of the term infomediary is not yet stabilized in the scientific community. One of our objectives is to define the services of an infomediary for a better integration in the EI process. We should be able to respond clearly to the questions: What is an infomediary, a person, an organization, a portal? What are his roles? One other objective is to develop a model of infomediary using the models for describing a decision problem and IRS problem [14].

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