Competitive Intelligence and Industrial Development

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Abstract :   During the last 20 years, the Competitive Intelligence has been directly or indirectly mixed with the industrial development either in companies or in various regions. In this paper we wish to underline le main step of this involvement using various examples from various countries.

1 – The background

The work of M. Porter in the Competitive Advantages of Nations, pin pointed that the development of innovation is accelerated by the development of clusters. A few year later, the work of the Dutch School show that via the triple Helix, new public and private partnerships   will create the best conditions to innovate and to favor the industrial development.

Today, the position of China as the "manufacture of the world" shows clearly that the industrial development is a necessity for a country which want to develop or increase its position in the world. Many reports such as the Beffa report in France underlines this position. On the other hand, others report such as the Palmisano report in the United States, the Commonwealth report in Australia, etc.. emphasize the key role of innovation in the development.

Innovation cannot be seen as invention, but as the mechanism which used the competences and knowledge created by the involvement of the Sate in Education and Research to develop new products and services able to match the need of the international markets. The work sponsored by the European Community in this direction second this point of view.

In this article, we wish with the help of various examples coming from various countries, give some best practices in this domain and to help the reader through various examples to use Competitive Intelligence in the framework of industrial development.

II – A rapid definition of clusters

The term od cluster is a generic term which cover various definitions of what can be called a gathering of all the stakeholders in a resource, product or service development, for, together create new conditions of development and to increase the innovation and the competitiveness of this area. It is clear, in all the work develop around this concepts, that the stakeholders which will constitute a cluster are volunteers since it is not possible to force people to collaborate against their own will. Then the terms such as poles of competitiveness, "grappes industrielles" , productive local sectors, Italian districts, are very close from each other.

One of the key point of the creation of a pre-clusters group is to follow some simple rules,

- the major one being to make clear that it is better to work together than alone, in this time of globalization, and that the clusters should cover a public and private partnership involving the State (local of Regional), the research and Education, and the industry. This is at the intersection of these tree entities that the innovation will find the best condition of development.
- To be able to show clearly to the partners which will be involved in the clusters (SMEs and sometimes large companies) that working together will create a wealth a ble to be shared by all the participant. In this domain the role of information ans more specially the information about patents if crucial.
- At the very beginning of the realization of the cluster a Competitive Intelligence Unit should be in charge of the collection and dissemination of information as well as in the monitoring of various experts groups to evaluate the impact of the information on the vision and aims of the cluster. This can be done through a SWOT analysis of through the use of the Porter's five forces.

III – Some key examples from various countries

In this various series of examples, we will take only the best lessons available. Some of them are dealing with large companies, some of them with very small ones. The size of the company or the type of regional development (from clusters to cottage industries) is n ot important. What is important is the method and the results. A large part of these examples have been described in details in various conferences and papers most of them available through Internet. :

South Korea:this is one of the best example since Siuth Korea move from a GNP of 62 US$ per capita in 1962 to about 18,000 US¤ in 2000. The development of such increase has been made by developing a step to step vision of the key objective of the nation, and by creating the best conditions (Education and Research) to be able to fiully benefit from the FDI (Foreign Direct Investments). Following this strategy, the country from a basic agricultural staet moved to a very sophisticated industry and ultimately to the development of various

brands such has Yundai, Samsung, LG, etc... This development was realized thank to a permanent will of the policy makers and to the belief that industry will be one of the only way to develop the country on a worldwide basis. Today various industrial clusters fitting the triple helix structure are acting in the country. It is also interesting to note that fundamental research is also considered as important since South Korea, very recently developed the Asian Journal of Entrepreneurship and Innovation.

Malaysia is an interesting country. Its development was linked to the political will to create various domestic industrial products to substitute some imported products. To succeed in this policy, Malaysia developed various universities with close links to the national needs. The belief that immaterial capital will be one of the key of the development reinforce the link between Universities and country development. This country was able to develop its own car the Proton which is exported in various countries, as well as a powerful petroleum company (Petronas). In the same time the development of the palm oil industry (as a substitute for fuel) ranked the country among the first in the world in this area. The Competitive Intelligence is taught in continuing education by the OUM (Open University of Malaysia) in cooperation with e French University. It is interesting to see that this scheme of development accelerate the integration of Competitive Intelligence into the industrial world, wince the students are already working.

Brazil is a wide country, almost a continent with a unique language and this is important. Competitive Intelligence was developed in this country by the will of the INT (Institute National of Technology) and the collaboration with a French university. It was around 1997. From that date, various PhD were made and against, the acceleration was done through the process of continuing education. What is the most significant in Brazil is the speed of application of Competitive Intelligence in various steps of the development. In the industry with the development of various Competitive Intelligence Units (Petrobras, Embraer, Embrapa, etc...), in Universities with the development of various Competitive Intelligence Masters, in the development of tools such as the Lattes database (Vitae of more than 600,000 of Brazilain Researchers available online via Internet), in the creation of the ABRAIC (Association Brasiliera of Competitiva Inteligencia), in the patent analysis, specialy for the development of generic products... The dynamism of the country if important and different clusters are developed in various region such as for instance the PortoDigital in Rio de Janeiro.

China: this is a wide country which understood that its development will be linked to the development of industry. In this context it is clear that Competitive Intelligence and Competitive technical Intelligence are a primary concern. The Chinese try to get the more possible information on what is done in various countries and to take the best of it. They wish to develop a Chinese system of Competitive Intelligence specific to the national problematic. One thing which is remarkable in China is the very short interval of time between decision and action. What is also remarkable is the tremendous effort which is

accomplish in the country on the plan of the technical and scientific information. In the patent domain for instance, China in he last years increased the number of Chinese patents (from Chinese firms) granted in China by 25% each year. International analysts indicated that within 10 years, China will be the county which will take the largest amount of patents per year in the world. Today, a very large amount of products are made in China, and like in Japan years ago, their quality will ,increase; The steps followed by China are almost identical to those of South Korea, but the will of the Chinese policy makers is to achieve their goal in a shorter time. Many papers have been published about China. The Chinese themselves organized conferences and debate to get the best of the Competitive intelligence and Competitive Technical Intelligence in the world. The soft technology, for the 500 most important Chinese companies are available through a think tank (BAST Beijing Academy of Soft Technology).

Thaïland with the help of USAID, developed a very competitive clusters policy in various niches. They developed according the work of M Porter a set of rules to create various clusters and to use the available patent information to facilitate the innovation in various industries. The following example shows how patent analysis is used to explore systematically all the technologies useful in their cluster development. Using the Matheo-Patent software, the use APA (Automatic Patent Analysis) in various sectors and hence increase the position of their industry. The various clusters developed in Thaïland are the following:

The figure 2 shows various studies available from Internet done with the APA applied in various industrial fields.

Figure 1 – APA results from Thailand

IV – Other application od Competitive Intelligence for development – The international organizations

Different international organizations are using Competitive Intelligence either directly or indirectly in various programs. We will present briefly two examples from the UNIDO and from the WIPO which are two organizations which develop various programs to held the industrial development and the SMEs.

The UNIDO has a commitment which is presented in figure 3:

Figure 3 – The three priorities of UNIDO: to reduce the poverty and to reinforce the productive activities, to reinforce the commerce, to improve environment and renewable energy

In this framework, we will develop the Baobab program of UNIDO. The Baobab is a tree which is specific of some African and Indian ocean region generally poor. That tree survive thank to the fact that is wood is full of water and cannot be used as combustible. The baobab seeds and leaves present various medicinal and nutritive properties, and recently the department of F   as well as the United Nations for the Development cited the baobab products as potentially important. The baobab products can than give a real base to start the pre-development of local small industries in the countries were this resource is available. The scientific references as well as the patent data show that this product present interesting properties as well as an appeal for customers using natural products (medical or cosmetic or nutritive).

The figure 4 shows some partial results of the APA apply to the baobab products:

IPC	COGNIS FRANCE SA (FR)	ENGELS PETER	SEROBIOLOGIQUES SOCIET...	ENGELS PETER (DE)	SHANGHAI RISHU SCIENCE...	YAN GUOXIN (CN)	HAINAN XINLONG NONWOVE...	BEIERSDORF AG (DE)	None	SEROBIOLOGIQUES SOCIET...	COGNIS FRANCE S A S	SEROBIOLOGIQUES LAB SA...	MEDEGAN FAGLA JEROME (BJ)	HORUSU KK	CRODA JAPAN KK	NADRI COSMETICS CO LTD	LAB SEROBIOLOGIQUES (US)	COGNIS DEUTSCHLAND GMB...	RATHJENS ANDREAS (FR)	GRISONI PHILIPPE (FR)	PAUL Y GILLES (FR)
A61K	2	1	1	2				1	1	1	1	1	1	1	1	1	1	1	1	1	1
A61Q	2	1	1	1				1	1	1	1	1		1		1	1	1	1	1	1
D02G					1	1															
D04H						1	1														
A61P		1		2									1								
A23K				1				1													
None	1		1					1	1	1	1					1					1
A23L				1				1						1							
C12N														1							

Figure 4   Automatic Benchmarking of companies through their involvement in various technologies and applications (using the IPC International Patent Classification 4 digits). (from Matheo-Patent using the worldpatent database from EPO European Patent Office).)

The advantage of this analysis is to prove to the potential stakeholders that the field is not empty, that companies paid to get patents and then that there is an existing market. This provides the base for the development of a pre-cluster (large or small) and to begin to make a link between the local resource, its potential, various actors and potential markets.

WIPO World Intellectual property organization developed a program to help the SMEs in innovation and development through the use of the patent intellectual property information.

Conclusion

The Competitive Intelligence, its methods and tools can be used to accelerate the regional development since it can create an incentive among the different stakeholders of one area of application and products by providing a key information. The Competitive Intelligence will also be included in the road map of the clusters or poles of competitiveness through the Competitive Intelligence Unit which must be associated with the development of the poles. On another hand, the Competitive Intelligence will provide comprehensive issues on

marketing development, lobbying, influence, and misinformation. This unit will also be able to agglomerate various experts and to provide recommendations to the people in charge of the strategic development of the poles.

Our recommendation, for the regional development, is to be able to promote a local cluster policy, to set up a strong information system enabling the stakeholders to share ideas and information and out of it to create an actionable knowledge, engine of the poles development.

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