



HAL
open science

Composite picture to help to study and to define a Regional Economic Intelligence System

Stéphane Gorla, Audrey Knauf

► **To cite this version:**

Stéphane Gorla, Audrey Knauf. Composite picture to help to study and to define a Regional Economic Intelligence System. Second International Annual Conference of Territorial Intelligence, CAENTI, Huelva University, Oct 2007, Huelva, Spain. pp.148-162. inria-00177504

HAL Id: inria-00177504

<https://inria.hal.science/inria-00177504>

Submitted on 3 Jun 2008

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Composite picture to help to study and to define a Regional Economic Intelligence System

Stéphane GORIA, Audrey KNAUF

goria@loria.fr, knauf@loria.fr

Equipe SITE LORIA – Nancy 2

Laboratoire LORIA - Campus Scientifique

BP 239 – F 54506 Vandoeuvre-lès-Nancy, France

Abstract:

Economic Intelligence is a French conception of organisational sustenance by an improvement of information management. At the end of 1990, this consideration emerged from the concepts of Competitive Intelligence, Business Intelligence and Knowledge Management, notably, being supported by French government. One of these applications is the Regional Economic Intelligence initiatives. The most prominent of these projects is the cluster of competitiveness call. But, it is not the only proposition, many other enterprise clusters initiatives or the Regional Economic Intelligence Devices (REID). Then, in front of this panel of different Territorial Economic Intelligence initiatives, we decided to propose a tool to help any decision-maker develop a Territorial Economic Intelligence Device. This might help shape the overview of some particular REID and other similar devices and it is associated with a tool to define a composite picture of the project of REID. These composite pictures are realized on the basis of information visualization technique of Chernoff faces. In this sense we have developed a methodology to identify the characteristics of a typical REID in terms of Economic Intelligence actions and other actions connected. We have associated these characteristics with quantification by parameters and these parameters were linked with a particular feature of Chernoff face.

1. INTRODUCTION

Nowadays, we are in the context of globalization. Also, many firms try to be more competitive along with time and attach more importance to activities related to information. Economic Intelligence (with the French meaning), which is a conception of Competitive Intelligence in addition to other functions such as Enterprise Knowledge Protection, Benchmarking, Lobbying, etc., is a very good example of this type of firm orientation to information. Thus, consequently of the weak resources of small and medium enterprises (SME) compared with big companies, Territorial Intelligence Devices were set up to improve their competitiveness. From 2000, French government promotes this type of information sustainment to some competitiveness. In fact, different projects sharing and regrouping resources to access and use information were born from it. This volition realizes some ideal conditions for development of territorial Economic Intelligence device as cluster policies or French cluster of competitiveness. In these cases, territory is

characterised like the geographical support of Porter definition of cluster, ie. "*a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities*". (Porter, 1980).

In this paper, we focus on a kind of Territorial Intelligence Devices that we name REID (Regional Economic Intelligence Device). One of particularities of this kind of devices is to be associated with and sustained by a region which is a territorial subdivision of a France with median size of around 26000 km². During our study, we have observed some of these specific devices that we name REID. We have gone into detail on nine of them and, we have considered different ways to match or differentiate them in order to deduce some similitude and variations which exist in their choice of EI applications. In relation with this work, we present in this paper our understanding of REID and present a tool to use information called Chernoff faces. We have adopted this tool because it is very practical to deliver some visual information and facilitates distinctions and similitude identification between many elements. We used it, because its representations are in shape of faces and with this metaphor we can propose, for any decision-maker aiming to develop an REID, a tool to realize a composite picture of it and compare it with other visage of REID that we have referenced in our study. Then we propose in this paper, our methodology that we have used to specify a REID in term of its main function of EI, KM and Innovation. We present the link that we realize between REID and Chernoff faces through a set of parameters and Chernoff face elements. At last, we develop our method to realize a composite picture of an idea of REID and how we use it to recognize some REID which exist and are potentially interesting to realize a benchmark in relation with the initial idea of REID.

2. CONTEXT OF WORK AND PROBLEMATIC

Our problematic is linked to many effort of French institutions (government, Regions or Towns for example) to help with EI companies to be more competitive. In these efforts, information and its use by companies is the most important element. Although, some ideas of Territorial Intelligence appeared. In the particular case of French regions, these ideas and their applications have given birth, notably, to Regional Economic Intelligence Device (REID).

2.1. The Regional Economic Intelligence Device

Firstly seen as a national device, EI in its second step becomes a regional operational device. Indeed, the prosperity of companies does not imply only the big groups but also and especially that of the small scale enterprise (SME) which form the greatest part of the economic fabric of France. EI thus has as an ambition and vocation first to support the local development: which justify definitively the relevance of territorial intelligence. These devices have several objectives: to produce and share knowledge between the socioeconomic actors of the territory, to protect this knowledge; to promote the emergence of networks which are not limited to only private decision-makers but include both private and public decision-makers. The global objective is to improve comprehension between these two entities, that they grow rich by the experiment of each other, work together and share their

competences, in order to support the potentials of attractiveness and competitiveness of their region. Thus these devices tend to promote a new model of regional economic development, whose end goal is to make it possible for the region to obtain means of anticipation which put the local decision makers in the capacity to develop new creative activities of employment and richness. With these indications we can identify some big categories of REID. First we have the real REID, define with these specific term by the French government. We name these devices simply REID. We have too some others French government or regional initiatives which we can speak of REID. In these cases, we have the clusters of competitiveness initiated by French government in 2004. Another kind of REID that we have considered are the regional sectorial cluster initiatives. At last we have included too in our consideration of REID, some other regional Intelligence Territorial initiatives dedicated to local enterprises. The real regional devices, placed under the responsibility of the region prefects, are directed towards two shutters:

1. Competitiveness: by anticipating and accompanying economic changes.
2. Economic security: it concerns the management of the scientific and technological heritage and the identification and the treatment of the threats on the companies.

The steps are as follows:

- To define a strategic perimeter at the regional level, in other words: establish or bring up to date a mapping of the significant companies.
- To train and sensitize towards economic intelligence: to train on the stakes of competitiveness, on knowledge sharing, on the protection of its patrimony, by orienting the decision makers towards the qualified structures in each quoted field.
- To set up networks between government and company and between firms thus allowing better circulation of useful information for the economic actors.

For example

The Lorraine device DECiLOR (Lorraine) aims at sensitizing the economic development actors of the territory towards EI, to train them on the methods and tools of watch and to provide them personalized information. It also proposes the setting up of network of the adherent companies by the means of sectors managed and animated by some personnel named: infomediaries. The actors of the device are the Region, the CRITT (Regional Center of Innovation and Technology transfer), the CEIS (European Company of Strategic Intelligence), the organizations consular, SME of local fabric (distributed under seven sectors) and the infomediaries (one to two per sector). Second, about the **cluster of competitiveness** or “*pôles de compétitivité*” in French, we can say that on the contrary of others company clusters, the cluster of competitiveness respond to a government call for project and must include a laboratory and “Grandes Ecoles” or an university in its structure. The cluster of competitiveness are by nature the devices for networking competences and knowledge whose objective is, amongst other things, to bring together the research of companies to make emerge products and processes which could be developed and marketed and thus lead to an international influence. This type of structuring

makes it possible for small companies “to bore on the market” and also allows research tasks to be concretized and applied directly to the industrial sector. On Sept. 14, 2004, the Inter-ministerial Committee for planning and development of the territory (CIADT) characterized a cluster of competitiveness as a combination, within the same territory of:

- Three components (companies, training centers, research units) engaged in a partnership approach designed to find synergies of joint innovative projects with a mass critic necessary for international visibility;
- Three critical factors (partnership, R & D projects, international visibility). Also, the principal objectives of the cluster of competitiveness “*are to reinforce the competitiveness of the national territory, to make the economic development dynamic, to create or maintain industrial jobs and to attract investments and competences at the European and world level*” (Leroy, 2005).

Two major types of **cluster of competitiveness** have been identified:

1. Cluster of competitiveness predominantly *technologic* (importance of research activities and the strength of interactions between research centers and companies working on the development of a technological field);
2. Cluster of competitiveness predominantly *industrial* (concentration of companies with R & D activities more applied and closer to the immediate market).

The four criteria posed include underlining:

1. the repercussions in term of *creation of value*, economic activity or job (this creation of value is appreciated in a general way and can concern only members of the cluster of competitiveness: locally concerning a whole sector, the impact is considered to be sufficient);
2. the innovative *technological contents*;
3. the development of new products or services that can be put on the medium-term market (possible marketing: it is the industrial research, and not the fundamental research, which is financed; it must lead to sales, patents, etc);
4. the coherence of projects with the strategy of the cluster of competitiveness and the companies concerned.

The contribution of economic intelligence to the cluster of competitiveness

The clusters of competitiveness are the resultant of an industrial and research coupling on a territorial scale. This new articulation clarifies the contribution of economic intelligence in region. Let us recall that EI in region is perceived as a true policy of territorial development making it possible to analyze the market of a territory and to detect the threats and opportunities which result from this. Besides, it is the elaboration of the strategy of networks of actors with the objective of creating, directing and motivating the bonds woven between actors with the service of a joint project. Thus the ambition of the cluster of competitiveness is clearly strategic insofar as they promote a regional EI. The certification of the 71 projects distributed in all the

regions can be perceived as a political will of France to strengthen each territory from networks of actors mobilized around common objectives of competitiveness and attractiveness. Indeed, the clusters of competitiveness are centered on the principal concept of networks: network between firms (SME, great group), networks between the private sector (companies) and public (local communities, research) and networks between the companies, the research centers and the training organizations. The objective being the collaboration of all the partners around technological cooperation projects for a better competitiveness.

For example, the cluster of competitiveness “**SYSTEM@TIC**” aims to consolidate the leadership of the major integrators to maintain their R & D activities in the Paris region, to contribute to the emergence of new companies and the development of globally oriented technological SMEs and strengthen the attractiveness of France in the field of digital technology. These actors are Universities, Colleges, SMEs, and Corporations. The cluster of competitiveness “**Véhicule du Futur**” seeks to increase the readability of international territory, to make its contribution, to propose and implement solutions at the European level of service vehicles and mobility of the future. It aims to mesh the skills of the territory in the transportation and automobile industries. These actors are Universities, Colleges, SMEs, and Corporations. Third, in the case of the *regional cluster initiatives*, we have seen above that we report to Porter definition of cluster. But, in our specific work, we have considered a cluster like a REID, if its geographical localization is close to the regional land area on which majority of its company components are in placed. Another important point for them is that these clusters are to be associated with some administrative element of regional government. The cluster can be defined as a network gathering the companies and the actors of excellence in the same pole of activity, wishing to reinforce the competitiveness of the companies directed towards this market. The objective is to answer the challenges met by these companies by the implementation of concrete actions. The cluster put on the direct participation of the actors to define the strategy of the actions (Loubet, 2006). Porter (Porter, 1980) defines it as the geographical concentration of industries which obtain an advantage by their co-localization. It can be of two types: vertical: the companies are dependent through the relations purchaser salesman or horizontal: the companies are bound by a common market, a finality of common production or the joint use of technologies or competences or by common natural resources. The interest first of the cluster is to increase the sales turnover and the economic effectiveness of its company and then to detect in its environment the factors supporting its growth. The cluster is an interesting strategy when a whole of companies is more effective than an activity consolidated in only one company.

For illustration, **Aériades** was created to federate competences and to be used as interface between the companies and the large clients of aviation, space and military defense, ...The structure gathers 28 Lorraine SME in various fields as the mechanics of precision, electronics, the plastics, the systems of measurement..., all likely to work in the sector of the civil aeronautics and military. Its originality is to associate ten scientific organizations, such as the Institute of welding or the European Committee of scientific intelligence. Together, all hope to promote the vocation and the aerospace potential of Lorraine, often unrecognized by Lorraine themselves. Fourthly, to these three case of REID, we have added some regional Intelligence Territorial initiatives which are not really a clusters but have been initiated by an

administrative regional element with some principal goals to stimulate EI actions in the local companies. An example of this last kind of REID is the Regional Information System (SIR in French) of the IAAT IAAT (Institut Atlantique de l'Aménagement de Territoire)¹⁵ of Poitou- Charentes region. These device has for main goal to provide data informing for politicians and managers development decisions.

In general manner, about main objectives of a REID whatsoever is real shape, we begin our work with like the three fundamental goals of real REID. Then, if the steps 1 and 3 above were necessarily considered at the moment of conception of all of REID project, the second have implicated some specific actions linked to function of the REID themselves. In this manner with our large consideration of REID, we would be asking the questions of repartition and categorization of action than they can be qualified to REID actions, ie. In direct relation with local companies and EI conception.

2.2. The REID first study

We have seen above that in France there are many kinds of devices than we classify under the terms of REID. Notably, in the case of a practical thesis in EI, we have study a panel of potential systems which it is possible to understand as REID. One of first question posed by this thesis is about the comprehension of what is REID and the role of its EI actors. Thus, we have already study question of usability of just one principal actor of EI in this device who is often times at the beginning of REID project the watcher. We have compared this specific actor with another EI actor in charged of coordination and animation of REID actors (personals and companies). We have made some suggestions in this direction, but in particular the proposal and presentation after many observations of new roles and expected competences of EI necessarily interesting for the development of REID. The principal goal of this investigation of others roles of EI actors in REID is just to reduce certain faults located in the devices and to make the latter more powerful. After this first work, we can say there are several kind of REID and their EI actions by the point of view of actors are varied. But, another observation that we can make now is: The prime objective has been achieved in great majority, the companies were sensitized and one speaks more and more about EI. The effort now is to sustain the step. While making available the EI devices to all the companies, by including all the partners of the State in the chain of information and especially continuously to coordinate the efforts in order to reinforce the private / public bond necessary to the correct operation of the economic intelligence devices. We have noted too through our field experimentation that many gaps remain, on the account of the novelty of this step, therefore the lack of experience, the lack also of budget, available competences, methods, etc. Among our observations, we noticed that the profiles of the people mobilized within the devices are generally that of nonspecialists in economic watch: general practitioner in local development and regional planning statistician or professional of information and documentation. More specialized profiles are however also represented: economist, specialist in fields or economic sectors, but still seldom expert in watch or economic intelligence. Then we have posed the question about the actions undertaken by the devices set up currently in France, were they accomplished and what are the shape of solution proposed.

3. AN HELP TO DEFINE HIS REID

This work takes place in large consideration to decision-making help from the point of view of EI process. In respect of this contribution to decision-making help, the EI process propose to improve the management of information and its actors to affect in positive manner the competitiveness or live of the organization, in our case: the REID. For this we use one survey of REID, a protocol of identification of good indicators to qualify a REID when permit us after with the application of information visualization technique of Chernoff faces to represent in graphics all of REID analyzed and after this reference to propose a very simple method to consider a future REID with regard to our panel of REID.

3.1. Problematic

In fact, like we have just said, we try to propose a solution to help decision-maker when they are in the step of definition of an REID project. In this sense, on the basis of a survey of some charismatic French REID identified, we have envisaged to present our result as information chart completed by others traditional visual tool for information presentation like radars, pies in dynamic representation of patterns of distinction or distinctiveness linked to one variable into an important group of variables. And in our case, first results of investigation to REID have given already a number of seven exploitable parameters, but we wanted to increase this number and we had the ambition to improve the number of REID referenced in our panel. Then, with six REID and seven variables our chart and graphics took many places. To designate some information we have use at this time some colour to associate one value to one colour. Thus, because we want perform our REID panel information presentation, then we consider possibilities offered by Chernoff Faces technique. An interesting point of this tool is to present information with a face metaphor which can easily be transformed into a tool to create some composite pictures. This is the solution that we have chosen.

3.2. Methodology employed

For each decision-maker who hopes to develop its REID, we propose a set of information about REID studied. In fact we propose a method to recognize which REID already referenced look like to decision-maker system ambitioned. For this we use in addition to our REID study, the information visualization technique of Chernoff faces. This technique is especially effective to compare different objects represented by a high but constant number of variables. Our method allow to realize with help of Chernoff faces technique, a composite picture of any REID and after what to look for among REID studied, some of them which are the most interesting for REID envisaged with the composite picture. Since, in our research works, we have observed some developed French REID, we propose from this evaluation, a tool to benchmark other REID to identify and understand much information to best adapt their REID project to their needs. However, to understand our method, it is better: to know what we translate by terms EI, KM or Innovation and Creativity; to have some basis about Chernoff faces technique; to at last present how to realize a composite picture of REID like an help to decision-making.

3.2.1. Presentation of EI, KM and Innovation in our choice of study

Like we have presented in the beginning of this paper, we characterized the REID by their action of EI. But, if we don't say for this expression which is associated with a lot of definition from its conception in France in 1990, our topic would be difficult to understand. We consider Economic Intelligence like a sum of functions or actions to manage information of an organization with the goal to help in decision-making process. In general, EI include functions of: Watch, Protection and Influence (Clerc, 1997). In the case of territorial applications of EI, there is three actions developed regularly by the REID which complete their first three functions: (Collaboration) Networking, Sensitization and Advice. To have a large vision of EI, we consider Watch function like focus on action information acquisition-gathering, identification organization environment modification (technological, competitive, sectorial, judicial, ...), analysing and shaping the information relevant in function each decision-maker. In general actions of watch are: active information retrieval, environment scanning, patent and web monitoring. As regards the Protection function, we understand by this term all aspect to improve the informational protection of organization and its members include: Classification and labelling information; Handling protocols to specify use, distribution, storage, security expectations; return, and destruction/disposal methodology, sensibilization to escape information, Audit/compliance processes and disaster recovery; informational risk management (ASIS, 2007). For Influence, we understand by this term all communication and human networking technics intend to affect on decision-making of some targeted people. In this large sense, disinformation and promotion actions can be including in this function. For the three others functions, we understand by Networking all strategies to help to collaborate between people or companies. Sensitization represents a set of activities dedicated to motivate and persuade companies to EI and KM opportunities for them. In relation with theses activities we include too training actions to teach some complementary people on the device tools and methodologies of EI, KM or Innovation sustainment.

At last, because in many REID, we have observed that advice activity of EI, KM or Innovation is often proposed or that is solicited by many companies for device, we added this function to our set of REID main functions. In relation with the first part of the study of REID, we have identified two others usual actions included by Economic Intelligence expression or even undertake by some REID in relation with EI actions. These two categories of actions are: Knowledge Management and Innovation. We understand the Knowledge Management (KM) all action of knowledge capitalization help and knowledge and competences mapping that we link to the first objective of REID. For the others usual functions of KM, ie. knowledge acquisition, knowledge share and collaboration help and knowledge creation; we don't include them in our practical definition of KM, because: knowledge acquisition can be interpreted like a kind of step of watch process, knowledge share and collaboration is included in our conception into the generic term of animation and networking, at last knowledge creation is very linked to innovation and creativity functions. Also, the other category added in our study is Innovation. In this term, we understand action of support to innovation or technology transfer help and creativity help too.

For this, from ours REID interviews, we have translated some characteristics of six of REID into effective elements to differentiate between them. After observation and survey, we propose a very simple tool to realize a composite picture of ideal device for any REID associated project. Firstly, we explain what we imply by REID and then

develop a REID consideration from 8 actions and goals which are generally chosen to do so. These 8 actions are:

1. Watch
2. Protection and Security
3. Influence (strategic networking, lobbying, promotion, etc.) and Communication
4. Networking for cooperation and knowledge sharing
5. Knowledge Management
6. Training and Sensitization
7. Innovation and Creativity help
8. Advice

In addition, two actions/goals contain some subcategories. Action 5 is linked with three dimensions which are: Capitalization, Mapping and Knowledge Creation for Innovation. Generally, Knowledge Management also include Knowledge Share and Knowledge Acquisition dimensions, but we considered that these dimensions are always defined in REID actions/goals by 1 and 4 actions (watch and networking). Action 6 of sensitization and training is linked with four dimensions of Economic Intelligence which are the first five elements of the 8 actions and goals of REID (ie. Watch, Protection, Influence Networking and Knowledge Management) plus the action 7 (Innovation and Creativity help). To each action is associated a parameter which is use to quantify the degree of action realized by the REID. In addition, another parameter exist to represent the number of manpower in charged of EI, KM, Innovation or creativity help. We have developed a methodology in three steps to define our composite picture of REID. First, we survey a panel of REID in project or in course of realization to define what are the actions and goals of this kind of Economic Intelligence device. These REID are choosen for their variety of EI actions which they propose. By these actions, we have classified them with a measure scale of three degrees: [not realized], [in project, in course of realization or minor action], [major action].

Second, we interviewed a REID staff in order to obtain a representation of the device and to collect information to realize a data chart. These collect of information is relative to the seven actions of typical REID and the four EI dimensions for Training. These kinds of data collected are scaled with three levels of interest for each actions or EI dimension to training: none, in project, set up. Thirdly, we translated ours data collected in picture representation. In this goal we used the technique of Chernoff faces. This tool allows identification very easily and relevant value associated to EI actions of a REID.

3.2.2. Chernoff faces technique of information visualization

This is a technique of multidimensional data visualization introduced by Herman Chernoff in 1973 (Chernoff, 1973). With this technique, we can associate one face to one REID. A set of results of questions linked to actions of future REID give us a different face in function of choices. In fact, facial features represent values of data and, it is very easy for one reader to say these faces are similar and these are very

different. For one think group which want to develop a territorial Economic Intelligence device, it is possible with this technique and our first data collected from REID studied to define a composite picture with our method of REID representation with Chernoff face and, after identifications which REID must be benchmark to realize their project. The only difference between REID already shaped in composite picture and a vision for a group of its ideal REID is in the consideration of data scale. In this last case, we remove consideration levels of REID referenced: none, in project and set up; respectively by: zero, low and high levels. For example, if a face is a face of individual with no hat, this face is different from a face with little or big hat. And, with the technique of Chernoff faces in our work, a face with a hat is attributed for a REID with a advice action for Economic, Knowledge Management or Innovation (cf. figure 1).

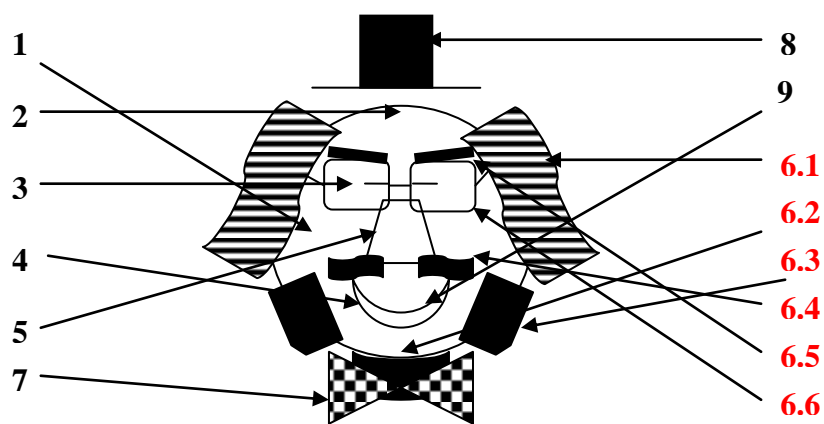


Figure 1. Relation between variables / parameters of REID and parts Chernoff faces used.

In this manner, the picture 1 presents the nine parameters employed into the survey and the visual element of Chernoff face with it is linked. Thus, parameter 1 is expressed by the roundness of the face. It seems than one Watch action is developed by REID. The more face is round, the more Watch action is important. Parameter 2 is linked to Protection and Security action and is represented on Chernoff faces by the thickness of hair on the crown. Influence and Communication actions are the parameter 3 and they are shaped by the degree of eye openness. The shape of the mouth is the visual element to show the implication of REID to networking. It is the 4 parameter for which a smiling face seems an important support to networking action and an unhappy face seems no action of this type. Width of nose (parameter 5) presents the importance of KM actions proposed by REID. No nose seems no KM action. Presence and size of glasses help to represent the parameter 7 which is linked to Innovation and Creativity Help developed by the REID to its adherents. Parameter 8 shows the Advice activities proposed by REID in EI, KM or Innovation domain. Another parameter, the 9, is devoted to express the number of manpower in EI, KM and Innovation action of the REID.

Finally, the parameters: 6.1, 6.2, ..., 6.6 present respectively the actions of Training and Sensitization dedicated to: Watch (presence and size of a collar), Informational security (presence and width of side hairs), Networking (presence and size of side

collar), KM (presence and width of moustache), Influence (presence and width of eyebrows) and Innovation-creativity (presence and size of a bow tie).

In addition, with the nice aspect of this type of presentation of information with Chernoff faces, we can evaluate easily in one eye shot some REID and their similitude and differences. Compared to classical technique of radar plot representation, use of Chernoff faces add some redundant elements to help reader to recognize some characters and is very easy to link one kind of data to one face characteristic. One of the *“advantage of the technique lies in displaying single values and an overview at the same times”* (Ohmann et al, 2006). Another is that *“symbols also form an important mnemonic device and, to varying degrees, are interpretable without special training or expertise”* (Brown, 1999). Then, openness of the two eyes, for example, seems the same information: REID proposes some approaches or supports for Communication and Influence actions. Thus, if we compare with Chernoff faces that we have generated from information collected from System@tic and Vehicule du future competitiveness cluster of competitiveness, we can say very quickly their similitude and differences. For example, the cluster of competitiveness Sytem@tic proposes a training and sensitization action to EI. For the cluster of competitiveness Véhicule du future, it is not the case. Presence of side hairs for one and its absence for the other permit to us to have an easy indication to differentiate these two clusters of competitiveness: existence of action to watch training and sensitization. The same thing for the roundness and openness of eye of these two REID faces which permit us to say these two clusters of competitiveness propose two actions of watch and Influence to their adherents.

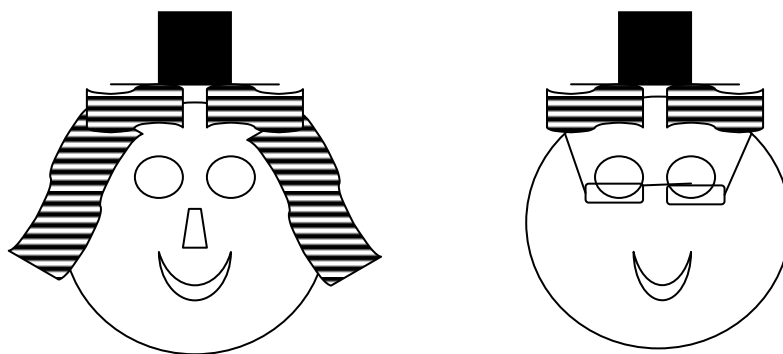


Figure 2. Comparing of cluster of competitiveness «System@tic» (at right) and «Véhicule du futur» (at left) from Chernoff faces.

3.2.3. Realization of a composite picture as decision help

It is possible for us with this technique and with our survey of REID to propose help to decision-making for any decision-maker who hope develop his Territorial Intelligence device with a REID model. For this, we propose to the decision-maker to define his priorities in terms of REID actions. He must choose the action which he want to develop in first and the manpower envisaged. At first, we realize a Chernoff face of his REID project and we show him after the REID Chernoff faces of our referential.

From similitude which are identified between his project and the 9 REID referenced, he can decide to inform himself and benchmark this or the other REID.

To help him to imagine his REID, we accord him by default 11 points (ie. the low average of REID analyzed) to allocate with this reckoner: a major action worth 3 points and the minor actions 1 point. Major actions are identified like actions which necessities at the least one personne at half time and are proposed during all the year. The number of points to allocate can be reduced or improved in function of manpower in the rate of beneficiaries of this action for the REID. With this basis, a first composite picture of the REID imagined is realized. After, the decision-maker compares the composite picture of his REID with the nine others in our study. In function of similitude and differences recognized on the others composite pictures and some other complementary information about REID referenced which we have, the decision-maker can if he want redefine or not his REID project. For example, if we take a think group in charged to define a future REID, we can have like beginning of project imagined by these decision-makers, the elaboration of a lambda REID responding to these criteria:

- Major action(s):
 - **Watch** (3 points);
 - **Training and sensibilization** to informational security aspects watch and Influence (3X3 points).
- Minor action(s):
 - **Advice** (1 point);
 - **KM** (1 point).
- Manpower at full time: **2**

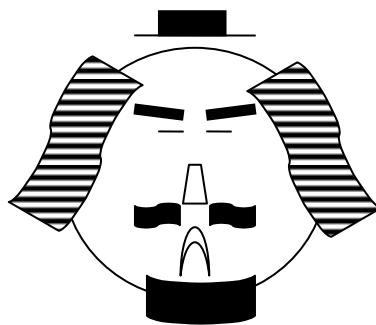


Figure 3. Example of composite picture of one REID Lambda.

We found in the figure 3, the composite picture of lambda REID. Then, in this case, we have in our REID panel, two composite pictures or REID which are looking like it. In this case, we advice the decision-maker of lambda REID to analyse and benchmark these two REID. These two composites picture are about REID DECiLOR and Lorrain Wood Cluster (CBL in French) which are represented with Chernoff faces of the figure 4:

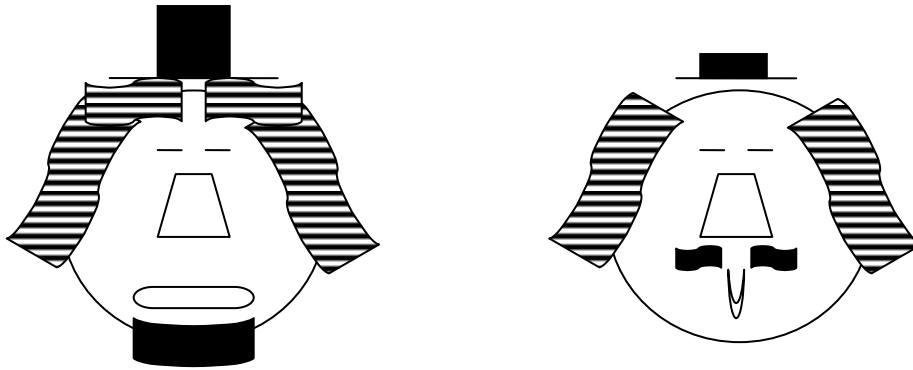


Figure 4. Chernoff faces of REID: DECiLOR (at the right) and CBL (at the left).

lambda REID projected, our methodology permit us to easily identify one or more REID of reference issue of 9 of our survey.

4. CONCLUSION AND FUTURE WORK

REID are devices dedicated to application of EI in territory which are or are similar to a French Region. Their customer are more often the SME existing on the territory. Their goals are to perform with an improvement of information management and furniture the competitiveness of these companies. Nowadays, from the end of 1990, some kinds of variation of these REID were set up. We have presented our vision of REID and the little taxonomy of these devices. We have seen how we have identified the main functions of a REID. We have presented too the Chernoff method of information visualization. With this technical presentation, we have addressed our choice of Chernoff faces to create some composite picture. And at the last, we have just seen how we think using these composite pictures to propose a help to decision-making. This is in relation with information sought about REID benchmark to collect experiences to develop a future REID. With this above example, we hope persuaded you about possibilities offered by our method and extend our panel of French REID and possibly with others REID in Europe or in others countries¹⁶. Then, it is necessary for us to test validity of our work and pick up some information to perform our method. In addition, we hope to dispose a face book on REID in Europe classified by categories, functions and territories to identify some tendencies in the development and application of these devices. These evolutions of ours works will be developed in the year 2008.

BIBLIOGRAPHIE

ASIS International, Informational Asset Protection Guideline, <http://www.asisonline.org/guidelines/guidelinesinfoassetsfinal.pdf>, 2007.

Brown, P., The First Modern East Asians? another Look at Upper Cave 101, Liujiang, and Minatogawa, K., Interdisciplinary Perspectives on the Origins of the Japanese, International Research Center for Japanese Studies, Omoto (ed.) Kyoto, 1999, pp. 105-130.

Chernoff, H., The Use of Faces to Represent Points in k-Dimensional Space Graphically, *Journal of the American Statistical Association*, June 1973, Vol. 68., No. 342, pp 361-368

Clerc, P., Economic Intelligence, *World Information Report 1997/98*, Chapter 22, UNESCO.

Knauf, A., Caractérisation des rôles du coordinateur-animateur : émergence d'un acteur nécessaire à la mise en pratique d'un dispositif régional d'intelligence économique. Thèse en SIC, Université Nancy 2, 12 octobre 2007.

Leroy, F., Pôles de compétitivité : de l'appel à projets à la labellisation. *Entreprises, réseaux et territoires*, mars 2005

Loubet, C., Le cluster vise le marché national, paru dans : *Le Progrès*, le 15 mars 2006, p. 2

Ohmann, S., and al., A Novel Tool for Visualizing and Analyzing Psychotherapeutic Processes, *ÖGAI Journal*, 25(2), pp. 2-19, ÖGAI, 2006.

Porter, M., *Competitive strategy*, Free Press, New York, 1980