

# THE STRATEGIC CHARACTER ATTRIBUTED TO NICT (USED) IN THE FRAMEWORK OF THE INFORMATION SOCIETY

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## Abstract

*The fast technological progress has favored the perfect synchronization of the new technologies with the major socio-economic trends, which has determined the use of the New Information and Communications Technologies (NICT), as a real strategic challenge, by certain companies, whereas others considered them only investments in technology.*

*According to the specialized literature, four groups of variables were identified, highlighting the strategic character of NICT, namely: the context of the company (sector, size and dispersion), the managerial context (form of leadership, structure and strategy), the cultural context (culture of the company) and environmental context (competition level and environmental uncertainty).*

*The present work focuses on the projection of a theoretical model of the key factors determining the strategic character attributed to NICT by the companies.*

**Key words:** company, culture, management, environment, NICT, strategy

**Jel classification:** O32, M15.

## 1. Introduction

At present, the investment in NICT is promoted on a large scale in companies. Due to the possibilities of economic growth and increased efficiency of the company in point of acquisitions, stocking and processing, the companies choose to invest in NICT able to meet the new challenges they are faced with.

For a long period of time, the use of NICT in business has been viewed as a technical problem. From this perspective, the directions that technology is following have been considered responsible for a part of the logistic or technical support and do not fall within the general strategic planning of the company. Thus, NICT are far from being enough to create value for the enterprise.

In order to go beyond the purely technical vision, we have analyzed the patterns of NICT strategic alignment to the company's activities (Jouirou and Kalika, 2007), according to which NICT create value, perceived as a strategic advantage of the company in its fight for competitiveness.

The objectives of this study are to present the way in which today's companies use NICT as a strategic instrument or as a simple investment in technology, to identify and analyze the relations that could exist between certain explanatory variables and the strategic use of these new technologies.

Consequently, the study of the factors explaining the strategic importance attributed to ICT in companies seems essential.

## 2. The concept of informational society

In time, the term "informational society" has been defined based on certain comparisons:

- postindustrial society versus informational society;
- mass communication versus NICT;
- capital and work versus knowledge, information, communication.

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At the same time, many authors define the information society by association with the societal transformations that determined the passage to another type of society “which has become dependent on extremely complex electronic information and communication networks; a society allotting a considerable part of its resources to informational and communicational activities” (Melody, 1994).

The whole literature on the information society relies on the founding “technical-economic” paradigm (Schumpeter, 1939, 1943), concerning the economic implications determined by the technological progress. This new technical-economic paradigm highlights the relation that exists between technology, institutions and social structures.

Appeared three decennia ago, the term “information and communication technologies” was associated to “the expanding of computers, which can stock a huge quantity of information and process information in just a few seconds; modern telecommunications, transmitting information almost instantaneously; microelectronics based on organizing information in an inexpensive form” (Preston, 2001).

According to Melody (1994), *the information and communication resources* of a technologically developed society include:

- efficient telecommunications networks;
- microelectronics;
- computer hardware, software and services;
- telecommunications and service equipments;
- mass-media,
- internet, databases and informational services;
- traditional forms (libraries, editorial services, etc.).

Companies give special attention to the present wave of digitalization already affecting us all. IT development goes further with huge steps and its effect is reshaping the society as a whole. Thus, it becomes very important to analyze the context of the company, as a first variable out of a group of four (company context, managerial context, cultural context and environmental context).

### **3. Company context**

The *activity sector of the company* seems to have an influence on the level of use of ICT. Indeed, there appear differences in the use of technology between the industry and the service sector, especially the banking services. The specialized studies have clearly shown that the strategic role of ICT varies depending on the activity sectors. Thus, a first hypothesis is:

*H1: There is a relation between the company’s activity sector and the strategic importance attributed to NICT.*

Regarding the *size of a company*, one can note several arguments in favor of a relation between the size of the company and the level of use of NICT. Moreover, according to Kalika’s work (2002), the role of NICT is perceived differently depending on the size of the company, yet the effect given by the dimension of the company is not determining. Some authors support the fact that the proactive criterion is only partially correlated to the dimension of the company. Small companies have initiative and can be more innovative than big ones, because they perceive the usefulness of NICT. Thus, we formulated the next hypothesis:

*H 2: There is a relation between company size and the strategic nature attributed to NICT.*

*Dispersion* takes on several forms in a company. They can be organizational and reflect the fact that a company in a group has greater need of information transmission. Dispersion can also be geographic in nature and refer to the localization of units or clients. Wijayanayake and Higa (1999) demonstrated that the distance between the interlocutors influences the choice and the use of NICT. The same researchers have checked the hypothesis

according to which geographically disseminated groups prefer to use e-mail or phone when the geographic distance between the interlocutors grows. This hypothesis has been checked as well by Trevino and his collaborators (2000), who showed that when the distance between interlocutors is great, electronic communication is preferred to the detriment of meetings.

According to the authors Jonas Ridderstråle and Kjell Nordström (2007), the new informational technologies compress time and space. They even considered the cyberspace as the seventh continent. In time, it has been possible to demonstrate a positive correlation between geographic distance and the importance given to NICT. The third hypothesis formulated is:

*H3: There is a relation between the dispersion of the company and the strategic nature attributed to NICT.*

A second important variable refers to the managerial context, which includes leadership, training, strategy and organizational structure. It is already a certainty that the “*infostructure*”, the electronic nervous system of the company, will become more important than the structure of the organization.

#### **4. Managerial context**

Regarding the *leadership*, the level of use of NICT and the importance given to them depends on the leadership policy promoted, and also on the role of the hierarchic superiors in the promotion and the use of NICT (Dahab, 2001).

Damanpour (1991), Kemerer Fichman (1997), Grover and his collaborators (1997) highlighted the fact that the manager’s profile and his capacity of reaction to change determine the level of use of innovation. Thus, the fourth hypothesis:

*H 4: There is a relation between the commitment of the top leadership in the domain of NICT and their strategic character in the company.*

Kalika’s research (2002) has managed to prove the existence of a relation between the *training* in the IT domain and the degree of awareness of the strategic importance of NICT. According to Dahab (2001), training in order to use NICT is certainly essential, yet not also sufficient. It has to be accompanied by specific training concerning the new technology. This has led us to the formulation of the following hypothesis:

*H 5: There is a relation between the training for the use of NICT and the company strategy.*

Among the factors influencing the importance given to NICT, *strategy* plays a key-role because it permits the development of strategic alliances in order to reduce costs, reproject business processes, increase the differentiation between products and services, assure business growth. The strategic character of NICT is related to strategic aspects such as developing partnerships. Thus, the sixth hypothesis:

*H 6: There is a relation between the partnership strategies of the company and the strategic character attributed to NICT.*

*The organizational structure* can influence both the design of the information systems and the success of their implementation and use.

The research in this domain has demonstrated that the importance given to the use of NICT is influenced by the type of organization of the company.

The organizational structure of the company imposes the realization of an efficient communication in the group working at a distance, which makes it necessary to invest in NICT. Thus, a seventh hypothesis can be formulated:

*H 7: There is a relation between the structure of the organization and the strategic character attributed to NICT.*

The impact of technology is omnipresent. Today, information circulates freely. The sequence of technology is unstoppable and one cannot fight it either. The investment in NICT and their implementation can be influenced as well by the variable concerning the cultural context.

## 5. Cultural context – the culture of the company

The factor concerning the cultural context refers to the culture of the company, which is largely influenced by the national culture. Empirical studies have shown the delayed adoption of NICT in certain countries compared to others (El Louadi, 2002). These studies have analyzed the impact of the national culture on the degree of use of NICT (Ben Zakour, 2002). A strongly hierarchic culture of the country generates an attitude associated to the holding of information. Information relies on the principle of confidentiality, according to which the access to it is limited, while NICT are governed by the principle of transparency. Thus, one can note the contradictory attitude between information and NICT.

Kalika's research (2002) showed that the strategic nature attributed to NICT must replace the old beliefs and the old traditional and professional values by the new thinking patterns. Lagrée and Magne (2001) speak about an "informational" culture of the company. Regarding the cultural context, we have formulated the following hypothesis:

*H 8: There is a relation between company culture and the strategic nature attributed to NICT.*

The old needs should to make room to the new (J. Ridderstråle, K. Nordström, 2007), because technology is changing and will continue to change faster than the capacity of any government of emitting regulations by which it could control it. Certainly, the organizations that do not adapt to their business environment (which is continually changing and characterized by uncertainty and risk) will die.

## 6. Environmental context

In the fight for survival on increasingly dynamic, unstable and competitive markets, the companies perceive the environment as being unsure in the case in which the pressure of the strong clients and providers determines the use of information technology. The environmental instability determines the companies to obtain real time information and use business information to face this *environmental uncertainty*. Kalika's work (2002) demonstrated a positive correlation between the perception of the strategic character of NICT and the use of monitoring instruments related to the internet. Thus, a new hypothesis can be stated:

*H 9: There is a relation between the uncertainty of the environment of the company and the strategic character attributed to NICT.*

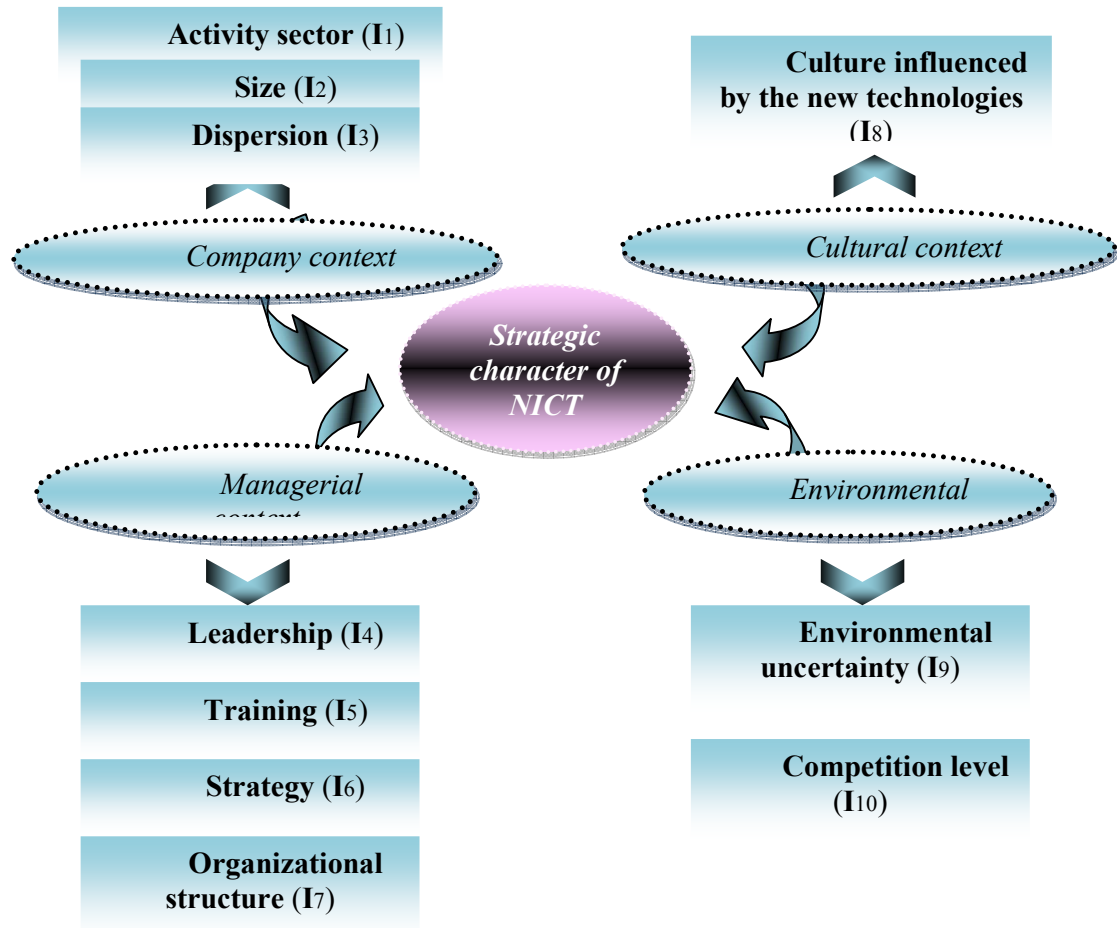
Generally, it is admitted that probably the use of NICT is important for the increase of the *competition level*. Dos Santos and Peffus (1998) were able to demonstrate that companies use NICT resources to obtain competitive advantage. However, no significant result has been reached regarding the relation between the strategy attributed to NICT and competitive intensity. The following hypothesis can be formulated:

*H 10: There is a relation between competition intensity and the strategic importance given to NICT in business.*

A first component of the capacity of a company of transforming information into strategic advantage is represented by the information management practices – the capacity of the company of efficiently managing information during its life cycle – collection, organization, processing and maintenance.

## 7. Conceptual model

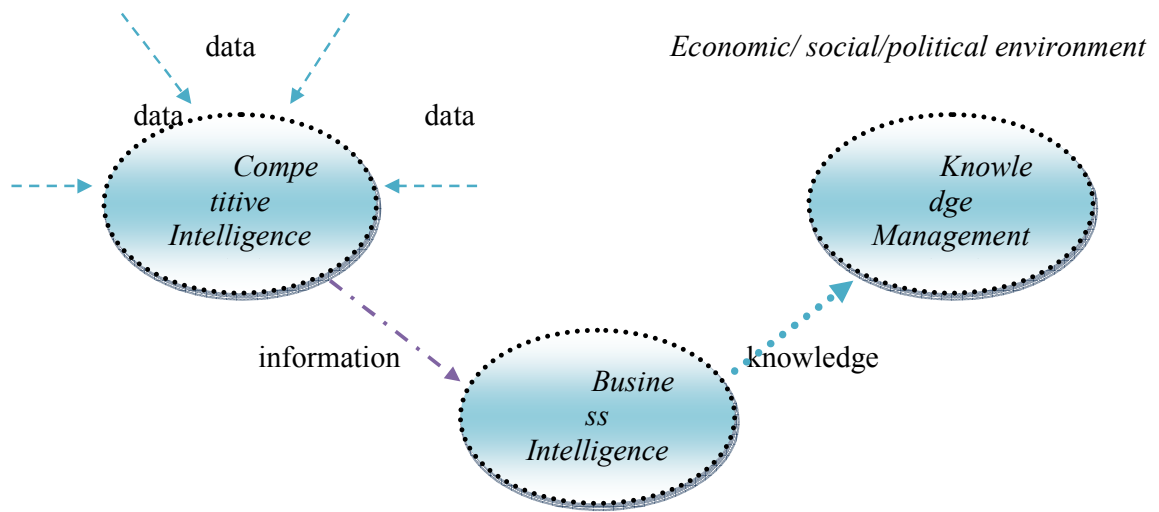
Based on the four groups of variables, namely: *company context* (sector, size and dispersion), *managerial context* (form of leadership, structure and strategy), *cultural context* (company culture) and *environmental context* (level of competition and environmental uncertainty), we have designed the following conceptual model (Figure 1), highlighting the strategic character of NICT:



**Figure 1. Conceptual model concerning the strategic character of NICT**

*Source: processed from the specialized literature*

Information management can be achieved by means of several processes, the most known and used being *Knowledge Management*, *Business Intelligence* and *Competitive Intelligence* (Figure 2).



**Figure 2. Relation between the concepts CI - BI - KM**

*Source: processed from the specialized literature*

Since these domains have elements in common, several mentions and conceptual delimitations are needed.

*Competitive Intelligence* is a process meant to collect the information on the external business environment (competitors, partners, providers, clients, groups of interests) and transform it into knowledge needed to make tactical or strategic decisions (M. Coman, 2013). Although a relatively new domain, Competitive Intelligence can be one of the economic disciplines enjoying the fastest growth in notoriety.

On the other hand, Knowledge Management refers to the activities of the company in relation to its external environment, while Business Intelligence is rather an “internal business”, in the sense that it concerns the interdepartmental activities, analyzes the material and informational flows and the ways of improving the activity from within the organization. In the Romanian literature, the expression Business Intelligence is translated by “Inteligența Afacerii/Organizației”, which represents, in essence, business information.

## **8. Conclusions**

This theoretical study permitted the identification of four groups of variables highlighting the need to be aware of the strategic importance of NICT in the information society, characterized by the dependence on electronic information. Thus, NICT are perceived as a competitive lever both for the present and for the future, depending on the changes in the society.

The results of this theoretical research support the idea that the strategic dimension attributed to NICT depends mainly on the nature of the business environment, on the leadership policy promoted, on the "informational" culture of the company and its partnership strategies.

Starting from the superior hierarchic level of an organization, by transparency and information exchange, both internally and externally, one can define the strategic orientation of NICT. Thus, the researchers' previous results highlight the influence of size, dispersion and environment on the importance given to NICT in companies.

Indeed, it is clear that companies are faced with their upstream and downstream partners and give special attention to transparency and to the internal and external sharing of information, NICT playing a key role in the company.

Moreover, NICT encourages the initiatives in this domain, affirming their strategic dimension in the company.

One can conclude that the strategic dimension attributed to NICT is explained mainly by three variables, namely: the dimension of the company, dispersion and the business environment.

Business Intelligence answers all the challenges related to obtaining information, eliminates resource and time waste, excludes errors, crystallizes the vision of the management on the important aspects of the business, delivers information instantaneously to all those involved, regardless of the volume or complexity of the data.

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