

# Intellectual Capital and Knowledge as a Competitive Advantage in Industry A Case Study of Algerian S.M.Es (Scimat)

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## Abstract

The competitiveness of a cement factory depends on the intellectual capital(IC) resources and knowledge management of all the company, as well as on the ability to use them for competitiveness. But these days the use of the IC and knowledge is not optimal in Algerian enterprises because there is lack of methods and techniques which give managers some kind of advice how to use properly their own IC/knowledge potential-obviously maximizing advantages for this company.It is also the lack of research concerning what each components of both the structure of IC and knowledge influence on gaining competitive advantage and increasing value of the hole company. the intellectual capital created in the company could have higher efficiency if it is possible to identify all its components and to know the measurement methods. Also knowledge if used properly increases the value of the company.The aims of this article is not only to describe all aspects of IC and knowledge management but to present a practical approach to the effective use of both of them as applied in other companies. We also focus on some determinants of IC/knowledge to give some advices, for employers and employees, about the way they could increase the value of the company. A comprehensive model of efficiency of IC use which helps in creating values and building competitive advantage on a large industrial scale.

**Keywords:** Intellectual capital-Knowledge management-efficiency-competitively-Algerian SMEs.

**Mots clés:** capital intellectuel, gestion de connaissance, efficacité, compétitivité PME/PMI ALGERIENNE.

## 1.Introduction

An intellectual capital (IC) becomes very important for the future-oriented company, because it is a main factor in creating development of the company at the present day. To obtain competitive advantage, it is crucial for enterprises to use knowledge and IC they have in most efficient way. Thus, proper measuring and managing of IC is emerging as an effective tool for increasing competitiveness and efficiency of the company on the market. Reporting IC to customers, partners and investors systematically has become a crucial factor of success in the context of Strategic watch of the company. Unfortunately the use of IC is not optimal, in Algerian SMEs, because there is a lack of methods and techniques which give employers hint about the use properly their intellectual/knowledge potential and in consequence to maximise advantages for the firm. Also there is a lack of study of IC/knowledge management with reference to current company activities and lack of research concerns an influence of each component of the IC structure in gaining competitive advantage and increasing values of the whole firm.

The objectif of this article is to analyse the use of intellectual capital and knowledge management in companies in order to determine the appropriate method of IC/Knowledge efficiency. We would like to draw special attention as far as SCIMAT is concerned to:

- 1-detailed identification of IC components, what leads to the correct estimation of IC usage.
- 2-Advantages result from effective use of IC in the firm
- 3-Determinants, which influences the efficiency of IC use in company.
- 4-Knowledge Management cycle in the given firm.
- 5-Knowledge management cycle.

Finally The creation of the firm strategy based on knowledge and treatment of employees as an intellectual capital is, for the organization, an opportunity for survival and achieving success in a dynamically changing surrounding. .

### **I-The Concept of Intellectual Capital:**

Intellectual capital was introduced in early 90s as a concept concerning intangibles with reference to company value creation and performance (Edvinsson & Malone 1997).Today, intellectual capital is an increasingly important part of running a business with success but its definition stays difficult task. So IC is still not defined completely and different authors give different interpretation of the concept. However one can define the concept as:

- “all non-physical and non financial resources that are fully or partly controlled by the organisation and that contribute to the organisation value creation (Ross 2005).
- Intelligence of the organization which is not only a sum of intelligence of its employees but is a result of existing synergy phenomenon. The intelligence of a company consists of different elements like: communication, technological, innovative, organizational, marketing, social and finally ecological intelligence.
- Total knowledge of a company’s employees and translation of this knowledge to IC components.

- Intellectual material consists of knowledge, information, intellectual property, experience that can be put in use to create wealth and creation (Stewart 1997).
- Knowledge that can be converted into values.

As we can see, we can divide IC into categories such as: human, organizational and relational as shown in (figure1).

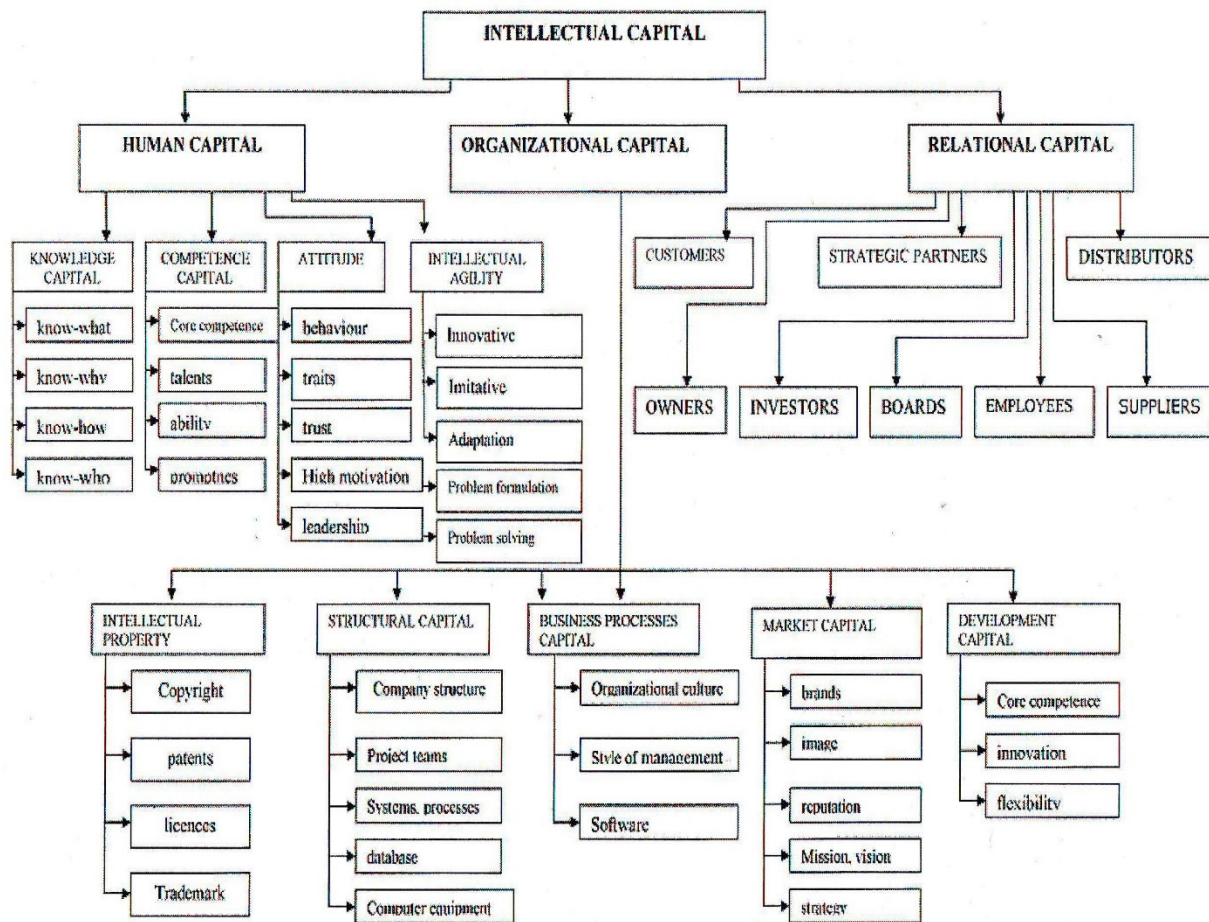


Fig 1: categories of intellectual capital

## II-Knowledge:

In literature, knowledge is defined through the prism of such terms as: data and information. Data is individual signs combined by syntax rules. From an organization point of view, these are registered facts about an event, e.g. numbers.

One can encounter various definitions concerning this term however related to this context we can retain (D.J.Skrymes's) definition "Knowledge management is a defined and systematic management of a specified set of information of a given company and connected with its processes of creation, organization, diffusion, and implementation in order to achieve certain targets of the company. This view underline processes of the so called "knowledge management cycle".

### II- 1 -Knowledge management cycle:

Observation of the "living enterprises" convinces of rightness and purposefulness of the integration of knowledge management, not only with the quality management, but also with normalized system: the security management and work safety or environmental management.

There are no standards, though, concerning management of such an issue as knowledge. Due to this fact the certification of knowledge management is impossible. That is why the optimal way is implementing the knowledge management into the already existing management system.

### II- 2 -Knowledge management cycle in the given enterprise:

"Scimat" company had already implemented the quality management system which is currently being improved (ISO9001/2000). Scimat is a producer of cement situated east of Algeria, it has been present on the national market since the 80s and currently it is employing 500 people. Scimat does not have certification that confirms its high standard of production and technological requirements. The company possesses IT management system, production module.

#### \* Localization and gaining of knowledge:

Knowledge location and gaining deal with search of outer and inner sources of knowledge, in other words, answers

to questions as “how» and “where” one may gain knowledge.

Scimat has not yet developed any standards concerning descriptions of working positions; it lacks procedures and instructions concerning access to outer and inner information. An employee, depending on situation, sets the access to knowledge himself. This called pull which means the access to information is forced. In this case it is hard for the employee to localize and gather knowledge. In such a situation ”Scimat”, means prolongation of task implementation, lack of knowledge clarity, waste of time and money. The company seems to be immature in the case of knowledge localization and gathering.

**\* Creation of knowledge:**

The necessity of trainings comes directly from ISO9001 and is a manifestation of a constant improvement. The culture of Scimat is not conducive to team work. Workers are not willingly sent for training and if there training these are irregular. Difficult access to inside and outside information, market competition and competition among employees make the efficient process of knowledge creation and development impossible.

**\* Sharing of knowledge and its dissemination**

In Scimat, the process of knowledge sharing encounters many obstacles, among these obstacles the uncertainty of information, lack of defined organizational policy. Scimat has irregular informational meetings and have not gained the respect of workers who believe that participation in such meetings is not important. All these factors show that employees are in willing to share their knowledge with others and do not take part in team work.

**\* Knowledge preservation:**

Knowledge preservation is an extremely important element since it has a direct influence on further usage of knowledge gathered during work on project, improvement or preventive and corrective actions. In this process of knowledge Scimat Company, some part of gathered information is recorded in IT system but the majority of informal knowledge is passed on verbally. The consequence of such an attitude is loss of this important value which leads to the waste of time and money,

**\* Knowledge usage:**

Knowledge use is the last stage in the knowledge management process and has direct link with previous stages however Scimat does not build a knowledge platform which is the base to a quick development and creation of innovation. Its market power is based only on material issues. Top management does not pay attention to culture, communication. This makes the creation of new knowledge for the company difficult and at the same time prevents creation of new products and technology. It is hard seeing the process of knowledge usage.

**III Proposed model of using IC efficiency in company:**

There is a need for more objective, reliable and complex methods for measuring IC of companies. a careful analysis of knowledge management and IC in theory.

The model based on general procedure for analyzing an measuring IC efficiency

And on the following assumptions:

1. Firms can be viewed as bundle of different resources distributed across firms
2. Competitive advantage arises from valuable resources that are mobilized into activities and value creation.
3. There is a possibility to identify the main areas of IC and their components.
4. It is possible to estimate the influence of each component on the organization value.
5. IC efficiency is an effect of human resources transformation in organizational capital. And this process due to competence of all employees can cause building a proper relationship with environment.

The introduction of such method requires:

1. Building awareness among all the employees at the company
2. Creating an IC measurement teams
3. Introduction of IC measurement methods, for analyzing and measuring IC efficiency.
4. Timely and complex implementation and publication of the results.
5. Engaging the scientific community into the process of evaluating their performance based on IC measurement tool.

A company, which will be aware of the importance of IC and knowledge in creating competitive advantage, should also introduce other actions such as:

- \* Planning human resources
- \* Effective selection process
- \* Interpersonal communication (knowledge transfer).
- \* Organizational culture.

On the other hand measurement of IC efficiency and evaluation, its influence in creating value and building competitive advantage require the model of efficiency of using IC in the company (fig 2)



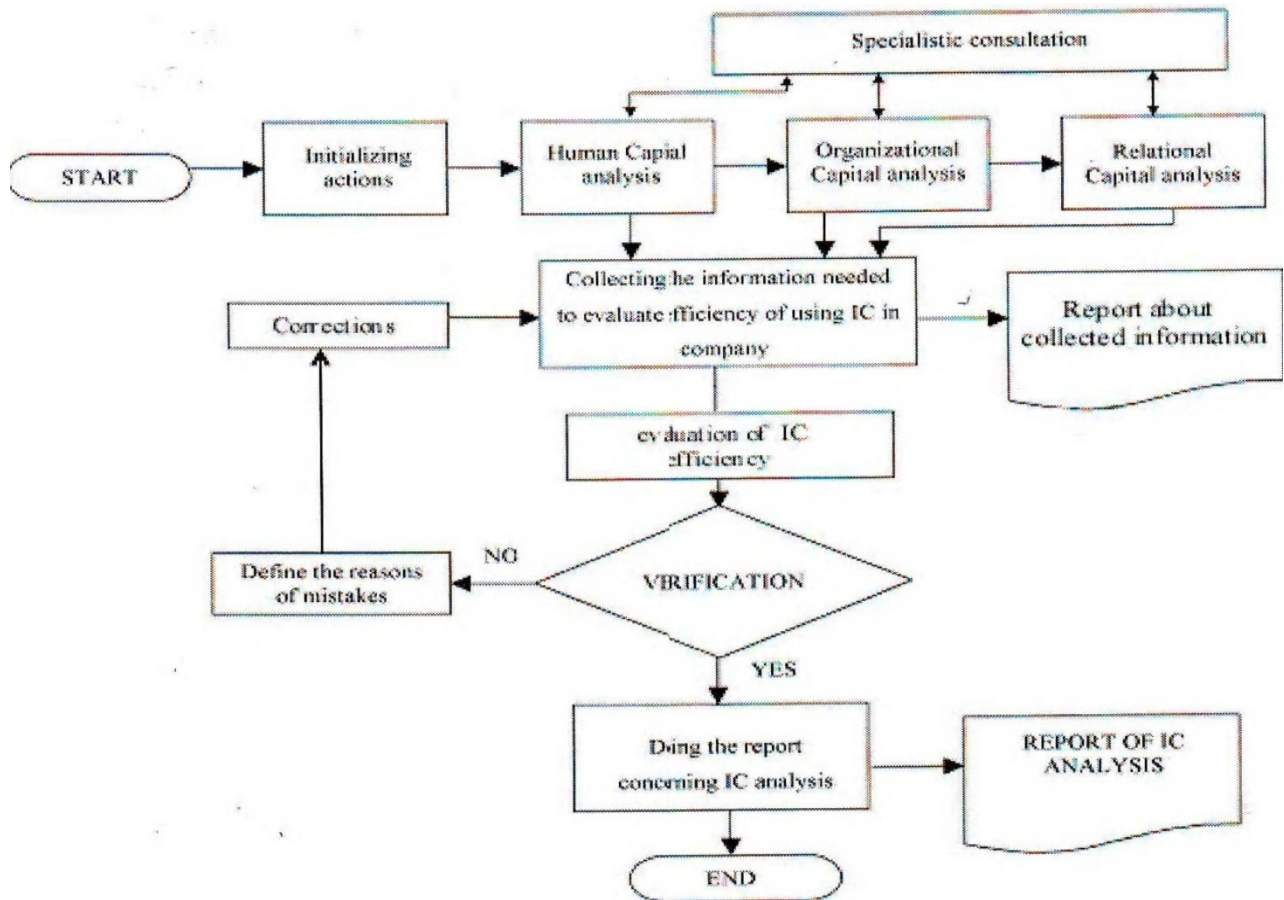


Fig 2: measurement of IC efficiency and evaluation

The Research mode of IC efficiency consists of four stages: preparation, execution, verification and the final stage.

**The first stage** is crucial because errors arising in this step affect final results. attention are needed:

- \* Creating team consists of expert who realizes the process.
- \* Preliminary touch with the company (expert familiarize with firm activities)
- \* Informing all organization participants about the process and training for mutual cooperation.
- \* Choosing the evaluation method.

Team should consist of managers of the company and external experts.

Here is some of the information needed:

- Statute, trade contract, notarized acts, etc
- Organization structure chart
- Clients and suppliers list
- other company documents.

The management must provide all necessary information concerning the company a special attention should be paid in transferring attention to experts. Full cooperation is needed from the employees.

**Second stage:** Execution

- Detailed analyses and measurement of the human capital resources.
- Detailed analyses and measurement of organizational capital resources.
- Detailed analyses and measurement of relational capital resources.
- Collecting information needed to evaluate of using IC/knowledge efficiency in company.
- Evaluation of IC/knowledge efficiency.

External experts can participate as a consultant.

**Third stage:** verification - if efficiency is correct if not, a source of errors must be identified and adequate correction should be introduced.

**The final phase:** ends the process by summing up evolution of the efficiency.

Implementation of this model is shown in (fig 3).

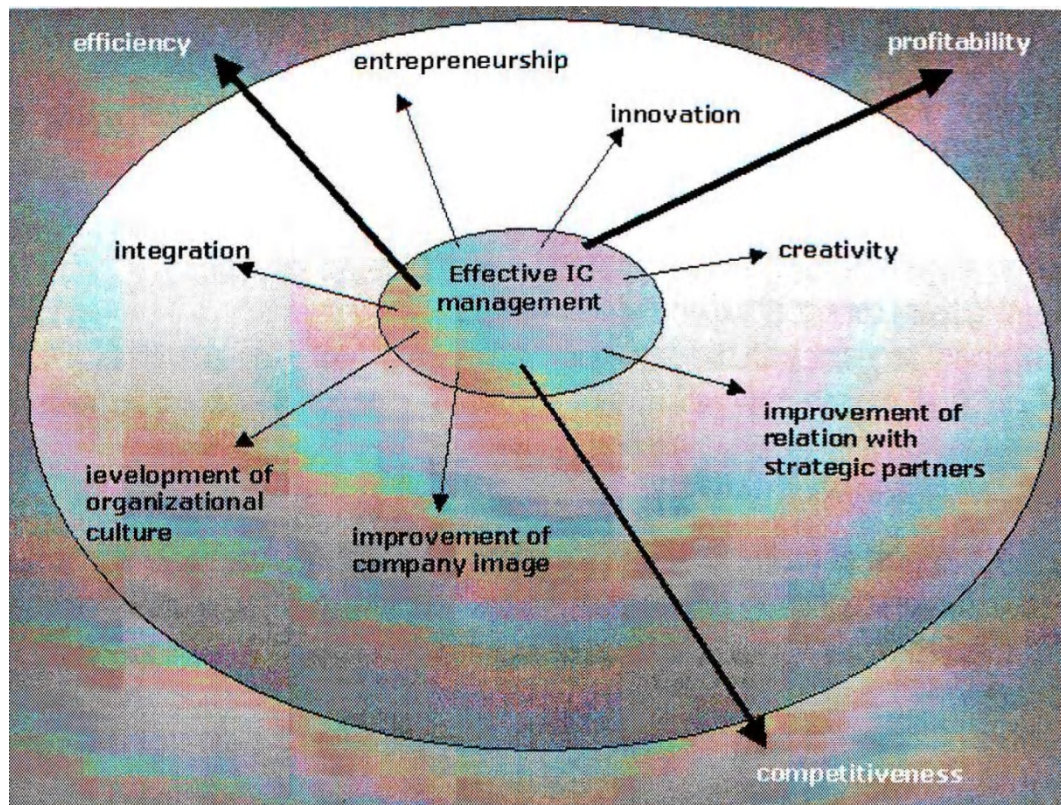


Fig 3: Implementation of the IC model.

**Remark:** It is clear that the presented method needs to be enriched by detailed analysis of each IC and knowledge area. However, it is a complicated task, which requires lots of work within the enterprise.

### Conclusion

Now days, many companies around the world have found that measuring and managing IC and knowledge provide a competitive advantage. And estimating the efficiency of IC is crucial to gain good position in the market. It is also important that companies should possess skills in building competitive advantage through using knowledge and IC in an effective way. However it is a difficult task. But scimat should remember about elementary steps such as: identifying determinants which influence the use of IC in human, organizational and relational area

IC in different companies and institutions can be evaluated in different ways. To win a competition in the place, it is necessary to take into account all actions which develop the value of the company. Finally Creation of enterprise strategy based on knowledge and treatment of employees as an intellectual capital is for the company an opportunity for survival and achieving success in the dynamically changing surrounding.

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