

Networks of the economic intelligence in France : mapping and visualisation of knowledge

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ABSTRACT

The economic intelligence is an activity of network. Thanks to tools of visualization and handling of network, we forward the analysis of the personnel which counts in the medium the economic intelligence in France. We will show how to build a tool infographic starting from a rough informational basis. This, through a methodology of analysis applicable to all the fields. After having briefly defined the economic intelligence, positioned the practical case shown here, we will set up a methodology which will use tools essential to the analysis of the data. We then will have its results in the form of graphs, which will update the most powerful actors of the medium, isolated from the network, as well as the groups and under emergent groups. The whole, with an organisational purpose of the environment, to give direction to the events passed, present and future.

1 INTRODUCTION

The concept of Intelligence Economic is present since the Nineties in France. It really starts to emerge in the French firms only since the publication in 1994 of the report Martre (12), then in 2003 of the Carayon report (1), which give the tone of the alarm lit by a universalization quite present, which lets disarm all those wishing to fight it.

This new sector is in full growth. A multitude of studies start to be born. This study will try to light the actors of the Economic Intelligence by using methods of Economic Intelligence.

On the market of the consulting in economic intelligence in France, estimated at approximately 125 million annual euros, a study undertaken by “day before magazine” (2)

shows that this sector remains for a great majority controlled by independent firms (88%). This structure of market supports the small actors. But how the latter organized are? Who counts in this field which goes up in power of more than 20% a year (figure announced in “signal 100 of the economic intelligence” between 2002 and 2004 (3). Who share this new market going up and flourishing? Thus as we often see it, the beginnings of new markets are often done in a little structured way. They tend then to saturation more or less quickly. Moreover, this sector sees appearing a multitude of clubs, foundations and associations of economic intelligence with formations of alliances between the firms (4,5,6), but all this unit apparently not structured undoubtedly has already a not yet visible structuring.

In this context, an explanation and a setting flat can prove to be necessary, as in any field being structured such as fields of research and development or innovation. We thus will show how to lead an analysis to show the structuring of the actors of the economic intelligence in France, but this analysis could be led for any whole of actors of a field in phase of structuring or without apparent structuring.

The results will be forwarded in the form of interactive tool infographic.

2 ECONOMIC INTELLIGENCE

The intelligence (« intelligence économique ») means the same that competitive intelligence, or business The economic intelligence is distinguished from espionage because it uses legal means exclusively (7). We base this search not only on means of most legal of analysis, but on a completely open source (open source). The starting document analyzed at the time of the search for information, is on sale free. We left the book entitled “Le top 100 de l’intelligence économique” 2nd edition published in Mars 2006 (3). Its date shows the recent aspect of the subject.

We concentrated our search on this document because it is regarded as relatively reliable source. It gathers a very great quantity of precise and pushed information main actors of the economic intelligence in France. The main actors are quoted, in the form of detailed cards, and of the more or less precise explanations scattered a little everywhere in the book on the relations between these people.

During the second World War, the anglo-saxons were very skilful for the collection and the data processing. This culture of the information made it possible american to develop the first systems of electric processing of information (computers). The reflection on the information of this time remained however based on a rather simplistic model of communication: 1 transmitter – 1 receiver (Shannon) (8). Nowadays the conventional information leaves room to the economic intelligence. This maturity results from the very important development of the data links. In particular with the appearance of Internet and the data-processing networks of firms (Intranet) (9, 10, 11). This appearance induced, inter alia, the surinformation. The multiplication of transmitters and receivers allows a retroactive effect which did not exist at the time of the systems of telegraphs and telephones.

We will take again here three definitions complementary to the Intelligence Economic which make it possible to understand the subject well:

- The whole of the coordinated shares of search, processing and distribution of information useful for the economic actors, with a view his exploitation. These various shares are carried out legally. (12)
- The economic intelligence is not only any more one art of observation but an offensive and defensive practice of information. Its purpose is to connect between them several fields to

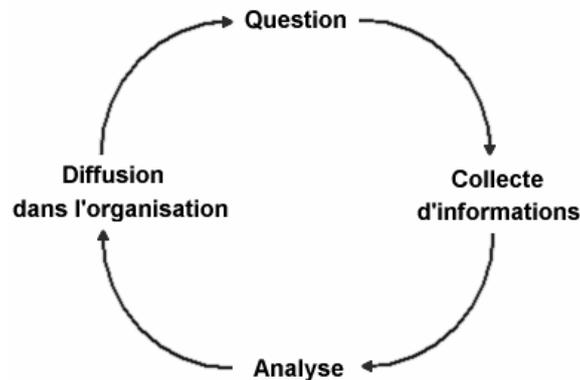
serve the tactical and strategic objectives of the firm. It is a tool of connection between the share and the knowledge of the firm. (13)

- Capacity to obtain answers to questions by discovering intelligences between two or several information beforehand memorized. The firm will put at the service of this capacity, all the means it has to seize opportunities and to detect threats. (14)

In order to understand the Economic Intelligence in its dynamics we will take again here the very conventional cycle of the information used by the secret service city in wikipédia. (15).

Question - the basis of the cycle is consisted the questions which one seeks to answer.

Dissemination it dissemination of information made exploitable must be done in an objective and considered way to the management which will be able to define action plans or



Collect - Coming from the networks internal (memory of the economic intelligence, knowledge management...), external (customers, providers...) or various sources (such as: public documentations, mediae, shows, patents, standards, back engineering...)

Analyse - the analysis by experts of the economic intelligence is a higher added value

Figure 1 - Cicle of the economic intelligence

3 METHOD

3.1 SOCIAL NETWORKS

The social network, in the social sciences, is an interdisciplinary approach which is based on the postulate that the social actors are rather characterized by their relations than by their attributes (the sex, the age, the social class, etc). These relations have a more or less great density, the distance which separates two actors can be more or less large, and certain actors occupy of the positions more central than others. Theories make it possible to explain these phenomena, of which that of the strong and weak links, and that on the structural holes or are the actors who can communicate between them only via one third party (16, 16, 18). We here will build the social networks (19) of the actors of the economic intelligence in France thanks to the analysis of the book previously quoted. With this intention, we set up the following stages.

3.2 ANALYSE DOCUMENT

3.2.1 Creation of an explored document

To analyse such a mass of information (270 pages) it is essential to have an electronic version of information in order to be able to use all the tools of search and handling of information. The “scanning” of the work is thus essential: after guillotining of the book at the joint, scanning is carried out using an automatic scanner. Initially rectos, then in a second, the backs. The software Professional Acrobat Adobe (www.adobe.com) taking care of the scanning and the reorganization of the recto-backs to constitute only one document pdf. The same software also allows a character recognition, necessary for a later use (with more or less 5% of losses). Once the numerical document creates and recognized by the function of character recognition (OCR), it becomes explored.

3.2.2 Exploration of the raw data

For the analysis, we thus considered the main actors and put them aside in a textual file to be on orthography of the names and first names. One summer considered “main actors” those quoted in the synopsis of the book, because they often appear in the book but also they are described by a detailed card. They are 100 and we kept their preexistent classification (consultants, creators of softwares etc).

For each one of these names, with a simple option scan for key word, all their appearances in the document were identified in order to carry out a reading and analyzes human text concerning these appearances. This heavy work was completed in group (in fact a group of 3 representative a 50 hours total). To optimize search, we proceeded start some by scanning for the “name” and “first name” in entirety of the people. Then by removing the first name. To end up removing the last then the first letter of its name. This technique is justified because of the phase OCR which is not reliable at 100%. The experiment has that this technique improved on average of 20% the results of search on the people.

3.3 CONSTRUCTION OF THE SOCIAL NETWORK - INFOGRAPHIC INTERFACE

Progressively with the reading, information collected is transcribed in a software of chart of social networks. There are many other softwares of representations of social networks (20) but our choice was made on the software “Yed Graph Editor” (<http://www.yworks.com>). This software, used by large companies, remains nevertheless free. It is simple of use and offers a great possibility of internal exploitation. We in particular used the possibility of appointing the connections between two people, or for example to import the photographs of the people directly in the graph, or to mention for each link a URL corresponding to a request in a data base. What brings one more in the construction industry of the networks. A code colors and an explanatory legend were set up for a better organization and an easier reading of the graph.

4 RESULTS AND ANALYSES

After this abstract, the built graph makes it possible to begin the analysis with itself. The graph, forwarded account 593 cells joined together between them by 770 connections. The cells represents obviously the people, but also clubs, foundations, associations, firms to see even schools, Internet sites, books etc. In made, all that is unity of existence. Connections represent the networks enter its unities. It is what organizes, and gives cohesion.

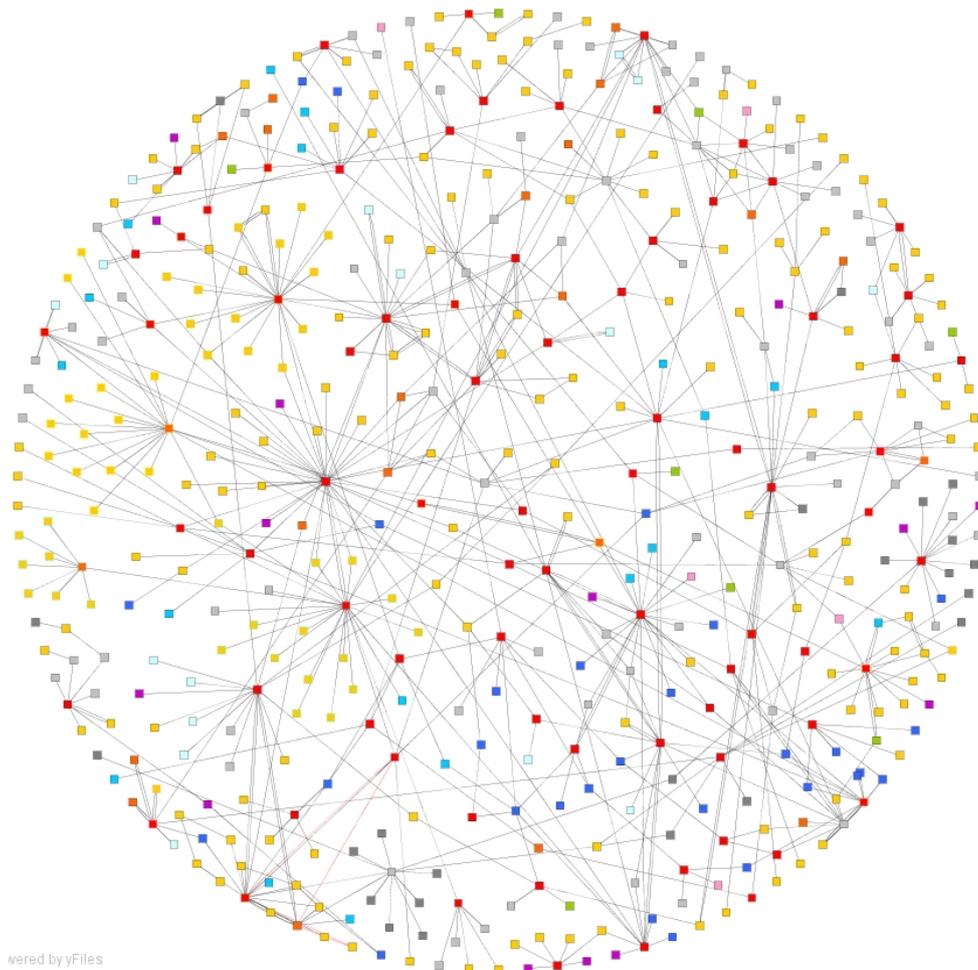


Figure 2 - Overall graph obtained at the beginning of analysis

In this item, the data were voluntarily hidden by concern of respect of Chartres ethics in force in economic intelligence created at the end of 2005 by the admiral Pierre Lacoste. We forward all the same, Figure 2, an example of the representations such as they can appear by carrying out zooms.

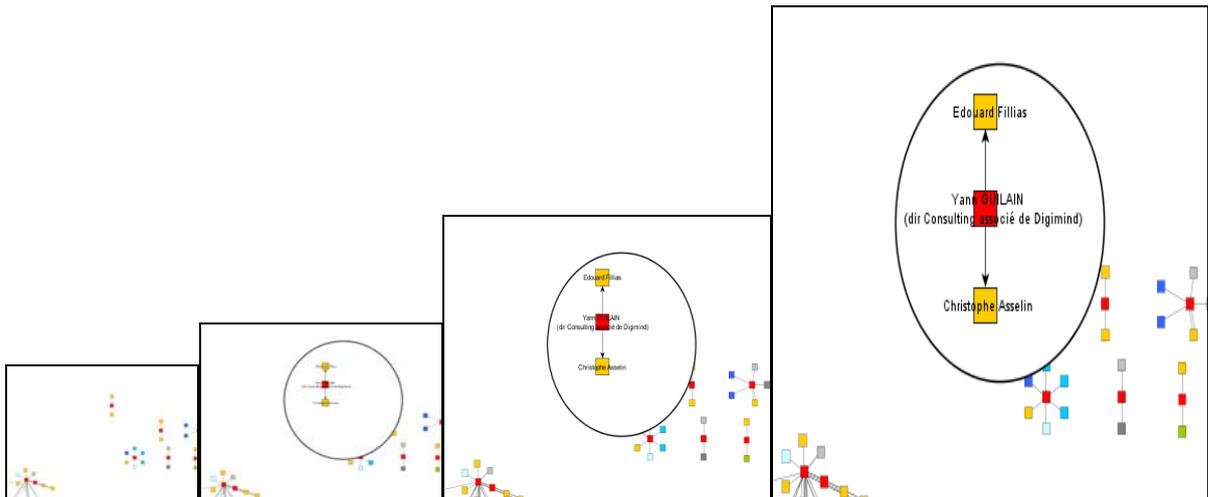


Figure 3 - Example of zoom allowing to work on the names of the people

The software “Yed Graph Editor” allows a multitude of possibilities of organization (Layout) of the graph (provision circular, out of tree, orthogonal, hierarchical etc... as forwarded to). These provisions and calculations result from many work existing on the social networks. They will bring an important value in the organization of its results. Thanks to his operative paragraphs, one will be able to update to groups, under groups, leaders, isolated, as well as an optimization of the organization by multiple measuring instruments. The such measurement of the number of connections, entering and/or outgoing, of each cell (by holding account or not, of the popularity of its connections). Or, presentation of this measurement in the form of hierarchy with two colors. The most popular cell with the least popular cell (non-object choice of the colors).

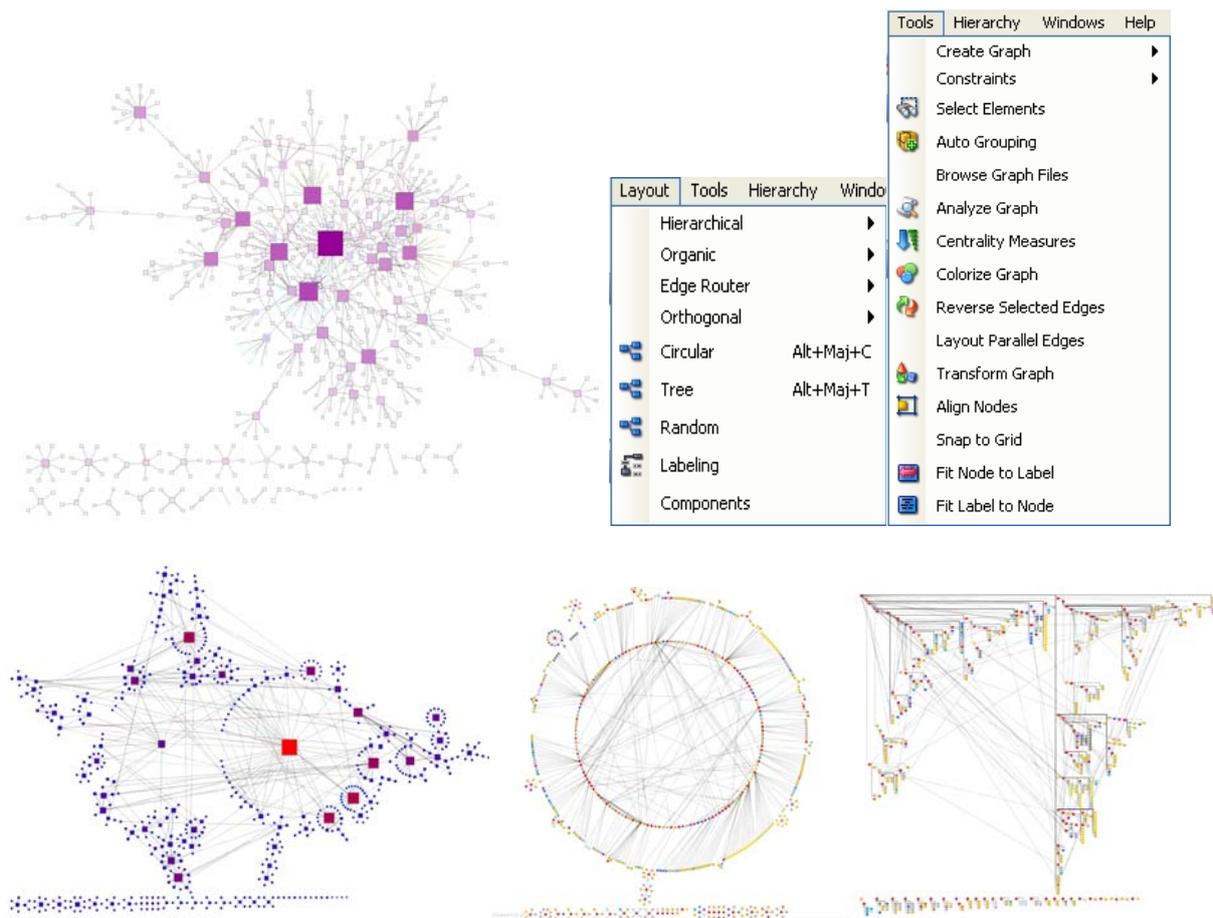


Figure 4 - Possibilities of provision of the network

In the following figures, We succeeded in making emerge the leaders (Figure 5), isolated (Figure 6), the great groups (Figure 7), under groups (Figure 8). These various representations make it possible to deduce a certain state from the network of the economic intelligence in France. This work allowed, inter alia updating that 28 people leave in a way distinct from the batch. A score of small groups are isolated from the remainder of the network. Three or four great groups are more or less visible. And a multitude of under groups result from this.

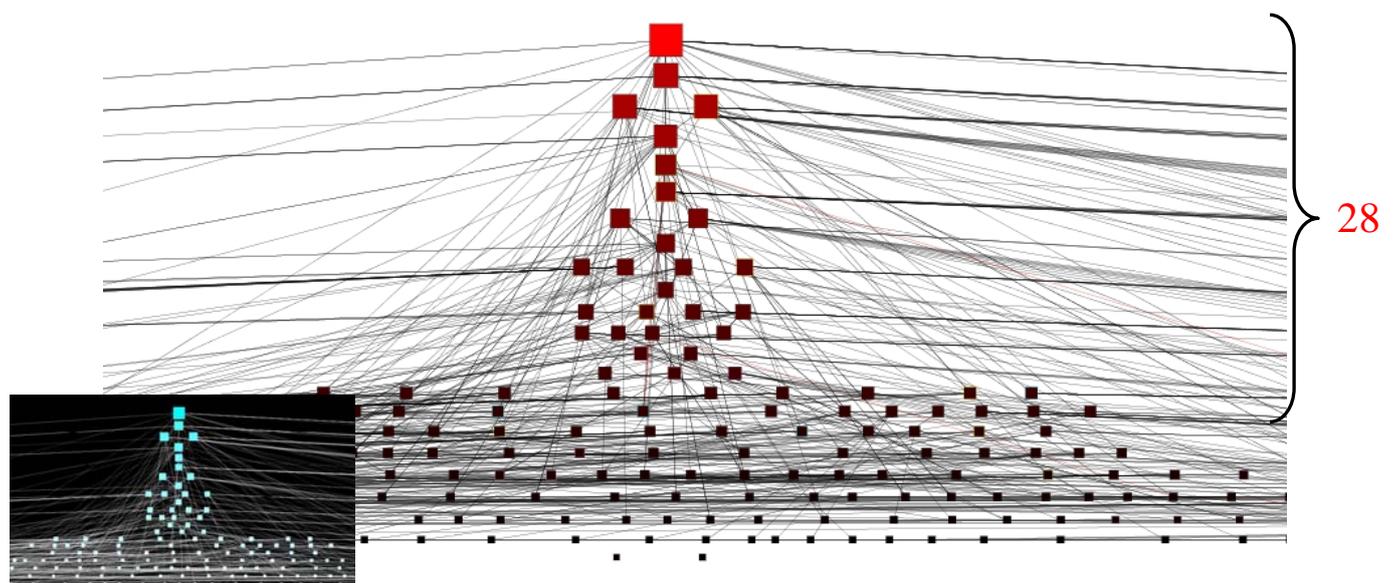
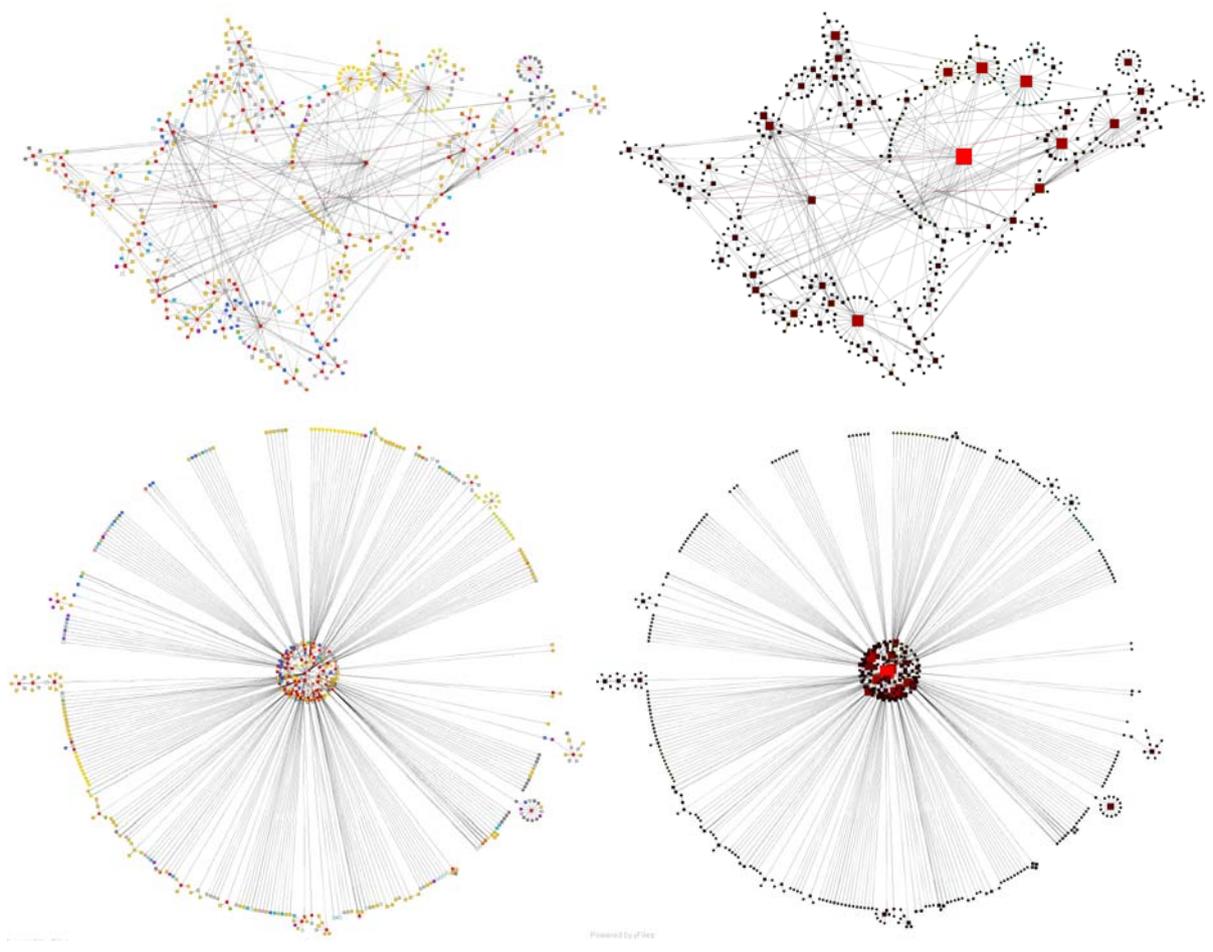


Figure 5 - Description of the leaders

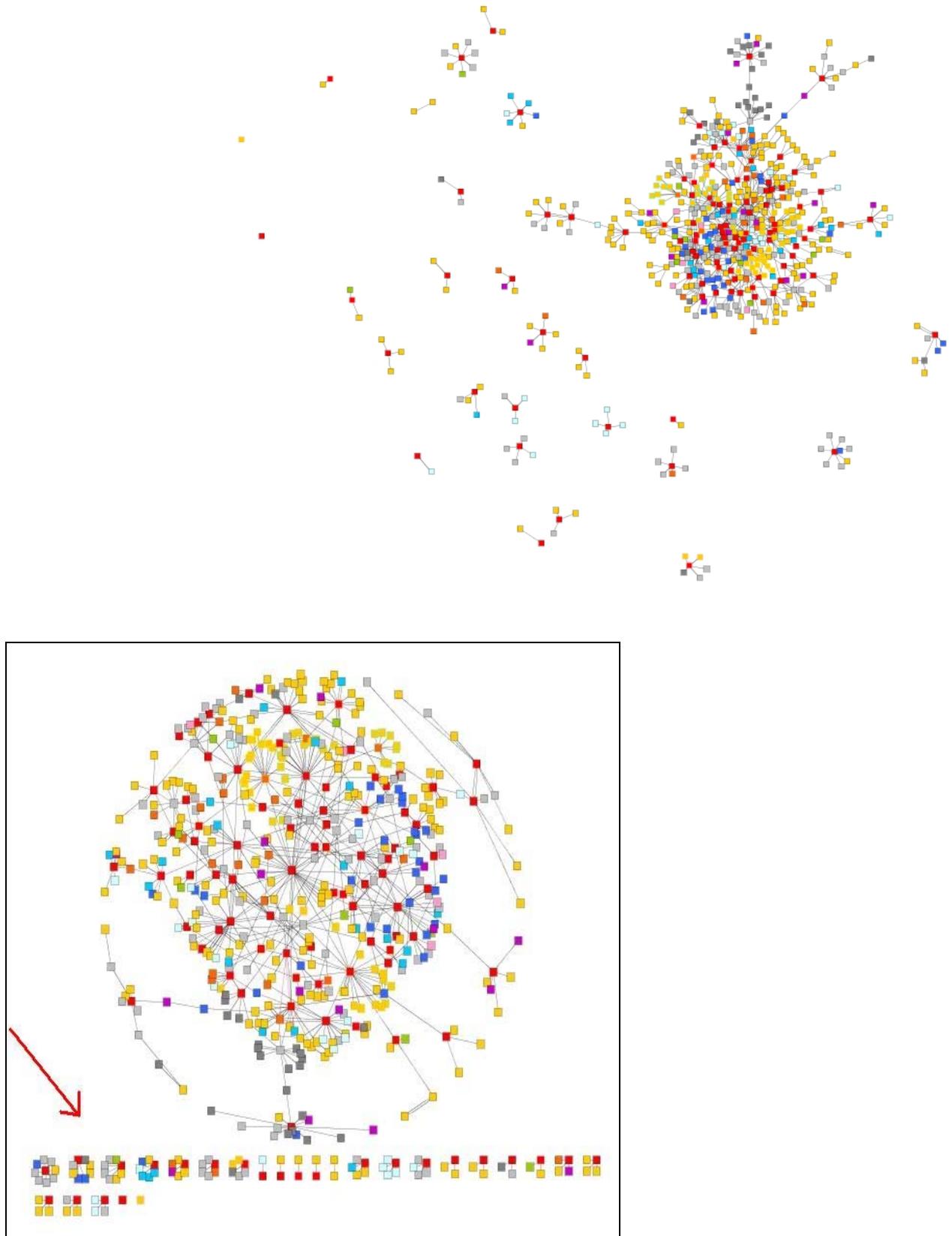


Figure 6 - Description of insulated

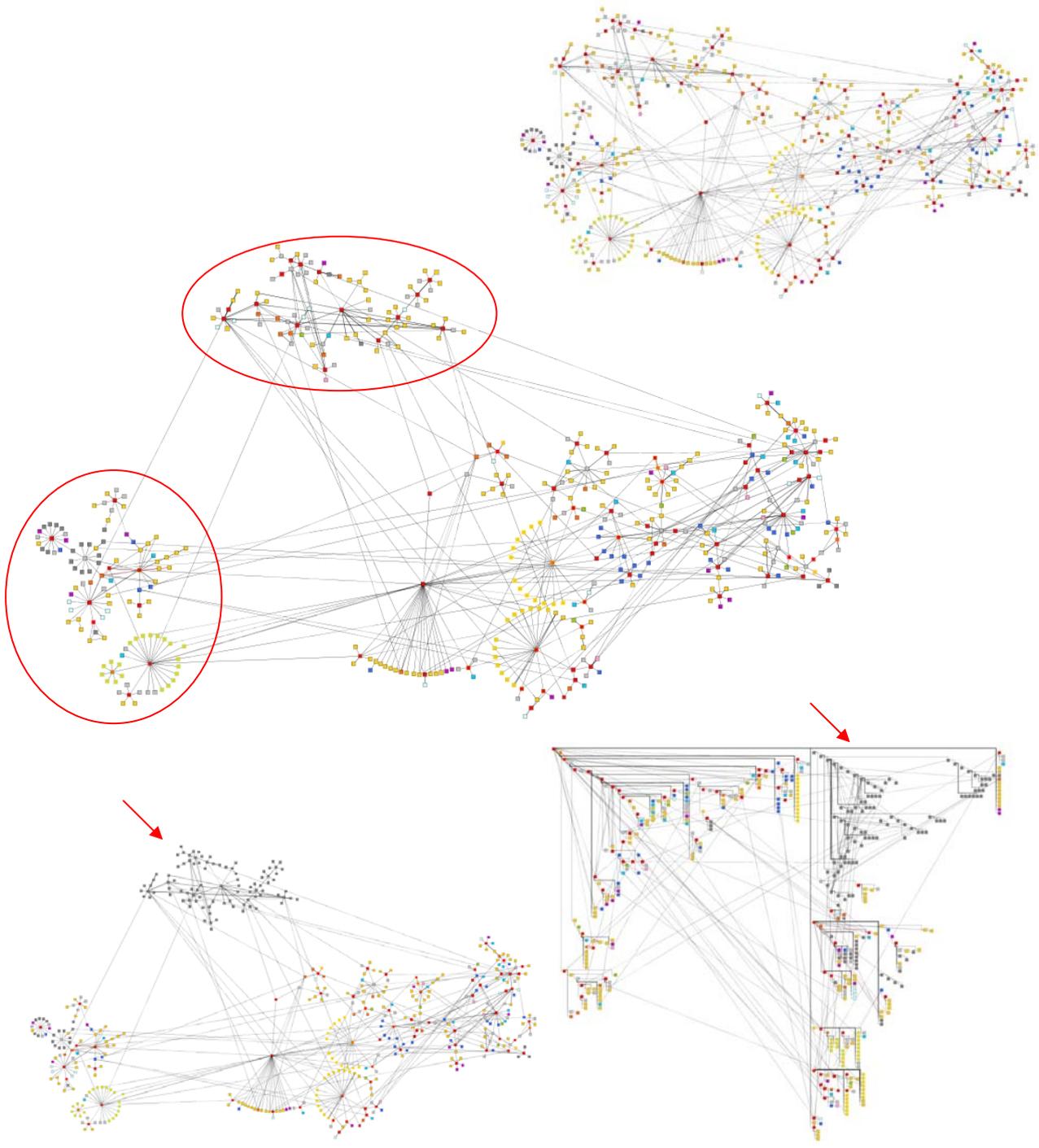


Figure 7 - Description of the great groups

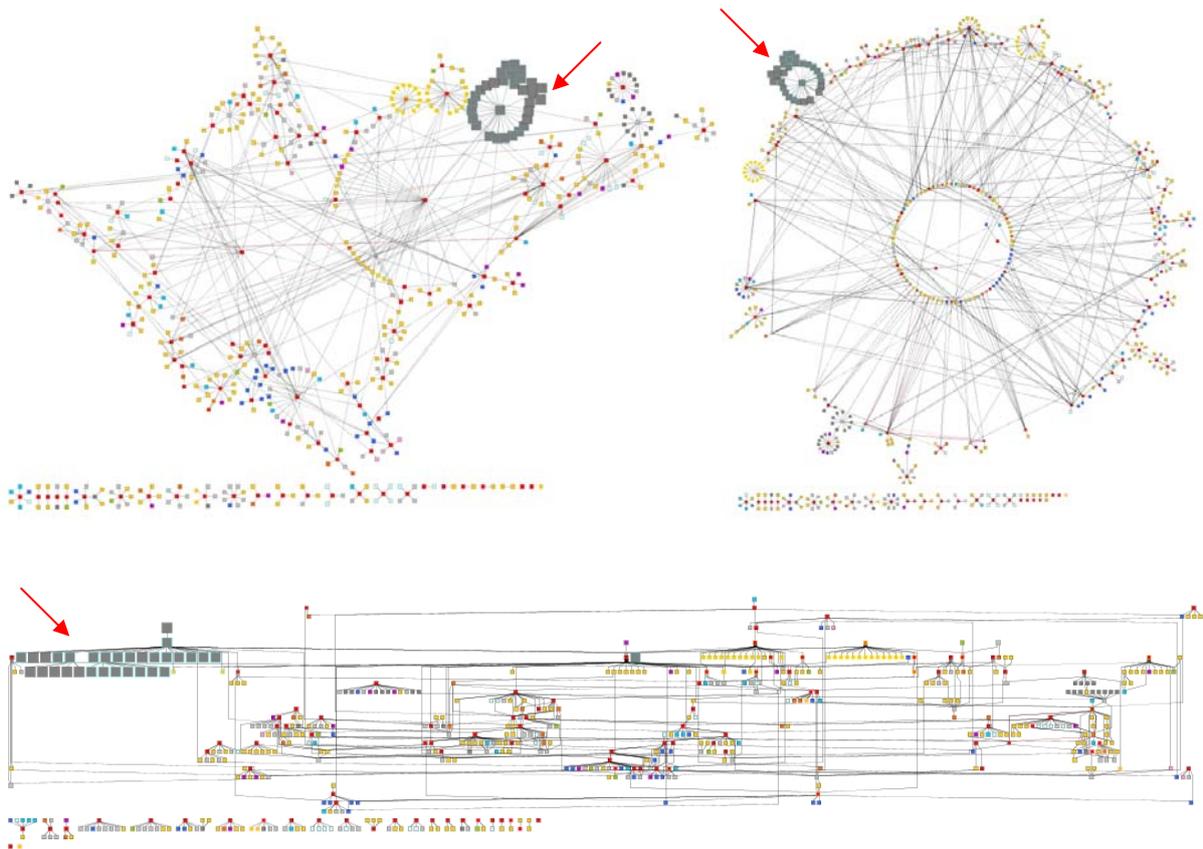


Figure 8 - Description of under groups

5 CONCLUSION AND PROSPECTS

This study updates the information collected in a book recognized and considered in the medium of the economic intelligence in France. It organizes, clarifies and gives coherence to information present in this book. One can then see in this an interesting tool. But the state of the network of the economic intelligence in France is much broader, and does not summarize itself obviously with a simple book which constitutes only one sample of it. Moreover, let us not forget that the document was analyzed by scan for key words thanks to the system of character recognition (OCR). And as considering previously, 5% of the characters are not recognized. To finish, although the OCR and the scan for key words are automatic, the final analysis remains the human reading (21). Thus the interpretation of the writing remains possible source of error. This study offers nevertheless a first sight not of the least interesting on the networks of the economic Intelligence in France. Moreover, to have global visions of structuring of these networks is almost impossible by simple “sequential” reading of the report.

This study is a beautiful example of use of methods of Economic Intelligence to analyze the field of the Economique intelligence. It shows how to use white information large public, in powerful strategic weapon. During our analysis we noted that the chance in little its place in the medium of the economic intelligence. The updated network is rather solid and compact, and associations of people are not made

in a random way. This shows that the economic intelligence is not disorganized that that in France. Leaders are visible and cohesion between the groups is good.

This study offers a fantastic tool there. A graph which opens multiple prospects for future studies. It proves to be useful to unmask appointments, flows of personnel, will be able to give explanations of conflicts, situations passed, or even to imagine future scenarios. Thus all one each one will see opportunities which open with him. Simple enquiring student of training course to the researcher of employment lately arrived on the market of the economic Intelligence, while passing by the framework which seeks to play of its influence. Or the Director of eager group of purchases or possible mergers.

Each one will be able to find in this tool, which it has really need and the value will thus give him that it grants to him. Because the things are worth only what one estimates them (William Shakespeare).

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