

Cross-cultural Knowledge Management

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The success of international companies in providing high quality products and outstanding services is subject, on the one hand, to the increasing dynamic of the economic environment and on the other hand to the adoption of worldwide quality standards and procedures. As market place is becoming more and more global, products and services offered worldwide by international companies must face the multi-cultural environment challenges. These challenges manifest themselves not only at customer relationship level but also deep inside companies, at employee level. Important support in facing all these challenges has been provided at cognitive level by management system models and at technological level by information cutting edge technologies Business Intelligence & Knowledge Management Business Intelligence is already delivering its promised outcomes at internal business environment and, with the explosive deployment of public data bases, expand its analytical power at national, regional and international level. Quantitative measures of economic environment, wherever available, may be captured and integrated in companies' routine analysis. As for qualitative data, some effort is still to be done in order to integrate measures of social, political, legal, natural and technological environment in companies' strategic analysis. An increased difficulty is found in treating cultural differences, common knowledge making the most hidden part of any foreign environment. Managing cultural knowledge is crucial to success in cultivating and maintaining long-term business relationships in multicultural environments. Knowledge Management provides the long needed technological support for cross-cultural management in the tedious task of improving knowledge sharing in multi-national companies and using knowledge effectively in international joint ventures. The paper is approaching the conceptual frameworks of knowledge management and proposes an unified model of knowledge oriented enterprise and a structural model of a global knowledge management system.

Keywords: *Global Business, Intercultural Competencies, Business Intelligence, Multicultural Knowledge Management, Business Knowledge Frameworks, Knowledge Capital*

1 Introduction

Nowadays, companies are subject to external forces that they must live with and react to: increasing competition, global customers and suppliers, threats of new entrants and substitute products [20]. Any corporation that has successfully penetrated other markets realizes the benefits of understanding and addressing the unique differences of each market. Apart from obviously needed translation of documents and advertising materials, even more important and often overlooked are the intercultural competencies needed to establish strong working relationships with subordinates, business associates and clients. Perhaps the most critical component for

increasing quality in global services' companies excellence-oriented is its ability to take advantage of all available information - both internal and external. It's a real challenge, due to the tremendous flow of information it's facing every day and to its implicit multiculturalism.

Also, the nature of information itself has changed, in terms of volume, availability, quality and importance [4]. The data to be considered becomes more and more complex in both structure and semantics. With the modern information channels (Internet, Intranets) that made possible on line communication platforms (Groupware), the volume of available data increases each day - customer communications, internal research

reports or competitors' web sites are just some sources of electronic data. Intellectual property valued as assets, knowledge is contained within the huge volumes of information and leveraging this value is increasingly important in the competitive market. Making sense of all this information, gaining value and competitive advantage through, using this information in order to increase innovation and quality standards in a multicultural context represents real challenges for the global enterprises. Multi-national corporations, which operate across international frontiers on a global level, must manage their knowledge resources and their multi-cultural employees. It looks at how individuals of different nationalities and cultures must operate as a team with some control of the multi-national corporation's knowledge database. It shows how knowledge is the greatest of all assets, and how the provision of cross-cultural experiences should always be available. Cross cultural management, therefore, has a human resource management dimension and an increased interest in technological support for capturing, formalizing, organizing and sharing the precious cross-cultural expertise already gained.

2 The International Business Environment

In international business opportunities and threats stem from changes in the environment and there is little doubt that the international environment is one of the most dynamic. It is this dynamic nature which gives rise to major opportunities for international business [17]. International business development and global products and services launching was analyzed by different researchers and they all argued that in today's business environment there are significant advantages to be gained from the global scope, configuration and co-ordination of a firm's international activities. Expanding the company globally can increase their profitability in ways not available to companies serving only their national market. However, the differences in economic development and the diversity of cultures

conduct to highly local marketing strategies. Some of the key factors tend to inhibit the growth of global companies, especially cultural factors that are to be considered when developing any globalization strategy. Although the growth of the global village is real, cultural differences exist in different parts of the world with these differences often being substantial. Managing the cultural dimension is a major challenge for global companies given the fact of diminishing of the amount of time available to experience and acquire knowledge.

3 Information technologies in Global Business development

Knowledge and information have become the environment in which business develop. Managing knowledge represents the primary opportunity for increasing quality standards, achieving substantial savings, significant improvement of use of all available resources and gaining competitive advantage.

An important support in speeding up the process of acquiring knowledge in a multicultural environment is provided by developing IT solutions designed to support these challenges. These IT solutions have been developed in two different approaches: structured data management and unstructured content management. These two approaches led to the development of two cutting edge information technologies known as Business Intelligence and Knowledge Management, figure 1.

Business Intelligence is focused mainly on business information from operational processes to market trends and is based on summary data extracted from highly structured internal data bases and public data bases as well. Business Intelligence provides the ultimate quantitative approach of the business making use of exploiting technologies like OLAP and data mining. The outcome of Business Intelligence is high value business information – enough to describe a business case. Any particular business case needs contextual interpretation in order to ensure the foundation of decision-making. The interpretation process makes

extended use of available expertise in the global social, legal, economical, political, technological and cultural environment (SLEPT & C factors).

Knowledge management technologies, while less mature than Business Intelligence technologies are designed to assist the

interpretation of business cases by providing expertise, global domain knowledge. KM technologies are more and more capable of combining content management systems and the Web with vastly improved searching and text mining capabilities to derive more value from the explosion of textual information.

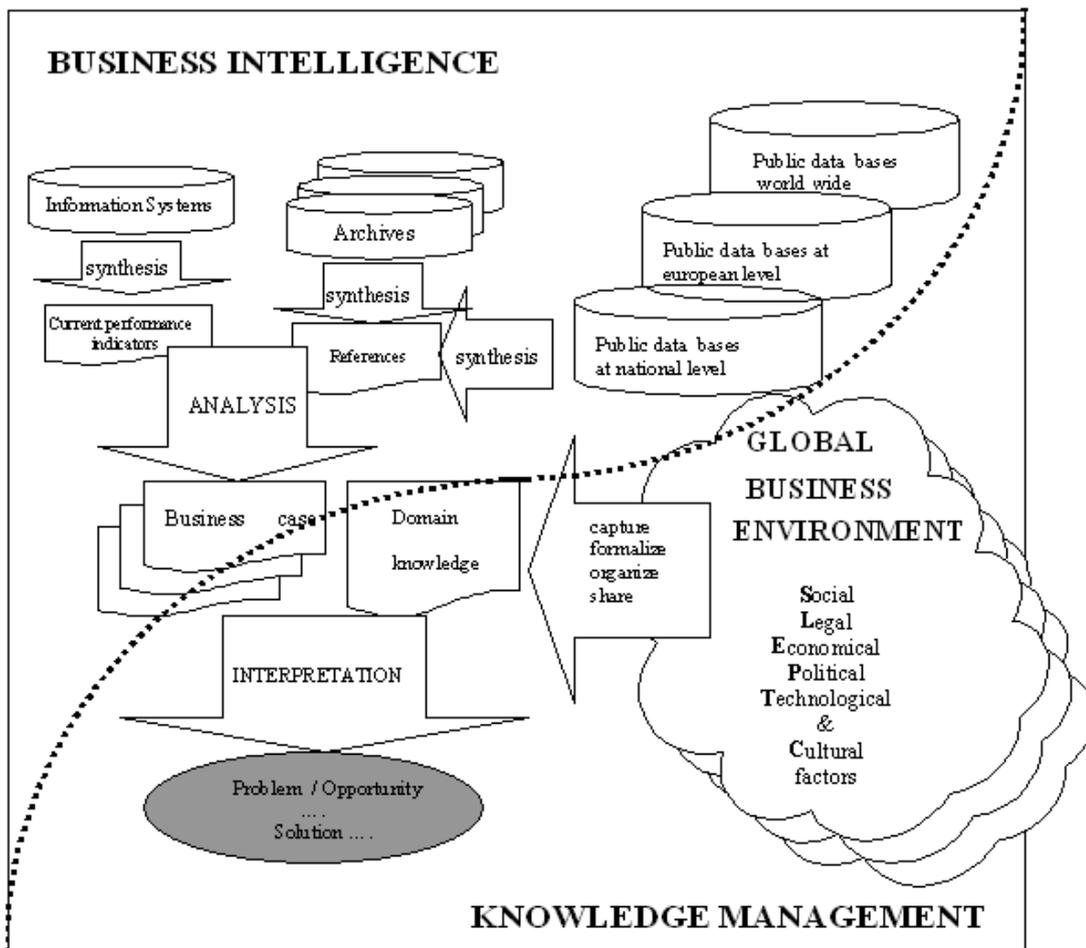


Fig. 1. Business Intelligence & Knowledge Management domains and scope [2]

The development of cutting edge information technologies: Business Intelligence and Knowledge Management exploit the increasing availability of commercial databases world-wide and the on-line mass-media and are able to transform on-line scattered information about competitors and customers into relevant, accurate and usable strategic knowledge on market evolution, business opportunities and threats. Some effort is still to be done in order to integrate measures of social, political, legal, natural and technological environment in companies' strategic analysis. Apart from quantitative

measures of economic environment, that may be captured from wherever available and integrated in companies' routine analysis, an increased difficulty is found in assessing the political, legal, social and technological environment, not to mention cultural differences, common knowledge making the most hidden part of any foreign environment.

4 Knowledge management in Global Business development

The dynamic nature of the international environment provides the source of major business opportunities in a global market

place. Moreover, information and knowledge are of great value in this changing environment in which business develops [2]. Managing both information and knowledge represents the primary opportunity for increasing quality standards, achieving substantial savings, significant improvement of use of all available resources and gaining competitive advantage.

Knowledge Management is all about interaction and communication of both tacit, implicit, informal, unstructured knowledge (human expertise, insight in human mind) and explicit, structured, formalized knowledge (documents, databases, data warehouses, etc.) in relation to use of IT facilities. Knowledge management is developed across a heterogeneous network having technical and human, material and social components. Knowledge is collected, understood, reformulated, structured, exchanged and send across the network to

other components, whether human or material.

If any support is to be designed, a cognitive approach is needed, a model to represent each component, its place and role in organizational knowledge.

Among many attempts at presenting a comprehensive framework of knowledge management, two models were more influential in the last decade of 20th century: The model of Knowledge Creating company of Ikujiro Nonaka and Hirotaka Takeuchi (1995) and the model of Working Knowledge Company of Thomas Davenport and Lawrence Prusak (1998). Nonaka and Takeuchi analyze the dynamics of knowledge creation, particularly the importance of tacit knowledge and its conversion into explicit knowledge (figure 2). Davenport and Prusak focus on the design of organizational processes that enable knowledge generation, codification, and transfer (figure 3).

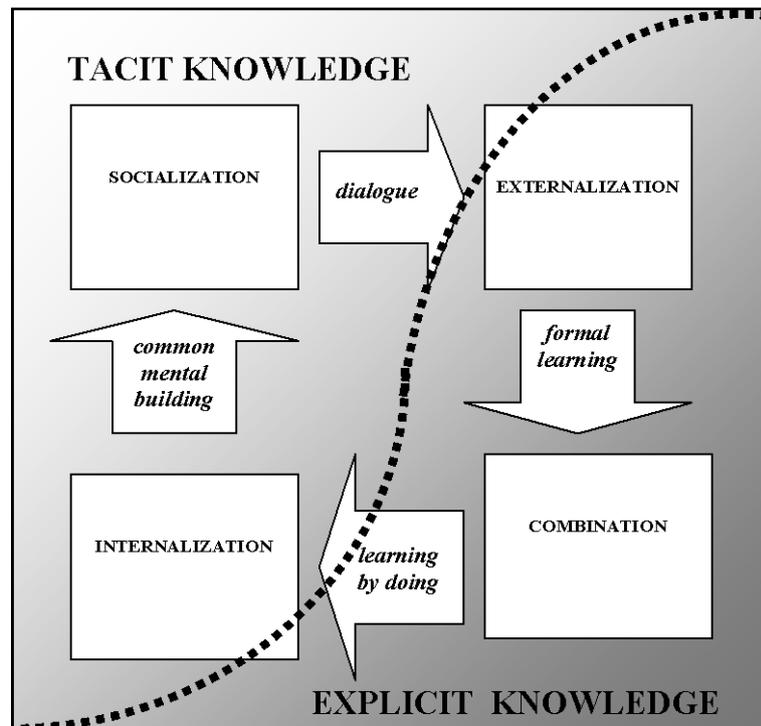


Fig. 2. Knowledge creating company [16]

Nonaka and Takeuchi contributed to the idea that 'knowledge management systems' could be used to capture tacit forms of knowledge, externalize and combine them. Their book,

The Knowledge Creating Company [16] theorized that the creation of knowledge is the result of a continuous cycle of four integrated processes: externalization,

internalization, combination, and socialization. These four knowledge conversion mechanisms are mutually complementary and interdependent that changes the nature of knowledge according to the demands of context and sequence.

The "spiral process" model of knowledge creation (Figure 2) is based upon a spiral movement between explicit and tacit knowledge. Tacit knowledge is valorized by socialization and explicited by externalization. Once communicated, knowledge is deeply understood, inter-correlated by combination, a process that produces new tacit knowledge by internalization, a.s.o.

- Externalization - from Tacit to Explicit: Formalize tacit (informal) knowledge explicitly (text, formulae and models);
- Combination - from Explicit to Explicit: Manipulating explicit (formal) knowledge through such techniques as sorting, selecting and combining. This is learning and thinking;
- Internalization - from Explicit to Tacit: This is "learning by doing" (operational knowledge) and sharing mental models and technical know-how;
- Socialization - from Tacit to Tacit: Sharing experiences with others (synergic knowledge).

Davenport and Prusak propose a more pragmatic definition of organizational knowledge, and a more operational view of managing knowledge. They focus on how organizations can capture, codify and transfer knowledge, with a particular emphasis on knowledge sharing (figure 3)

Their view is focused more on the operational part of managing knowledge, and they elaborate different types of projects that an organization might pursue. They distinguish between three types of projects:

- A. Knowledge repositories (Knowware) that are aimed at capturing knowledge in documents and organizing them in a repository where it can be retrieved easily.
- B. Knowledge access and transfer projects that link up people who possess knowledge and people who are prospective users of this knowledge. Important differences are to be taken into consideration whether formal or informal knowledge transfer, giving birth to two different subtypes of projects.
- C. Knowledge environment projects that include attempts to measure the value of knowledge capital, raising awareness and cultural receptivity, and changing behaviors that relate to knowledge.

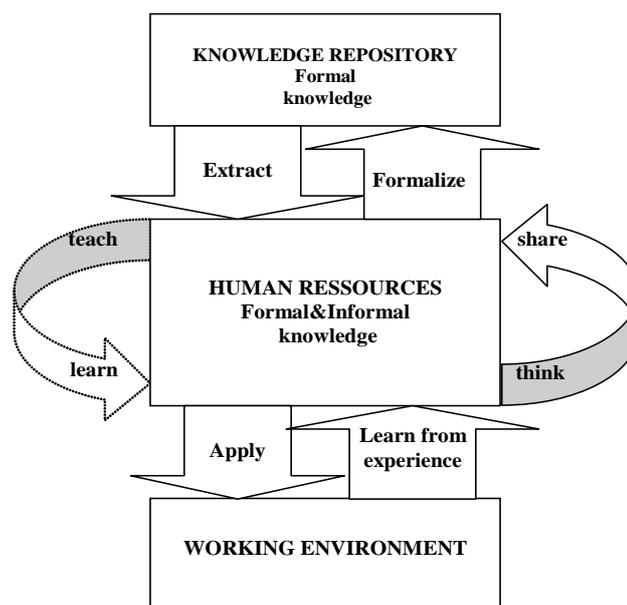


Fig. 3. Working knowledge company [8]

These two frameworks of knowledge management are said to reflect, to a degree, the national cultures of their authors. While the model of Knowledge creating company is focused on developing and sharing tacit (informal) knowledge in a common mental space, the model of Working Knowledge company is focused on capitalizing explicit

(formalized) knowledge and providing it to the user in need. However, both are designed to enhance the knowledge environment of the company and to expand the Knowledge capital. We propose in figure 4 an unified model of Knowledge working and creating company:

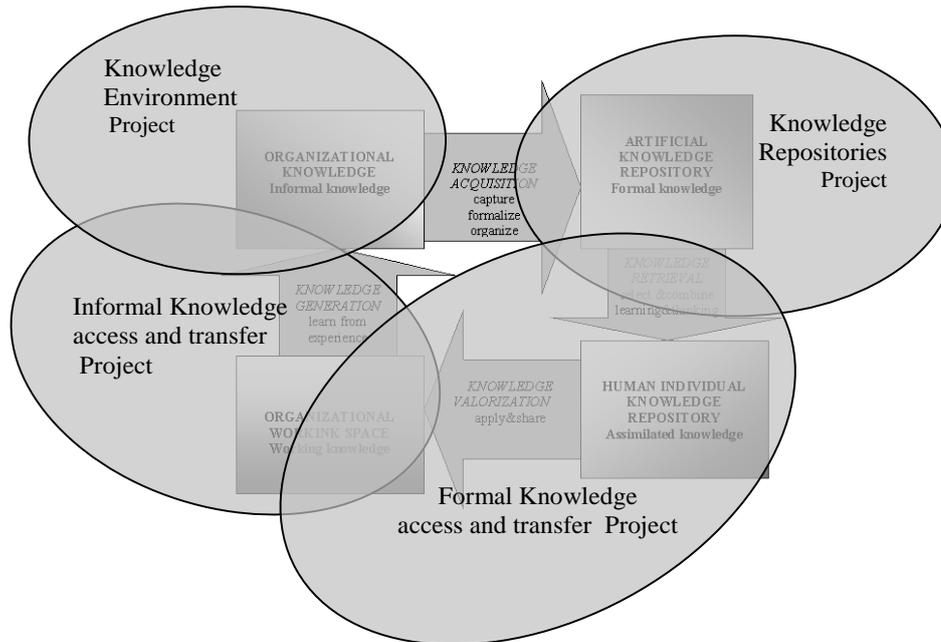


Fig. 4. The Knowledge working & creating company

This unified model superposes the centers of tacit and explicit Knowledge in an enterprise, the explicit Knowledge being mostly in external repository (partially digitalized) but also in human individual brains. On the other hand, the tacit Knowledge is based in human resources heads, at individual level but can be perceived as a whole, as a collective mental (the BA Japanese concept), featuring the organizational knowledge. The technical projects of Davenport and Prusak can be easily mapped on the unified model. Knowledge management in the global economy is a form of cross-cultural management. Among other things it is suggested that the conversion of knowledge from tacit to explicit may have limited applicability when knowledge is to be leveraged cross-culturally. According to many researchers in the field, the key task of knowledge management is to foster and

continually sophisticate collaborative cross-cultural learning with the observation that the essence of the cross-cultural challenge is not about *what* to learn from each other, but *how* to learn [12], how to make knowledge transfer across communication boundaries and successfully manage knowledge conversion through multicultural filters.

5 Strategic analysis of business information & knowledge

Business information technologies are scanning internal environment for summary information that is relevant for the decision-making. Current information about the environment is needed in the analysis process to make reference to as industry benchmarks or just as direct competitors performance levels to compare against. The cross-analysis of information provided by Business Information technologies may be synthesized

in BCG matrix, Arthur de Little or McKinsey matrix, or any other basis for strategic analysis. Michel Porter's approach in analyzing industry and competitors largely known as Five's Forces Model is entirely based on such cross information with great added value [3]. Any strategic analysis seeking to develop an edge over rival firms often use this model to better understand the industry context in which the firm operates, the focus is on all the actors involved in the industry: competitors, clients, suppliers, future competitors and potential substitutes. The business context is assessed using a set of factors that measures political, legal, economical, social and technological issues (SLEPT) and at last but not at least, the cultural factors [30].

Among the political (including legal) factors one can mention: environmental regulation and protection, tax policies, trade regulations and restrictions, contract enforcement legislation and consumer protection and competition regulation, employments law, political stability, safety regulation and government organization and attitude.

The economic factors, the most quantified of all, are: economic growth, interest rates and monetary policies, exchange rates, inflation rates, taxation, government spending, unemployment rate, labor law, stage of the business cycle, consumer confidence.

The social factors, being hard to measure are easily overlooked but their impact on global businesses is among the strongest: income distribution, demographics, population growth rates and age distribution, labor and social mobility, lifestyle changes, work/career and leisure attitudes, entrepreneurial spirit, education, fashion, health consciousness and welfare, living conditions, feeling on safety.

The most important technological factors: government research spending, technology oriented industry, new inventions and development, rate of technology transfer, life cycle and speed of technological obsolescence, energy use and costs, changes in information technology and communication (internet and mobile phone)

As one can easily see, if the economical and technological factors seem not to be highly exposed to cultural influences, the social and political factors are strongly affected by culture.

The cultural factors comprise individual culture (both professional and common), team and corporate culture, family culture and society culture and trends.

6 Cross cultural strategic analysis

Cross cultural analysis is a means of bringing together all the cultural factors by considering them against a number of key business elements: needs and wants on services markets and patterns of buying behavior

The proper usage of intercultural competencies can be a source of competitiveness. A brief definition of intercultural competencies is simply the skills and attributes professionals need to succeed in an international environment [25]. Among these skills one can mention:

- Awareness of cultural values that might impact cross-cultural business;
- Ability to adjust the negotiation, communication, presentation, and team leading style etc. to avoid cross-cultural misunderstandings;
- International leadership skills.

Intercultural competence should include cognitive aspects, such as cross-cultural awareness or mindfulness, knowledge of cross-cultural fundamentals and tools and specific country or region specific know-how. Also intercultural competence should include specific behavioral skills, which include cross-cultural communication or behavior necessary to build trusting and sustainable, long-term relationships.

Intercultural competencies increase the ability to reach business goals across cultures and ensure successful management of cross-cultural aspects of doing business abroad. In a global business environment, a good integration of knowledge management and intercultural competencies can generate a source of competitive advantage on services' market by supporting customized design, advertising and services sales according to

local habits.

Cross-Cultural Management, as a Knowledge Management Perspective, reinvent the concept of culture which, rather than being presented as a source of difference and antagonism, is presented as a form of organizational knowledge that can be converted into a resource for underpinning core competence. Focused on 'cross-cultural interdependence' rather than traditional views of comparative differences and similarities between cultures, cross cultural knowledge management is more suitable to global business management [13].

Cross-cultural Management has received

considerable attention in the international business literature. Knowledge Management and Cross-cultural Management improve knowledge collecting and sharing in multinational companies, and effective use of knowledge in international joint-ventures. However, there is another remaining aspect that describes a new culture created from the combination of two or many cultures. This new culture has been named as several terms, such as Cultural Synergy, Third Culture, Cultural Hybrid and intercultural competences are seen as Cultural Intelligence [15].

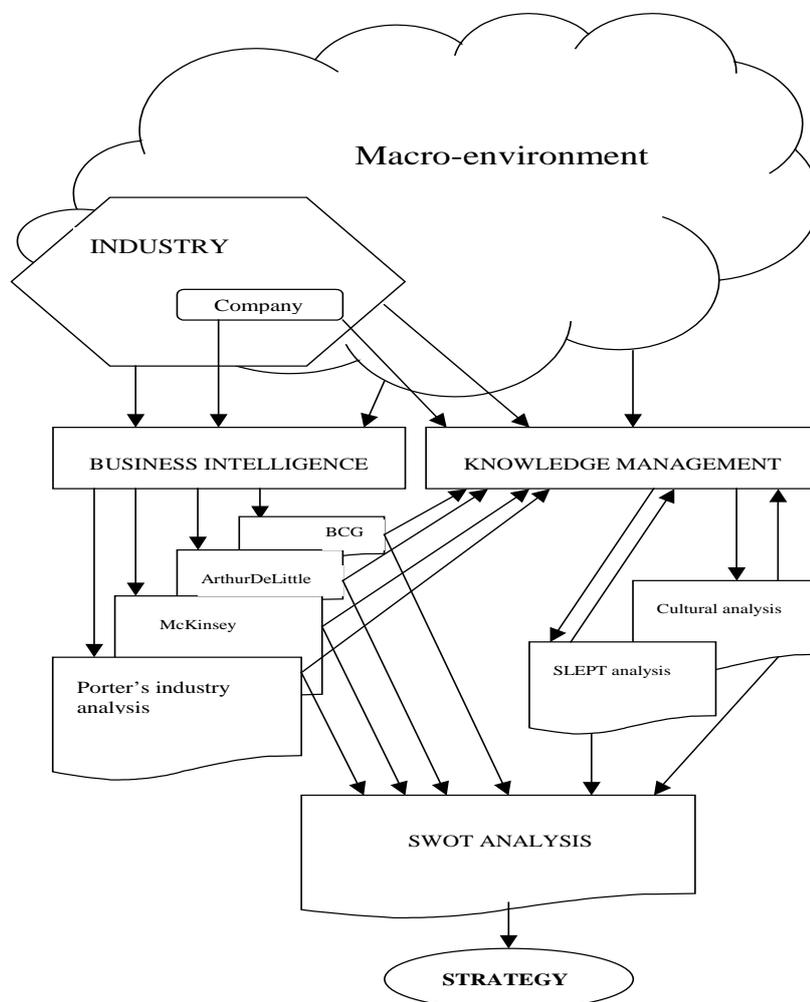


Fig. 5. Integrating Business information technologies in the strategic management process [1]

The overall importance of the SLEPT and C factors is that together they constitute the macro environment within which business operates. It is these factors, or rather trends and

changes in them, which give rise to the major opportunities and threats which the international business must take account of. Businesses must not only be aware of these

factors, but ideally must be able to forecast and anticipate them. In fact, being able to anticipate and respond to these trends and changes is increasingly the key element in competitive success for the international business). After using all other techniques of analyzing the external environment of the company from which the opportunities and threats are understood, and after using some techniques of internal environment analysis from which the strengths and weaknesses are detected, SWOT analysis is used as a base for formulation the objectives, strategies and their implementation. Integrating Business intelligence and Knowledge Management in strategic

management process (Figure 5) ensure a solid, up to date foundation for expertise inheritance and case based reasoning, leading to reliable strategies.

7 Global Knowledge Management

Since many of these companies are global, there has been increasing interest on building and deploying knowledge bases on a global scale - both to leverage the knowledge and expertise that is distributed around the world, and also to make case bases available to all the regional support organizations to solve customer problems consistently worldwide [7].

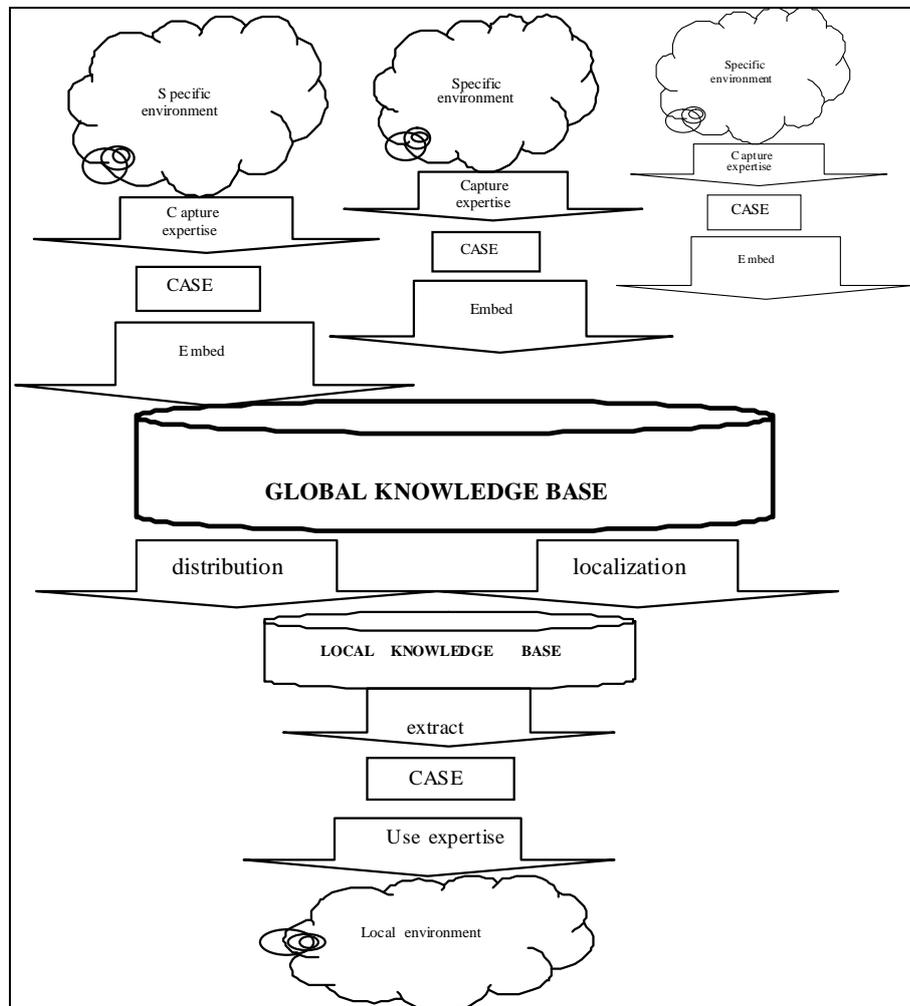


Fig. 6. Structure of a Global Knowledge Management system

Knowledge management becomes even more complex within a global framework. There are a number of key issues that companies need to address in global knowledge capture

and management [7]:
 - *distributed authoring* - capturing expertise and experience from customer support organizations distributed around

the world; embedding that experience in case bases.

- *knowledge distribution* - distributing knowledge bases, and updates, and having the local sites incorporate changes and additions.
- *localization* - being able to modify global knowledge and add local knowledge; customizing to local needs (e.g., language translation, local actions, local questions, local features).

The development of a Global Knowledge Management system (figure 6) is a distributed project in need of global management to coordinate the development and deployment efforts in the various global regions and supervising all technical aspects of the project, including:

- approving case bases for global distribution;
- maintaining a central library of global cases;
- distributing global case bases and/or updates to the various regions worldwide;
- developing utilities to support global procedures;
- ensuring a single, standard global style guide for the knowledge base.

The Artificial Intelligence provides a specially designed technology that could be used to organize, store and retrieve knowledge related to business cases, technology named Case-Based Reasoning. "Cases" are used as the representational framework to capture knowledge of business issues, problems and solutions and other general topics. Cases typically contain a description of the case and a set of features (e.g., symptoms) that define the case, as well as the appropriate action to take in that situation.

Providing the initial problem/query description, end users could use a search engine to find previous solutions that may help solve a particular business case.

8 Conclusions

Assessing the international business environment is crucial in understanding the factors that are decisive for developing

successful business strategy, whether at home or abroad. The main challenge is about developing markets for services, and this can only be effective if it is applied against the background of a dynamic macro environment. Business excellence means delivering on commitments and exceeding client expectations. It means being the most cost-effective at delivering high-value products and services with industry-leading quality. Cross-cultural knowledge management is an essential element in planning to build a successful global outsourcing company.

A good management of industry's information and knowledge correlated with global macro-environment's information and knowledge represents the first opportunity to be valued in order to increase quality standards up to the excellence level. Methods and models of strategic analysis of this business information provide scientific accuracy and surety to business decision, in objectives setup and action planning.

Making use of the most recent, sophisticated information technologies as Business Intelligence and Knowledge Management, global business are increasingly successful. Knowledge management is deployed across a network of social and technical, human and material components. In the global economy, knowledge management is in fact a form of intercultural management.

The intercultural management is the key factor to business excellence especially for service providing companies, operating on global markets. Cross-cultural Knowledge Management ensure a real support in deploying successful business across international frontiers by smoothly managing multicultural teams of employees in providing highest quality products and global services to multicultural customers.

Integrating IT supported multicultural Knowledge management in the strategic management process of global companies creates the premises to achieve the excellence level in doing business worldwide.

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