The Impact of the Information and Communication Technology as a Factor of Influence on Organizational Performance

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Abstract
We start the analysis considering three fundamental resources: the organizational structure (number of departments and how the interact), human resources distributed in work groups (micro groups) and the influence that organizational change provokes on the psychosocial climate. We are especially interested in the changes that facilitate the interaction under the direct impact of Information Technology and Communication as a means of influence on organizational performance. If we are aiming at institutional communication we must also take into account the fact that it involves technical elements, technology being another agent of social change. An analysis of the social and economic system offers perspectives and different levels of approach, but it also signals convergence. The competitiveness of firms in the context of the current economic challenges requires effective management activities and a strategic importance directed towards a better administration of knowledge and the impact of Information Technology and Communication on organizational structures. The emergence of the global crisis has brought knowledge, seen as an economic factor, in the area of scientific challenges. The role of knowledge as a distinct factor of production is aimed at renewing and applying information for the maintenance and survival of the organization. For a successful business in the context of globalization as holistic report, convergence between knowledge and organization is required, because performance involves competitive advantages, efficiency and a strategic approach.

Rezumat
Vom porni analiza de la trei resurse fundamentale: structura organizaţională (număr de departamente şi modul de relaţionare al acestora); resursa umană distribuită în grupuri de muncă (microgrupuri) şi influenţa pe care o exercită schimbările organizaţionale asupra climatului psihosocial, mai ales cele ale facilitărilor interacţiunii sub impactul Tehnologiei Informaţiei şi al Comunicării ca factor de influenţă al performanţei organizaţionale. Asigurarea comunicării instituţionale implică şi elemente de ordin tehnic, tehnologia ca agent al schimbărilor sociale. O analiză a sistemului social şi economic oferă perspective şi niveluri diferite de abordare, dar în care există o anumită convergenţă. Competitivitatea firmelor în contextul actual al provocărilor economice presupune eficientizarea activităţilor manageriale atât în calitatea lor de mediu de activitate profesională, cât şi privind importanţa strategică a unei mai bune gestionări a cunoaşterilor şi a impactului Tehnologiei Informaţiei şi al Comunicării asupra structurilor organizaţionale.

Apariţia crizei mondiale a adus în arealul provocărilor ştiinţifice, cunoaşterea ca factor economic, rolul cunoaşterii ca factor distinct de producţie vizând înnoirea şi aplicarea cunoaşterilor în vederea întreţinerii şi supravieţuirii organizaţiei. Pentru succesul unei afaceri este nevoie de convergenţă între cunoaştere şi organizare sub incidenţa globalizării ca raport holistic, pentru că performanţa presupune avantaje competiţionale, eficienţă, abordare strategică.
Introduction

In the realm of scientific challenges, the appearance of the world crisis shifted the focus towards knowledge as an economic factor, the role of knowledge as a distinct factor of production aiming at the renewal and the utilization of knowledge for the maintenance and survival of the organization.

The organization based on knowledge belongs to the modern reality. The progress of any society depends in a decisive way upon the efficiency with which its human, natural and financial resources are used. A well-known teacher said: “efficiency represents an essential need for the economy and it must guide the economic actions and decisions at all times” (Cornescu, Crețoiu, Bucur, 2003).

The world’s economy was confronted with a series of severe shocks and, from this perspective, “the nations started to assess and measure their wealth with the help of a unit indicator named the index of human development. Its structure comprises the quantitative economic manifestation of development and the value of the natural, human and social capital” (Angelescu, 2000).

In order to be successful in a business, there is a need of convergence between knowledge and organization under the incidence of globalization as a holistic report, as “performance must have the same types of challenges in the context of a natural economy as those in a global economy: efficiency, strategic approach, competitive advantages” (Preda, 2006).

The social-economic development has for a long time relied upon the idea that the world’s resources are unlimited. Nowadays, however, it emphasizes the fact that resources must be used in the most sensible manner possible, and this becomes the efficiency criterion employed when it comes to management decisions. In Toffler’s opinion, time remains a hidden resource. Especially when changes occur faster and faster, the capacity to shorten the time - for instance, through fast communications or the prompt launch of new products on the market - can make the difference between profit and loss” (Toffler, 1995).

By eliminating theoretical dysfunctions, the transformation of society takes places under our very eyes, because one of the most important economic and social challenges presented by the contemporary High-tech progress means that we have to become aware of social realities and of the complexity of economic life. The technological civilization allows for the interpersonal reports to become more flexible, while human necessities, transformed into objectives, become economic interests in the social sphere.

The management of these transformations constitute, in the sphere of individual psychology, dysfunctions related to the integration with one’s the theoretic opinions and one’s incapacity to adapt to a fast changing environment. Both perspectives of the human subject are approached in contrast with the socio-economic macrostructures performances. One of the extremes is the point of view that claims the economic system is rooted in the social system and it is only an aspect of the human behavior. The other extreme is the perspective that all behaviors are economic. The process of social change is less perceptible and the social system must be evaluated from an economic perspective. From this perspective all human behavior can be explained through economic analysis although “science rejects any form of imposing the validity of ideas through authority” (Zamfir, 2004).
Today, increased performance is reflected in the complex of significances presented by the managerial strategy of administrating the crisis and valorizing the financial, human and material potential. The social institutions are examples of behavior expressed through the interactions between individuals in order to reach the objectives which they could not obtain individually. It is necessary to reanalyze the social sphere organized from the perspective of the labor micro group, of the human factor, for the government policy etc. starting from the principles of globalization “convergence markets, the ways of administration of the riches, etc.” (Ionescu, 2004) redefining the new coordinates of the information society with an economy based on knowledge. In the perspective of a new efficient administration, government policies must improve in order to accept new methods and new innovations, because businesses, in the new economy, consider them necessary.

They must offer the real systems valid instruments for connecting them to reality. Any process of change requires a “modification of the exterior structures and an action made by the members of the organization towards the values implied. Change is not possible without creating new values; on the contrary, it is about adaptation. Unlike adaptation, any process of change imposes an evolution of organized structure and of the members of the organization in question” (Necula, 2000).

Beyond the sphere of actual processes, many analyses of efficiency have been tried under the name of cost-benefit or efficiency-cost analysis (social, military, medical, educational programs). Minimizing the volume of the resources used in order to obtain units of effect represents the only solution for the development of an improvement in the conditions that the practical competitiveness imposes.

The improvement of the management systems centered on the growing level of professional training is particularly important for the creation of the potential of working and for its capitalization. School, with its different steps, profiles and specializations, has a decisive role. In the analysis of the management system of the organization, the economic sociology can be classified in branches according to the structure of the economic process as: the sociology of production - the study of the behavior, relationships and organizations made during the production of economic goods, and having objects very developed in labor sociology (industrial, agricultural, intellectual); the sociology of change and economic repartition - which study the behavior and the values of the activities of change, repartition and movement; the sociology of consumption - the study of the behavior and the aspiration of consumption of material goods and services (commercial, artistic, touristic)” (Zamfir, Vlăsceanu, 1993).

From a macroeconomic perspective, the problem of the insufficiency of material resources and the satisfaction of the needs of this type, are assigned to the social institutions and to technology, “the sustainable human-development combines, in a superior form of synthesis, the sustained economic development, the maintenance and improvement of the health of the environment, the social justice and the assurance of the democratic ambiance in the social life” (Angelescu, 2000).

In a social construction based on scientific research, it is necessary to develop the research – development department. That is why, “from the viewpoint of economic variables, the specializations in economic sociology are rather the effect of a division of scientific work than of the particularities of the thematic domain that is studied” (Zamfir, Vlăsceanu, 1993).
As industries began to be reshaped; states had to react to the extension of the regional recessions caused in general by the crises in different sectors. In addition, national or regional economies have been faced with the problem connected with the growing unemployment-rate and the rate of emigration. In this period, all nations, even the western ones, had to face some diminution of production and of the wages, but with different particularities; “the states which do not have an economic force cannot impose the policies that must be followed, especially when they depend on the international financial bodies and the global economic organizations to which they belong” (Onisor, Duță, Dobre, 2009).

The performance of the companies is established in a global way, being based on two efficiency indicators: the labor productivity and the profit rate. As an efficiency indicator for each company, the projection and the organization of the work must be done in a way in which the activity must reach the maximum of productivity of work as a result of the report between effects and efforts. The main resource of the increase of labor productivity is the adequate employment of the human factor.

The managers’ attention must be directed towards the diminution of the expenditure of human labor, this being an economic condition which characterizes the activity’s efficiency. The social–economic development influences the level of organizational performance and acts on the behavior of the work force and on the decision factors, in conditions of efficiency and efficacy. Both words come from Latin: efficacy from efficacis = which has the desired effects or the ability to create the expected effect” (Popa, 1996). Efficiency comes etymologically from the verb efficiere, which means to fulfill, to result, having the advantage that it implies the idea of comparison of the effects got with those planned.

To compare the results with the expenses, one must take into consideration the complex consequences on the human factor, the intensification of the execution of labor at the level of each job reflected in the productivity growing, as a result of management decisions and actions. The useful effect must be materially established and socially valorized.

The elaboration of the different types of organization must take into account the variation in time of the interaction context, which depends on the modification of influence factors. It has to supervise and see if the link between the performance indicators and factors that influence them is kept, if it is stronger or weaker. The organization problems above point to the conclusion that efficiency reflects not only economic effects, but also social effects which are under the incidence of the context of work motivation; “to create possibilities for efficiently fulfilling individual and group objectives, for assuming the responsibilities, for assessing the results, and for recognizing their merits and rewarding them” (Novac, 2003). The specific of the organization consists in its trying to define itself as:

- “a group that tries to reach some aims in an organized way” (Szczepański, 1972)
- “a large group of people, structured in an impersonal manner and which has the role to assure some specific objectives” (Giddens, 2000)
- “human groups organized formally in a hierarchy in order to ensure the cooperation and coordination of their members so as to reach the objectives set” (Boudon, 1997)
- “a coherent ensemble of rules of collective action which offer normative protection to the efficient cooperation of specialized individuals” (Buzărnescu, 2003)
- “the existence of organizations can be explained through the fact that they can reach objectives which can be best reached in a collective manner” (Vlăsceanu, 1993).
The efficiency and efficacy analysis must take into account the functional consequences for the system to which it refers, but it must also take into consideration the consequences it presents for the global society, for collectivity and the personnel, emphasizing the way in which the purpose shapes the whole organization.

In order to achieve performance in reaching the established objectives, in order to determine an assumed participation of the personnel, a motivational stimulation becomes necessary “in the organizational management, the real sense of the employee’s actions and behaviors cannot be discovered without knowing of the reasons that generated them” (Novac, 2003).

The functional organization chart offers the image of a hierarchical system, starting from the premise that the managers wish to stimulate efficiency. This is considered to be “an attribute of the company’s performance action and presents two antagonistic features. It gives meaning to the adjoining and cooperation between companies (that have the same objective) and to competition (we can speak about efficiency only on a competition market)” (Andronic, 2000).

In the economic market system, some of the changes that take place at the level of the objectives of an organization can also have many dysfunctional aspects, like replacing ends with means, and the frequent cases of bureaucratic deformation in which a department continues to exist after the disappearance of the conditions which made it necessary, perpetuating itself in an artificial way. Moreover, other causes of inefficiency include taking into consideration one’s own interests and objectives instead of organizational objectives, advancing people on arbitrary criteria. The fact that there are many possible manners to explain and predict human behavior means “to reward their contribution to the progress of the organization, but mainly to develop for them the usefulness given by the subjective dimension of work” (Novac, 2003).

By becoming aware of the variety of personal needs and the possible ways in which to satisfy them, people can be motivated in order to reach the organization objectives. The social results materialize in the improvement of the working and living conditions, in increasing the level of training and culture, and have a special importance in the social-economic development and in the assurance of the progress of the society. When flexibility is connected with the concept of organizational change, “an organization has the ability to adapt to the ever-changing conditions of the external, as well as internal environment, and can adapt in order to reach a new or a different goal” (Bibu, 1997).

The employees’ work motivation must “represent the main purpose on which the management of an organization is founded” (Novac, 2003), because the main reason for employee dissatisfaction is the weak management. Making the employees feel more satisfied means engaging everybody in the process of management according to their level of professional and competence training.

The strategies of motivation are based on different theories; the most famous theory on human nature at the level of practical consciousness of the economic systems is that of *homo economicus*, which claims that man is interested in working only as long as he has benefits. However, man belongs to a system of necessities, which is more complex and cannot be reduced to economic necessities, as it includes the needs of development and human affirmation, participation and social integration, etc.
The motivation of work performance is determined by the atmosphere within the work group; “the psychosocial profile of the group proves to be an adequate and productive instrument of knowing the group, but also of receiving information about its characteristics and of anticipating its future functionality” (Zlate, 1981). Furthermore, “change needs to demolish the implemented system in order to reorganize the functional frame according to the values that correspond to new missions” (Neculau, 2000).

Managers have the duty to urge the orientation of human relationships and to stimulate the motivational process “wage earners work better when a common sense of respect and honesty, as well as a common goal, is fostered among them, besides the issues connected to professional qualification” (Petrescu, 2003). This influences satisfaction at the personnel level and at the level of the whole organization.

The structure of a system must be understood as a way of organization, according to different particular conditions in which it functions in comparison with the type of the economic and technologic environment, with the strategies of promoted organization in the system by its members. In the sociology of the organization, empirical research has underlined the fact that a firm can be more productive than the other because it had produced physically more in the past. “The assumption of learning through production seems to explain some differences in the efficiency of the firms from some industries” (Băbăţa, Duţă, Imbrescu, 2003).

The optimal organizational structure means that any social change must be a change in the people’s behaviors. The new manner of organization must be promoted as a superior alternative in the mental representation of work, as its influences upon the level of satisfaction of a need has deep implications on the employees’ motivation” (Novac, 2003).

This organizational structure can ensure a “planned coordination of some people’s activity in order to get to common and explicit aims, through the labor division of functions and through the hierarchy of authority and responsibility” (Zamfir, Vlăsceanu, 1993). The human resources “are, for the organization, much more than a source of expediences, as they can make or break the company. Their efficiency depends upon the managers’ people skills and upon the motivation system used” (Novac, 2003).

Spreading the new forms of organization can be episodic or accidental, representing the transition from old to new. That is why, the “relationships between economy and society can be analyzed in a historical or contemporary context” (Zamfir, Vlăsceanu, 1993).

This analysis must contain the mass system, the complexity of the economic-social processes and phenomena, the interdependence of the factors which influence them, the complex nature of the implied resources and of the effects obtained determine with necessity a systematic vision in the evaluation of the interaction context of the organizational changes, irrespective of its ways of manifestation. In our study we are interested in the sociological analysis of the interaction context of using information and communication technology, of the effect in the organizational performance area.

In order to study the impact of information and communication technology towards the organizational structures and to analyze the way in which the companies from Timis county are ready to integrate themselves successfully in an economy based on knowledge, I initiated a field investigation through a questionnaire focused on the following problems:
• using the internet;
• using electronic commerce;
• using high-tech means;
• the investment domain of this year;
• the perception concerning the meaning of the society of knowledge;
• the impact of the technology of information and communication as a factor of influence for organizational performance.

We must mention that in what follows, we will present only the investigation results are considered important for the theme approached.

1. Establishing the objectives of the field investigation

**General objectives:**
To identify the best means and methods for making an organizational structure more efficient in the context of the impact of the information and communication technology.

**Specific objectives:**

a) To design a technology for researching an organizational structure;
b) To analyze the organizational departmental structure from the perspective of making the communication infrastructure of a company more efficient;
c) To identify the factors which determine the employment of the information and communication technologies with impact on the company’s efficiency;
d) To identify the means of using the information and communication technology in the policy of development of a company;
e) To analyze the employment of consultancy and specialized assistance by a company in order to make its activity more efficient;
f) To identify the high-tech means used by the companies in order to make their activity more efficient;
g) To establish the level of using the internet and the facilities offered by it.

2. Formulating the hypothesis

**General hypothesis:**
The dimensions of the efficiency of a company, in the context of the information society with an economy based on knowledge, must be determined by the adequate level of human resources in relation to informational resources

**Working hypotheses:**

a) The higher the professional training of the managers, the more they try to use specialized consultancy in order to make their company more efficient;
b) The companies which are efficient from an economic point of view try to keep the level of performance through investments in the technological field;
c) In the context of an economy based on knowledge, the companies that have already used information technology try to continue to invest in this field;
d) Specialized assistance and consultancy is a necessity imposed by the new requests of the international society and seeking it can boost efficiency and performance.
3. Presenting the results of the frequency analyses on the two samples

3.1. The sample of Private Organizations

Question Q1. Mention the organizational structures that your company has?
With this question, we tried to identify the organizational structure of the respondent companies in order to create an image connected with the needs of the communicational process and of the using the means of communication.
We can see that only 73.5% have central headquarters (fig. 1). The most common subdivision of an organizational structure are working points (*puncte de lucru*), met in 37.6% of cases.
We can conclude that the private sector is mostly undeveloped and this is reflected in its structure.
This can prevent the maximum exploitation of the technological potential of the information system.

![Chart showing organizational structures owned](chart.png)

**Fig. 1. Organizational Structures Owned**

Question Q2. Which of these departments exist in your company?
This question refers to the company’s internal structure. We can infer from here the level of complexity reached and the way in which they can adapt to the requirements of the information society and of the economic environment based on knowledge.

We can see that, within the established hierarchy, the production department is on the first place with 23%, being followed by that of public relations 19%, human resources 18% and marketing 17% (fig. 2).

Taking into consideration the fact that the research-development department was on the last place with 1%, we can draw the conclusion that the companies are not yet aware of the importance of this aspect and this can affect their integration among the competitive economy.
As for the hypothesis according to which: *If an organizational structure includes the research-development department, then it is able to adapt to the new requirements of the market*, we cannot say whether it can be validated or not in the absence of a precise indicator.

But we can recommend that analysis organizations should take into consideration this important problem in what concerns the implementation of an economy based on knowledge.
Question Q3. What is the distribution market of your products/services?
With this question we wanted learn about the distribution market in order to find the possible opportunities to use the communicational means in the relations with business partners. We can see that only 4% have an international distribution market and 22% a mixed distribution market (fig. 3).
Thus the quality of business partners can influence the way in which the information technology is implemented within the company, but also the way in which the development strategy is projected.

In the perspective of the development of international commerce, we believe that the development of a communications infrastructure is necessary.

Question Q4. To what extent do you think an organizational change could make the activity more efficient?
Q4.1. To set up/close new departments
As for making the company’s activity more efficient by intervening upon the organizational structure (to set up/ to close new departments), 39% consider that this intervention will have a moderate effect and 29% consider that it could be welcome to a large extent (fig. 4). We must mention that these strategies for intervening on the company structure can have an influence upon the employees’ quantity and quality.
Q4.2. To change the object of activity.
As for the strategy of changing the object of activity, the tendency is reversed, thus the
majority (46%) consider that the activity would not become more efficient, followed by 28%
who claim that an improvement could take place to a small extent (fig. 5).

We can conclude that companies are less willing to jeopardize the stability of their activity
through radical changes, but they prefer the partial measures which do not have great effects
over organization.

Question Q5. Do you think that your company is efficient?
With question we want to identify the managers’ perception in relation to the efficiency of the
company in which they work. Thus, at least in the moment when they were asked, the great
majority (93.2) consider that the company where they work is efficient (fig. 6). We must,
however, take into consideration the psychological aspects involved, as well as the ones
related to the cultural-symbolical nature, which refer to what they understand through
efficiency and how they represent it.
Question Q6. To what extent is … important to you
With this question we wanted to identify the importance given by the employees to different aspects concerning the activities. Because 25.8% name the quality of the services, we can conclude that there is a development potential based on positive mentality (fig. 7).

![Fig. 7. Important factors](image)

We get to the same conclusion if we take into consideration the percentage of 24.7% which say that the work force is situated on the first place. The percentage of 16.7% who name the distribution market and the 14.4% who said maximizing the activities deployed indicate the fact that the company is directed towards extension.

Question Q7. This year do you want to invest in the purchase of…?
With this question we want to find out what types of investments they are going to make this year. We can see that there is a percentage of 12.4% which will not make purchases. The rest of percentages will be distributed like this: on the first place, there are buildings (31.1%), being followed by machinery/equipment (29.5%), software (27%), computers (21.5%) and communication equipments (17.7%) (fig. 8).

We can conclude that the software and the hardware domains are not neglected, and from a technological and logistical point of view, there are possibilities for the implementation of an economy based on knowledge.

![Fig. 8. The investment domains](image)
Question Q8. What criteria do you use for recruiting the work force in general (using a PC)?
With this question we wanted to see how the employers perceived the need to have an efficient and computer-literate work force. We see that only 27% impose this condition at hiring (fig. 9). On the other hand, we must take into consideration that only a small percentage of a company’s employees get the opportunity to use the computer exclusively for fulfilling the tasks.

![Fig. 9. What criteria do you use for recruiting work force?](image)

Q9. Do you think that communication is generally made within your organization
The aim of Question 9 is to identify the means of inter-human communication in the workplace and has the answers vertically; horizontally; both situations.

The percentage distribution (fig. 10) indicates that the majority of the employees communicate horizontally (36%). A close percentage of employees think that communication in the organization can be both vertical and horizontal (35%). In what concerns the vertical communication, this is sustained only by 29% of the respondents.

![Fig. 10. Institutional communication](image)

Question Q10. Have you ever used consultancy services?
In the perspective of implementing an economy based on knowledge we formulated this question in order to see the measure in which there is collaboration between the companies and the external experts.

We can see that a little over half (50.3%) of the companies needed advisory services.
As for the hypothesis according to which: specialized assistance is a necessity imposed by the new integrative requirements of the informational societies, and its use can boost efficiency, we can say that it is validated only to a certain extent, because we do not know what may come in the future.
Question Q11. In the process of globalization, the organizations specialize more and more in electronic commerce. To what extent do you think that it could help you in your development?

In connection with using of internet in the commerce activity, the frequency distribution shows that 32% consider that this could help them to a large extent, being followed by 31% which say that the internet could help them to a moderate extent (fig. 12).

We must take into consideration that it is a matter of opinion and we do not know what their attitude will be when they are confronted with an investment in such a domain.

Question Q16. What do you understand through informational and knowledge society?

With this question we wanted to identify the managers’ perception concerning the information society, the way in which they define it, or the terms which are associated with it. We notice that there is one third of the respondents (38.9%) who cannot formulate an opinion (table 1).

The others formulated opinions that were included in the following different answers, in which for 15.4% the information society is based on the information exploitation, for 15.4 the information has priority, for 12.4% the phenomenon represents progress and efficiency, and another 8.3% associate it to the logistic usage.

We can thus identify the different and complementary perceptions on what the information society is. In this way, those who say that the information society means to use the logistics do not make a mistake but they see only the technical side. Those who say that this means information exploitation, take into consideration the potentially economic dimension and those who say that the information has priority think according to the axiological system of society.
Table 1. Defining the information society

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to information</td>
<td>22</td>
<td>5.6</td>
</tr>
<tr>
<td>Information exploitation</td>
<td>61</td>
<td>15.4</td>
</tr>
<tr>
<td>Information has priority</td>
<td>61</td>
<td>15.4</td>
</tr>
<tr>
<td>I do not know</td>
<td>154</td>
<td>38.9</td>
</tr>
<tr>
<td>Progress and efficiency</td>
<td>49</td>
<td>12.4</td>
</tr>
<tr>
<td>Regress</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>Informational society</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td>Logistic usage</td>
<td>33</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>396</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Question Q18. The new economy is based on knowledge and on using the information technologies. What high-tech means do you use?

With this question we wanted to identify the type of logistics used by the companies. It can be seen that a great percentage of 31% do not use any kind of logistics, being followed by 29% which use only the computers, and 14.6% which use the internet (fig. 13).

This domain is very important because it cannot be implemented in an economy based on knowledge in a space which lacks the necessary logistics.

A small percentage (13%) have a computer and means of communication, being followed by those who have a computer and equipment (9%).

Fig. 13. High tech means used

Question Q21. What are your plans for the future in order to achieve sustainable development?

With this question we wanted to see the development strategies used for the achieving sustainable development. Thus (the majority 50.03) chose extending the offers and 46.5% the market extension (fig. 4). Besides these concepts in fashion, only 29% chose the improvement of production quality. These are in fact the managers who are actually mature and who can assess, through their vision, the companies’ competitiveness in the frame of the new economy.
Question Q24. Does your company have a website for presenting its products/services?
The last indicator is very useful in the determination of entrepreneurial maturity, but also in
the determination of the possible perspective of developing the economy based on knowledge.
Thus, a percentage of 40% say that they have a site which is used for presenting company
products/services (fig. 15). There is a potential for development, but the percentage of those
who have web pages must grow in order to be able to say that the economic Romanian space
reached the tertiary and quaternary area.

3.2. The sample of public organization

Q28. To what extent do you think that an organizational change could improve the
activity?
Question Q28 has the purpose of identifying the general impact of the organizational change
and has the following established answers: to attract well-trained young persons, to increase
the number of employees, to the narrow the object of activity; to set up/close the new
departments. This variable offers predefined alternative changes and measures the impact foreseen.

Thus, according to the frequency of distribution (fig. 16), to attract well-trained young
persons is appreciated by 66.7% as being optimal to a large extent, increasing the number of
employees is appreciated by 38.9% as being successful is to a moderate extent, narrowing
abilities is appreciated by 44.1% as being successful to a small extent, and the setting-
up/closing of the departments is appreciated by 50% as being optimal to a moderate extent.
Fig. 16. Impact generated by organizational change

Q29. Do you think that communication is generally made within your organization:
The aim of Question 29 is to identify the means of inter-human communication in the workplace and has the answers vertically; horizontally; both situations.

This question refers to the way in which the communication is achieved within the organization, and it is a good indicator of hierarchic relations. The percentage distribution (fig. 17) indicates that the majority of the employees communicate horizontally (46%). A close percentage of employees think that communication in the organization can be both vertical and horizontal (42%).

Fig. 17. Institutional communication

Q34. This year you want to invest in the purchase of…:
Question Q34 aims to identify possible investments and has the following predefined answers: communication equipment, computers (hardware), programs (software), networks/servers, others, we will not invest in something like this.
As computer infrastructure investments, according to the frequency distribution (fig. 18), the majority will invest in communication equipment (30%), followed by those who invest in computers (24%), software (15%), networks (13%). Only 18% say that they will not invest in any of the items mentions.
4. The graphic representation of the association between the variables in the problematic frame. The study of the impact of information and communication technology on the organization structures

**Correlation between Question Q24. Does your company have a website for presenting its products/services? and Question Q7. This year do you want to invest in the purchase of software?**

A positive correlation has been discovered between the two questions based on a significant coefficient of correlation, thus if the company has a site it intends to purchase software this year (fig. 19).

This prompts us to classify the companies: those that are used with the logistics system and those that want to invest in software and that are not preoccupied with the informational dimension in the progress of the activities.

However the hypothesis is validated that: **in the context of an economy based on knowledge, the companies which have already used information technology tend to continue to invest in this domain.**

**Fig. 19. Correlation between the purchase of software and owning a website**
Correlation between Question Q24. *Firma Does your company have a website for presenting its products/services?* and Question Q11. *In the process of globalization, the organizations specialize more and more in electronic commerce. To what extent do you think that it could help you in your development?*

As for electronic commerce, there is a negative correlation with having a website, based on a significant correlation coefficient. Thus, it seems that having a website does not stimulate electronic commerce (fig. 20).

Development perspectives are, however, present, if one takes into consideration the western experience. The phenomenon is inefficient in the Romanian space because of the absence of a real network and of a large enough number of users, but the situation can improve.

![Fig. 20. Correlation between owning a website and seeing a use for electronic commerce](image)

Correlation between Question Q5. *Do you think that your company is efficient?* and Question Q7. *This year do you want to invest in the purchase of computers?*

A positive correlation has been discovered between the two questions, if the managers appreciate that the company is efficient, then the investment in the purchase of the computers is desired (fig. 21).

![Fig. 21. Correlation between assessing the efficiency of a company and buying computers](image)
Companies that are efficient from an economic point of view aim to keep their performance level through investments in the technology domain. The hypothesis is validated, because there is a significant coefficient of correlation and we can talk about an increasing use of high-tech means. The impact of the information and communication technology on organizational structure and the knowledge sources employed and accessed is seen as a major resource of the organization, a resource that is decisive for its global strategic performance.

5. The comparative study of the impact of information and communication technology on organizational structures in private and public organizations

Q4 - Q28. To what extent do you think that an organizational change could improve the activity?

Question Q4 - Q28 aims to identify the impact generated by the organization change and has preestablished answers: to attract well-trained young persons, to grow the employees’ number, the narrowing of activity objects; to set up/ close new departments.

Q4.1. – Q28.1. To set up/close new departments

The frequency distribution shows that the setting-up /closing of new departments is considered to be a change that could improve to a large extent the organization activity, not only by the employees of the private organization (29%) but also the employees of the public organizations (31%), the percentage being thus almost the same.

![Fig. 22. The impact generated by the organization change (setting-up/closing new departments) – comparative descriptive statistics](image)

Q4.2. – Q28.2. To change the object of activity

The frequency distribution shows that narrowing the object of activity is seen as a change that could improve the activity of the organization to a great extent, especially in public organizations (18%), while only 10% of the respondents who are employees of private organizations though this change was important. This percentage is backed up by a large percentage of respondents who consider that this change would not improve the activity of private organizations at all (46%).
Q9 - Q29. Do you think that communication is generally made within your organization:

Question Q9 - Q29 aims to identify the means of inter-human communication in the workplace and has the preestablished answers: vertically; horizontally; both situations. The frequency distribution indicates that the majority of the employees communicate horizontally within private organizations (36%), while within public organization horizontal communication is predominant (46%), supported, however, by vertical communication (42% - both ways).

In order to ensure institutional communication, one needs technical elements, technology as an agent of social changing. The economic and social forces can influence the evolution of technology “new knowledge rushes things, drives us towards an economy of real-time snapshots and substitutes the consumption in time” (Toffler, 1995).

We can start the analysis from free fundamental resources: the organizational structure (number of departments) and the way in which they work, human resource distributed in work groups (micro groups) and the influence which the organizational changes have upon the psychosocial climate, especially the changes related to facilitating the interaction under the impact of the information and communication technology as a factor of influence of organizational performance.

An analysis of the social system offers perspectives and different levels of discussion, but in which there is an certain convergence, as we distinguish “the economic side of a social phenomenon and a social side of an economic phenomenon, aspects which appear as differentiated in the researcher’s perspective” (Zamfir, Vlăsceanu, 1993).
The economic-social activity has other effects as well, not only economic, but also social effects, psychological, ecological effects etc. Any social-economic activity uses the time resource “time is one of the most important economic resources, even if it cannot be seen anywhere in the inventories of a company” (Toffler, 1995).

The evolution in time of the organizations means “the evolution of the values internalized by the persons who create those groups and organizations” (Neculau, 2000). Thus we can draw the conclusion that “the efficiency of any social economic process change with the changes of values, which, in their turn, are the results of changes in our preferences, in the way in which the facilities we need depend on others” (Ciucur, Gavrilă, Popescu, 1999).

The impact of the interconnections established in society though information technologies, reflected in the communication space of the company, in its sustainable global strategic performance, presupposes that knowledge and the processes related to it be managed, that new responsibilities be assumed when managing values related to creativity, skills, learning, communication, the knowledge background being considered the main resource of the organization in reaching its objectives.

The companies’ competitiveness, in the daily context of economic challenges, makes it necessary to consider the efficiency of managerial activities, both in their professional activity and in the strategic importance of a good administration of knowledge and of the impact of technology of information and communication upon the organizational structure.

Bibliography