La Inteligencia Competitive: factor clave para la toma de decisions estrategicas en las organizaciones.
Conferencia Internacional – Universidad Carlos III de Madrid
29-30 de noviembre 2007

Conferencia Inaugural

Competitive Intelligence, public private partnership, Innovation, cluster policy and Regional Development

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Today, the impact of the globalization on the development of the economy becomes larger and larger. Most of the countries want to share part of the world economic development. If during two hundred years, only 20 countries in the world share all the natural resources to ensure their own development, today it is not the case any more and there are 200 countries which are using the globalization to increase their share and to participate to the global development. The western and develop countries believed that the globalization will be for them a unique opportunity to export our principles of life and economic rules, but this is not the case. The development of the globalization is not going that way and it constitutes if it is not controlled a real threat for their development.

If we refer to the Davos's summit[1], Harvard University president Lawrence Summers described as one of the most important moments of history: **Asia's new economic might.**
"What is happening in India and China … the integration of the fourth–fifths of the world where people are poor with the one-fifth of the world where the people are rich, has the potential to be one of three most important economic events in the last millennium, alongside the Renaissance and the industrial revolution".

1 - How to keep and create competitive advantages

I – The incremental innovation

Most of the develop countries want to maintain or create competitive advantages. Many developing counties want to create their own advantages in the world economic market. To reach this objective, several ways have been used in the past and even today.
The main way to increase rapidly its competitiveness was developed year ago by the Japanese when they launch a worldwide program of incremental innovation. This program was linked to imitation or creative imitation and it allowed Japan to reach rapidly a state of development from which its industry and research were able to develop new products, new concepts and then to became the third world economic power.

Example of South Korea

In the same time other countries such as the South Korea develop a national program of education and imitation which enable the GNP of the country to increase from 87 US$ in 1962 to 10.550 US$ in 1997.
It is interesting to analyze rapidly what were "the ingredients" which provided the necessary facilities to reach such a development.
1960: through light industries like the textile, the toys and general electronics. South Korea applied the method of **reproductive imitation**.
1970: South Korea carries out a technological jump in the field of heavy industry, for example the cars and ships building and the machine tools.
1980: The list of export lengthened with microchips, computers, video, tape recorders, electronic communication systems and modern production of cars.
1990: Export of products of second generation: television with high definition, electronics, multi-media, systems of cellular communication.
In the same time, the South Korean industries were equipped with the knowledge bases necessary to realize the basic technological training which is the **imitation:**

- The education system
- The foreign technology transfer
- The creation of complexes and private industrial conglomerates
- The mobility of the scientists

Then a policy of knowledge development and creative imitation drove the South Korea to the today state of development with worldwide known brands and products such as Hyunday, Samsung, etc. The goal of this policy is to shorten the time of development and to provide steps by steps the strategy which will avoid the bottleneck of an inadequate vision of the

[1] Extract from the Straits Times (Singapore),
Friday, January 27th 2006 "From Davos, Switzerland"

development. The following figure shows the potential barrier which often happens when the vision of the development is not in accordance with the country facilities and knowledge.

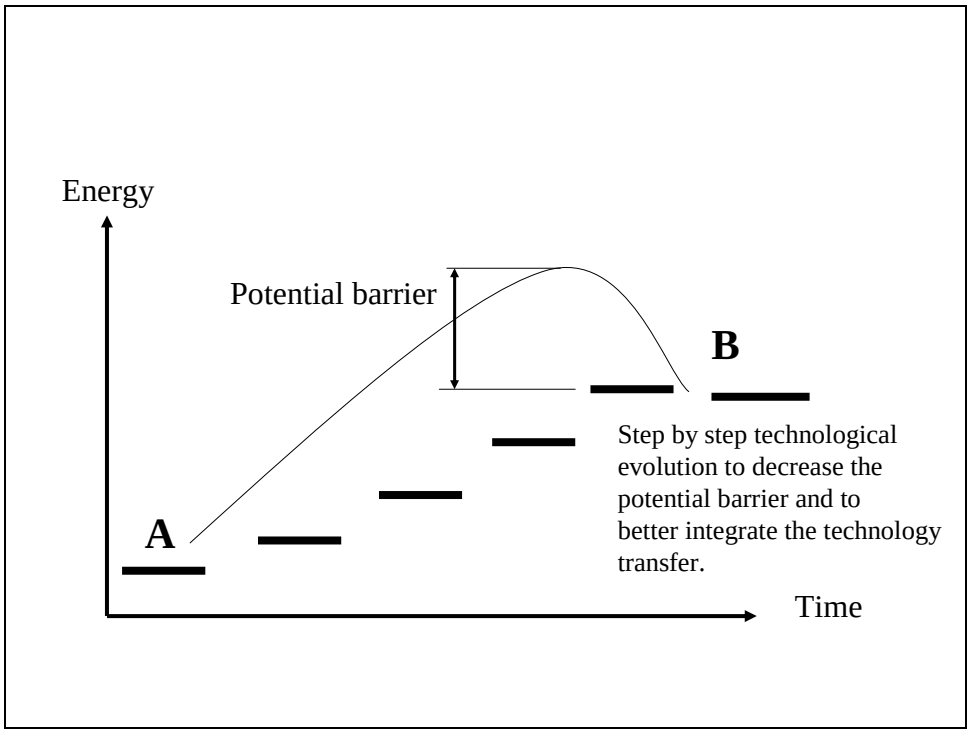

Figure 1 – To move from A to B can not for developing countries be done in a single step.

II – The Competitive Intelligence

In the develop countries and especially in the United States and in Northern Europe, as far as in 1980 began the development of what is called today the Competitive Intelligence. The basic concept of Competitive Intelligence being to master and understand the information necessary to provide the best possible decision for the development of a company. Many definitions of Competitive Intelligence have been provided by different authors[2]. But, these definitions if they are still accurate today are far more restrictive in the context of the globalization. New definitions such as the definition given by Alain Juillet[3] emphasize the National or Regional development. In the same time report such as the Carrayon's report in France about Competitive Intelligence was named : Economic Intelligence and national cohesion. This underlines a move from Companies to National Development. The concept of Competitive Intelligence is changing. The impact of the globalization on the National and regional development became so strong that many countries develop various national programs of Competitive Intelligence to provide the necessary background which will enable and comfort the condition of a better development.

[2] Systematic program to collect and analyze the information upon the activities of the competitors. …… in view to achieve the strategic goals of the company (Larry Kahanner) Analyze the information, upon the competitors which are involved within the decision process of the company. (Leonard Fuld) Knowledge and forecast of the surounding world - in view to assist the decision of the company's CEO. (Jan Herring)

[3] Alain Juillet has been appointed by the French Prime Minister as the person which will report on Competitive Intelligence in France near the Prime Minister. Definition given by Alain Juillet:
"to develop a mode of governorship whose object is the control of the strategic information which has as a finality the competitiveness and the safety of the national economy and the national companies"

The National program of Competitive Intelligence will have as a global goal to strengthen all the national forces in such a way that new relationships will be created between Governmental forces, Education and research centers (publics or privates) and industry. In the same time the strategic information necessary to defend the national positions but also to increase the export potential and the creation of added value products must be mastered. This is summarized in the well know cycle of intelligence, presented in figure 2.

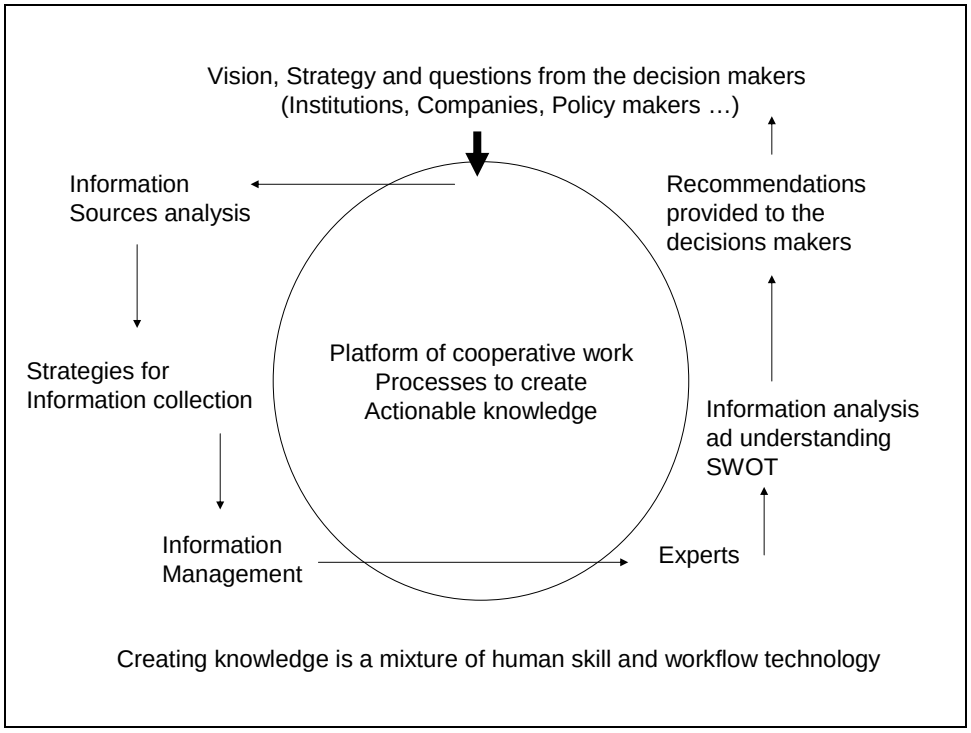

Figure 2 – The intelligence cycle, heart of the Competitive Intelligence process

But, if the Competitive Intelligence is an invaluable tool to change the mental model of people and to focus the national energies towards the national and regional development, Competitive Intelligence must also move from general concepts to applications. This is what we are going to see in the next paragraphs.

III – Competitive Intelligence in different countries

The United States have been the crib of Competitive Intelligence with the development not only of the SCIP (Society for Competitive Intelligence Professionals)[4] but of many think tanks such as the RAND Corporation[5]. But, beyond Competitive Intelligence, the United States developed a global system from the Advocacy Center[6], to the Echelon network[7], to the Small Business Act, to the In-Q-Tel initiative[8] from the CIA, to the Home Land Security[9]. In

[4] http://www.scip.org
[5] The RAND corporation founded 60 years ago is a nonprofit institution that helps improve policy and decision making through research and analysis
[6] The **ADVOCACY CENTER** was created in 1993 to help the US companies to win international markets, leveling the Playing Field for U.S. Businesses Competing Internationally
[7] Satellite Network which intercepts and analyses almost all electronic transactions in the world.
[8] See the **Summary of Key Findings and Recommendations Key Findings**
• The In-Q-Tel business model makes sense and its progress to date is impressive for a two-years old venture;

fact very early all the forces of the Administration have been used to improve the position of the United States Companies in the World. Very early also, the United States understood that an integrated partnership between the Governmental Organizations, the Research (public or private) and the industries will be necessary to maintain a global advantage for the Nation. In this sense, the United States are far more ahead than most of the developed countries because of the integration of multiple actions of various Governmental Institutions.

The other countries also understood the fundamental role of Competitive Intelligence and various orientations have been taken:

The South Korea created its knowledge industrial basis by developing an integrated program of Education and Research to sustain step by step (incremental innovation) the development of various goods and services. Today South Korea which increases its GNP from 50 US$ per capita in 1969 to more than 20,000 US$ in 2000 is a good example to study.
Japan, in 1998 considered that the development of the country will be S&T based (Science and Technology). From this point of view a global policy of patent deposit from universities was developed (TLO) and the role of Universities was more focus on technology transfer. In the same time a strong link between S&T development was created. For instance the Council for S&T was transformed in *Council for S&T Policy*, the MITI (*Ministry of International Trade and Industry*) became the METI (*Ministry of Economy, Trade and Industry*), the merging of the Ministry of Education with the Council for S&T, the transformation of the Council of the Science & Technology in the *Council for S&T Policy*; etc… The objective was to give a legal framework to the state intervention in the S&T, to promote university and industry cooperation and to create various stocks of intellectual knowledge.

In China, the path which is followed seems the same than the one of South Korea, but the speed is faster. The Chinese are interested by the role of the State in the development of the Competitive Intelligence and by the development of a different Public and Private partnership. For instance the CELAP (*China Executive Leadership Academy Pudong)* which is a state funded institution is strongly interested in the articulation between questions of social development and economic development. The classical Competitive Intelligence as seen in Western Countries is not widely used in China and is more or less related to the Chinese Companies which want to became world wide (for instance TCL for the production of television sets and screens). It seems relatively clear that China will be leaving as soon as possible the "copying" system, to move to innovation. This is interesting because most of the experts estimate that this path is a strong differentiation between China and India which will be remaining in the state of low technology products for a longer time[10].

In other Asean Countries such as Thaïland, Philippine, Competitive Intelligence is strongly mixed with Technology Watch. The focus is done on technologies and products which should be acquired and developed for the local industries. A strong incentive on patent analysis is done. In Malaysia the awareness about Competitive Intelligence passes through continuing

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• The process for implementing new technology into the CIA's business processes is a key challenge to In-Q-Tel's success;
• Improved access of In-Q-Tel to key stakeholders and subject matter experts in the CIA is essential

[9] Extension of the United States Territory as far as regulations and controls are concerned into the country which export goods to the United States.

[10] Conference of Alain Juillet (High Responsible of Competitive Intelligence near the Prime Minister in France) Aix en Provence (Technopole de l'Arbois), November 20, 2007. See also http://www.ciworldwide.org

education. This will speed up the process among the local industries. This is the OUM Open University of Malaysia which develops a program with a French foreign university.
In Indonesia, the development of the Competitive Intelligence concept is close from the French one due to a long term action of specialized educational programs. Today, the IICI (*Indonesian Institute for Competitive Intelligence*) has been created. Various International Seminars contributed to the development of Competitive Intelligence and different Competitive Intelligence Unit are created in different regions. The problem in the country is a problem of information access via Internet and also a problem of information cost. The development of a global information offer for companies, and regional industrial clusters will be very soon organized by the Pt BMP.[11]

In Canada, Australia, programs of Competitive Intelligence developed, with a strong focus in Canada for the development of Competitive Intelligence in the State Institutions.
In Brazil, the development of Competitive intelligence began 10 years ago with an educational program which extended on several different states and which was at the origin of the development of Competitive Intelligence in large Brazilian Companies such as Embrapa, Embraer, Petrobras, …). Today a strong association ABRAIC (*Brazilian Association of Competitive Intelligence*) disseminate the concept through various Brazilian States.

In the European Northern countries, the Competitive Intelligence took another form, the name and the actions are part of a public policy and concern mainly the introduction of "Intelligence" in the development of the organizations. The influence of Stevan Dedidjer a pioneer in this domain if still presents in various organizations and mental models.[12]

In France, a national program of Competitive Intelligence ia developed through the management of various Government Department (Finance and Industry being the most important). In the same time a High Responsible for Economic Intelligence was appointed near the Prime Minister. If the first part of the program was the dissemination of the concepts of Competitive Intelligence through the Governmental Institutions and through the industries, the second part has consisted in the development of various poles of competitiveness. The third part, called "third generation of Competitive intelligence", is to use Competitive Intelligence to develop international collaborations and to facilitate the link between French companies (SMI *Small and Medium Size Industries*) with foreing industries.

It will be too long to try to make a list of all the actions which are underway in various countries. We, to summarize what is going on will say that:

- Anglo-saxon countries are more or less oriented toward the US way to develop Competitive Intelligence. That means more focus on companies and market development and competitor knowledge.
- Developing countries are using a mix of Competitive Intelligence and Technology Watch to ensure a regional development. Some of them are moving to a cluster policy to create more added value products from their natural resources.

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[11] BMP PT Bina Mutuprima Indonesia Direktur
Harmoni Plaza II Blok 1 N°2
Jl Suryopranoto n°2
Jakarta 10130 Indonesie
[12] Homage à Stevan Dedidjer
Philippe Clerc,
regards sur l'IE - N°5 - Septembre/Octobre 2004

- France has an intermediate position between the United States Competitive Intelligence Competitive Intelligence and a National Competitive Intelligence system which will defend the French international positions but which also will promote a regional re-industrialisation.

IV – For a policy of innovation – The cluster development

Most of the developed countries issued commitments and reports focus on innovation. Innovation is considered as the best way to maintain and to create competitive advantages. A global innovation policy will provide to the industries a way to create added value products from the local resources or to develop new products and services. Many reports in different countries indicate that innovation is one of the best way to move ahead and to develop an entrepreneurial spirit, not only for the large industries but also, and this is a crucial point for the Small and Middles Sizes industries which provide local employment.
The Palmisano report [13] in the USA (Innovate America), the Beffa report [14] in France (Renewing the French Industrial Policy), the Renaissance II report in Canada [15], the Commonwealth report in Australia [16], and the organic law of technology transfer and development of the intellectual property in Japan[17] are different examples of commitment for innovation.
In the development of a policy of innovation most policy makers consider that this is by an increase of the financial facilities for R&D that innovation will be developed. But, if you consider the Competitive Intelligence policy and its impact on innovation this is a more complicated scheme which must be developed. The Competitive Intelligence must become the vector of a new policy where new relationships between the public authorities, the education and research centers (publics or privates) and the industries will increase the national and regional innovation potential. This policy will have for consequences the development of new regional clusters where a new governance will play an essential role.
The clusters and their role in the regional development were enlighten by M. Porter in his book “The competitive advantage of the nations”[18]. Currently it is admitted that the regional

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[13] Analysis of the Palmisano Report by Tamada Shumpeter a fellow of the RIETI (Japan)
http://www.rieti.go.jp/en/columns/a01_0158.html
[14] The Beffa Report • "For a new industrial policy"
http://www.districts-industriels.com/letter_spl/spl_v_seize/newsletter_en.htm
In his report submitted to the President of the Republic, Jean Louis Beffa (Managing Director of Saint Gobain) focuses on the lack of research effort in France in comparison with its competitors and its over-specialisation in low technology sectors. He therefore advocates a support policy for industries of high technology through programmes calling on the co-ordination of public and private actors and enabling means of European co-operation to be set up. To download the report: http://www.rapport-jeanlouisbeffa.com
[15] Canadian Creativity and Innovation in the next new millennium
http://www.innovationstrategy.gc.ca/gol/innovation/site.nsf/fr/in05177.html
[16] Commonwealth of Australia, Backing Australia’s Ability: The Commonwealth Government’s Commitment to Innovation, http://www.backingaus.innovation.gov.au/
[17] http://www.jauiptm.jp/en/tlo/tlo.html
“A technology licensing organization (TLO) is a corporation, which obtains patents for university researchers' research results and licenses out those technologies to private companies, serving as an "intermediary" between industry and universities.”
[18] http://www.amazon.fr/Competitive-Advantage-Nations-New-Introduction/dp/0684841479
published in 1998. Extract: Why do some Nations succeed and other fall in international competition? This question is perhaps the most asked economic question of our time. Competitiveness has become one of the

development passes by a policy of cluster's development. But, it is only very recently that the Competitive Intelligence was introduced into the implementation of this policy. If clusters generally quoted in example like Silicon Valey USA, Triangle Park USA, Italian districts, technopolis of Sofia-Antipolis were developed in several tens of years to reach their maturity, the objective, today in the major part of the cases is **to accelerate the development of the clusters** hoping to have for consequence a faster regional development. This policy of development is not improvised, as well as the methods and tools used to achieve this goal.
Competitive Intelligence because its focus all national forces to the same objective can be a good catalyst for the promotion of clusters. The notion of cluster has been defined by M. Porter in his book "On Competition" published in 1998.
A cluster (it can be also called pole of competitiveness as in France), is the group of all stakeholders which can be concerned by one activity, such as for instance a cluster on wood industry development[19] or some clusters such as the coconut cluster which could be easily created in North Sulawesi in Indonesia[20]. According M. Porter the contour of the cluster should include the following partners:

- the client companies,
- companies of the sectors downstream, companies of the related sectors,
- manufacturers of complementary products,
- suppliers of machines and specialized components,
- service providers,
- financial institutions (for instance the investors),
- suppliers of infrastructure of communication,
- the authorities (regional or national),
- the institutions proposing training programs (education, information, research..),
- the agencies of standardization,
- the Chambers of Commerce and Industry and all other professional networks and private associations.

To create a cluster, the contour must be carefully determined and generally it must starts from a region where a minimum threshold of industries and natural resources already exist. This means that several steps must be fulfil before moving to the final contour of the cluster. The most important steps are the following:

- The knowledge of the Region and of the economic, technologic and scientific information who underlines the current activities
- Technologies mapping
- Mapping of scientific and technical competences
- Mapping of the companies (in the broad sense of the term since the companies produce varied goods and services)

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central preoccupations of government and industry of every Nation. The United States is an obvious example , with the growing public debate about the apparently greater economic success of other trading Nations. But intense debate about competitiveness is also taking place today in such "success story" nations as Japan and South Korea.

[19] The StratinC project, European Community (Intelligence and Innovative Cluster), for more information contact: http://www.competitivite.gouv.fr/spip.php?article25
Pierre Bourgogne - Conseil régional de Lorraine
Place Gabriel Hocquard, è- BP 81004
57036 Metz Cedex 1 - France

[20] Workshop on Competitive intelligence and Regional Development. Depertemen Perindustrian, Puncak, March 5th to 9th, 2007. For more informationcontact srimanullang@hotmail.com

- A thorough analysis of this information to outline possible contours of the clusters potential. **Here must be used the methods, tools and analyzes (SWOT) related to the Competitive Intelligence.**

V – A new partnership between Government, Research and Industry

The cluster or pole of competitiveness policy has for goal the development of new relationships between Government (National or Regional), Education and Research Institutions (Public or Private) and Industry. This is through this new partnership that innovation will be developed and that wealth will be created. This concept is called the Triple Helix[21] by analogy with the ADN[22]. To understand why this model is important and why it impacts strongly the cluster development, we will refer to various reports and experiments made in the European Community[23]. Most of the time, the government finance research and education and the result is the creation of knowledge and competences. This is the first point. But, if it is the only step which is done, the global result will be very poor. It is necessary to develop a second step from which the above knowledge and competences will create "money". This process will involve industry and the development of innovation which is the way to transform knowledge and competences to products and to new markets shares. This last step which is fundamental is done through a close partnership with industry. The figure 3 illustrates this point of view:

[21] The Triple Helix as a Model for Innovation Studies
(Conference Report), Science & Public Policy Vol. 25(3) (1998) 195-203
Loet Leydesdorff & Henry Etzkowitz
see also Industry & Higher Education 12 (1998, nr. 4) 197-258,
http://users.fmg.uva.nl/lleydesdorff/th2/ihe98.htm

[22] Quebec University at Montréal : The birth of a triple helix : « Les programme des actions concertées du fonds Québécois de recherche sur la nature et la technique ». Lionel Vécrin November 2003
http://etdindividuals.dlib.vt.edu/archive/00000134/01/Vecrin_2003_Triple_Helice.pdf.

[23] Centro Formativo Privinciale, Guiseppe Zanardelli, Azienda speciale de la provincia de Brescia, Interreg III C Brics-workshop - Aalborg 13th Feb 2006
Dr Per Eriksson, - Director General VINNOVA
Swedish Governmental Agency for Innovation Systems

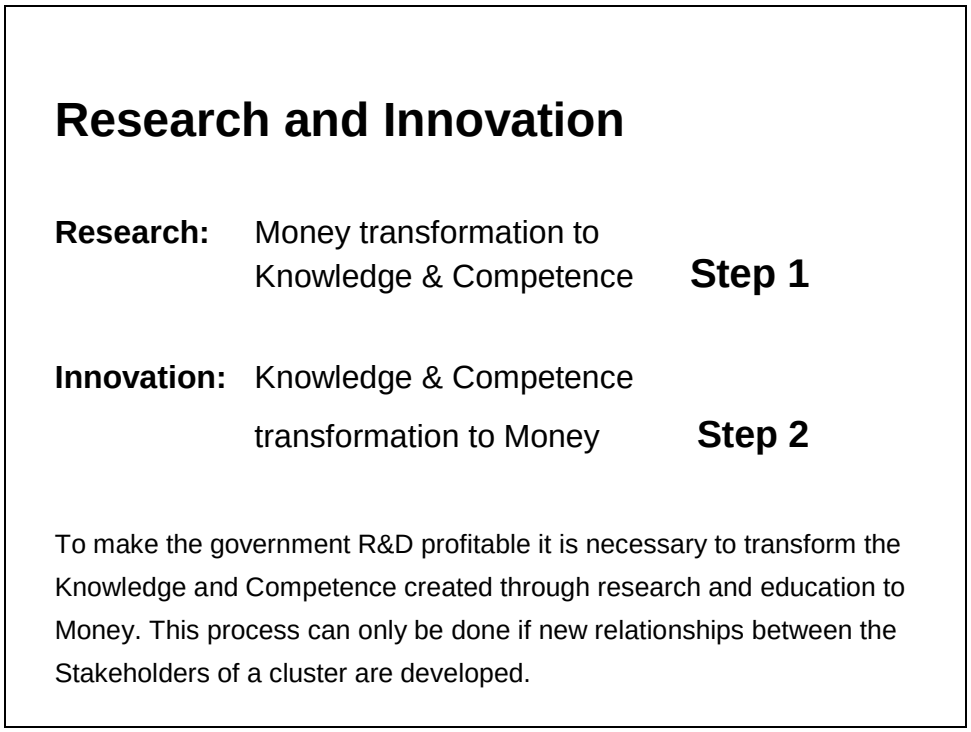

Figure 3 – The two fundamental steps which must be involved in cluster development

A good example of the triple helix and its effects is presented by Elias Zerhouni[24], Director of the National Institutes of Health (NIH) in the USA: "*The success of American scientific research depends on the existing implicit partnership between academic research, the government and industry. The research institutions have the responsibility to develop the scientific capital. The Government finances the best teams by a transparent system of selection. Industry holds the critical role to develop robust products intended for the public. This strategy is the key of American competitiveness and must be maintained. "*

VI – The knowledge society

Then today, the rules change, we are in the knowledge society and the processes to build up knowledge are more and more important. This is why it is also said that we are in a knowledge base economy and that the actionable knowledge created in various processes and mainly in the Competitive Intelligence process are a fundamental asset of the Nations, Regions, Institutions and Industries. This is why for instance:

- The economy is becoming more and more knowledge based and global
- The European Union has set the goal to become the world's most dynamic knowledge based economy
- This makes R&D very important, but R&D has to be strongly linked to business need, need-driven R&D

Let us now return to the processes to build up knowledge. We saw in the Intelligence Cycle, that one of the process to develop actionable knowledge are the vision and questions from the decision makers, strategy to collect and manage the strategic information, analysis of this

[24] Presented in December 2006 during the congress organized by the American Society of Hematology. Cited in What model the the French public research, Les Echos, wednesday January 10th 2007, Alain Perez

information by expert groups which will understand the information and project its impact on the opportunities and threats but which will evaluate in the same time the local strengths and weaknesses (SWOT analysis[25]). Then, knowledge is not found in papers, books reports, libraries. Collecting information is one step, but knowledge must be created out of this information. Then, educational and research institutions as well as the people in charge of the governance of the poles of competitiveness and the political decision makers at the National or Regional level should understand and promote the necessary steps to create knowledge. This means that they should participate to the renewal of their relationships. For many years the institutions have had for model the idea that the State was able (even as a duty) to sponsor research, education, etc.. this is less true any more. In the period of a fierce competition the Government can not provide everything. Choices have to be done. The actors of the economy should understand that they must actively participate beyond the simple profit to the national and regional development. The issue is important since the creation of wealth will avoid specially within the framework of autonomy a strong drive to independence..

This is the commitment of Competitive Intelligence: to develop among the "elites" of the country the will, strength and synergy which will move the country to the knowledge age to a knowledge driven economy[26]. In this process, if the concepts are important, the methods and tools of Competitive Intelligence will play a major role:

- To analyse and develop various strategies to collect the strategic information necessary for the defence and the development of the National or Regional Industries (specially the poles of competitiveness),
- To provide the tools to automatically analyse the information to provide to the experts a global view of the environment of the R&D involved in the poles or the regional industries. In this respect a wide effort should be done on intellectual property and APA (Automatic Patent Analysis)[27]
- To manage groups of experts able to give to the decision makers the best recommendations according their understanding (SWOT) of the information provided by the Competitive Intelligence Unit.

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[25] **SWOT Analysis**, or sometimes known as the **TOWS Matrix**, is a strategic planning tool used to evaluate the ***S***trengths, ***W***eaknesses, ***O***pportunities, and ***T***hreats involved in a project or in a business venture or in any other situation of an organization or individual requiring a decision in pursuit of an objective. It involves monitoring the marketing environment internal and external to the organization or individual. The technique is credited to Albert Humphrey, who led a research project at Stanford University in the 1960s and 1970s using data from the Fortune 500 companies. See for more information http://en.wikipedia.org/wiki/SWOT_analysis

[26] The processes of building knowledge. - The case of smes and distance learning
Henri Dou, Jean Marie Dou Jr
ISDM Information Science for Decision Making, n°17 Juin 2004 article n°174
http://isdm.univ-tln.fr/articles/num_archives.htm

[27] Patent Analysis for Competitive Technical Intelligence and Innovative Thinking
H Dou, V Leveillé, S Manullang & JM Dou Jr
Data Science Journal, Vol. 4 (2005) pp.209-236
See also
The use of structured online information in technology forecasting in third world countries
Agus Salim Ridwan, Kadasah Suryadi, Dou H
Congrés International de Génie Industriel, Montreal, 25-28 Mai 1999
See also
Benchmarking R&D and companies through patent analysis using free databases and special software: a tool to improve innovative thinking
Henri Dou
World Patent Information, Volume 26, Issue 4 , December 2004, Pages 297-309

- To develop the use of facilities provided by the development of the new technologies: to communicate (wide band Internet), to work (efficient laptops), to cooperate (platform or cooperative work)

This is the reason why the development of a National Competitive Intelligence program is important. It will provide the necessary background of knowledge out of which various initiatives will be developed. Most regions have natural resources and industries related to them. Sometimes the local education and research institutions feel concerned. This situation should change. Education, research centers should develop close links between industries and policy makers to be involved in the creation of added value product from these resources. In the same time, local information centers should be created to reinforce the actions of the institution partners of the regional poles of competitiveness. All the comparisons, analysis, results already obtained from worldwide experiments emphasise the role of Competitive Intelligence as a catalyst to move mental model and socialized those modern ideas upon which the development could be achieved.

Conclusion

We are in a period of change and most people look to the future not really with hope but with a fear to move ahead. The complexity of our time is often a brake to innovation and to set up the right background for a sustainable development. Often, the political decision makers try to explain the future with the knowledge of the past, this must change. Internet, co-opetiton, facilities to travel, birth of new economic change the rules. The question is to know how the decision makers will understand these changes and will promote in their country the conditions to move ahead. Competitive Intelligence because its links with science, technology, innovation, economy, new social models and social cohesion can be considered today as one of the best tool to catalyze the national energy and to promote a new way to consider the basic aspect of national and regional development