ORGANIZATIONAL STRUCTURES BASED ON INFORMATION TECHNOLOGY

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Abstract: New organizational structures which are based on informatics, are new organizational models that use technology to dynamically connect people, resources and ideas. That is, the core of the enterprise network, which creates the opportunities and risks of products and services, and such a commitment to a virtual organization has no boundaries. For the success of the concept it is necessary: mutual trust, high technology, as well as the pursuit of excellent performance and perfect satisfaction of customers' needs. Today, companies can not afford to work for themselves, and in this way they get the opportunity to orient themselves to their basic strategy, ie. its realization and its combination with the basic strategies of other companies. A system that should support state structures in the Republic of North Macedonia, especially in the legal regulation of the conclusion of agreements and monitoring the implementation of the agreement in a virtual organization, which is its most important part. With the efficiency and speed of the Macedonian judiciary, one should be cautious in implementing the organization.

Key words: virtual organization, trust, core business, outsourcing

1. INTRODUCTION

The great impact of information technology on the organizational structure of an organization has been evident since the late 1980s with the discovery of a work environment based on the World Wide Web. This impact of the World Wide Web on organizational structure is the result of the rapid diffusion of personal computers that provides the ability to create, access, manipulate, store and inform. The World Wide Web and intranet, with the help of teleconferencing techniques, e-mail movement and electronic records, are used to transfer knowledge and data among potential users. In addition, the emergence of open organizational systems enables communication with computer operating systems. And finally, the advent of computer operating programs has enabled the interaction and transmission of needed information to people inside and outside the system. The processing of large amounts of data and information cannot be done without the use of modern computers whose capabilities increase the efficiency of managers and shorten the decision making process in an organization.

It is necessary to recognize the changes that lead to the structure of the company as a result of the increasing amount of information and application

of computer technology. When these forces are imposed on the environment, the local character of the business is lost and the interaction is achieved with persons outside the enterprise (for example, using email is a way of communicating with known stakeholders, whether they are employees of the company or outside), or "communication with strangers" (this is the so-called Internet search, where, based on the address obtained, information is obtained but there should be no direct contact with the other party).

In both cases, the creators of the organizational structure have the ability to transfer knowledge from a variety of fields, including knowledge of design problems. A great deal of information that is easily accessible, but also without which it is impossible to imagine work, slows down and hinders the efficient and effective operation of the company if the existing organizational structure is not improved. The importance of employees for the functioning of the company is now diminished. Slow access to information is an obstacle to functioning. Here, a problem arises with the speed of archiving data.

There is also a problem with the decision-making process. The application of a territorial (within the divisional) organizational structure in the context of the existence of transnational companies and subcontractors in different parts of the world is already emerging as a barrier to business development. New models are being sought to eliminate these shortcomings (which have not so far manifested themselves to some extent, primarily as a result of the level of technical and technological development). The application of information technology is manifested by an increase in the number of hierarchical levels, an increase in the control range of managers at the top of the organizational structure, and a decrease in the scope of control of middle management. New organizational structures were obtained.

The impact of information equipment on the organizational structure can be seen through the following aspects:
- transforms the structure from mechanical to organic, ie. from hierarchical to adaptive (flexible);
- makes the company a flexible system;
- redesigns work;
- streamlines and facilitates human work in all areas;
- reduces the number of mid-level managers;
- creates job design opportunities;
- the decision-making process is decentralized;

- the range of management is gaining importance;
- provides greater labor mobility.

However, despite all the benefits of using a computer, their application to business operations has been slow. The following may be cited as obstacles to the extensive use of computers (Torrington, Hall, p.143):
- problems with inappropriate access;
- real-time system;
- a system that does not provide online surveys;
- a system that does not provide flexible research.

It can be mentioned that reducing the ability to protect privacy is one of the barriers of the application of computers. No matter how positive their application is, because of the ability to detect data, or to transmit "painful" messages (so-called viruses), many managers do not like them. This is achieved by side effects (unauthorized entry or destruction of their system), but on the other hand, they become uncompetitive due to the slowness of performing activities and are characterized by inefficient functioning.

Issues related to confidentiality, privacy and security of personal information are growing stronger with the increasing use of computers. To this end, appropriate laws have been adopted that regulate this issue, which also provide for criminal sanctions against those who use unlawful acts in connection with the use of other computer systems or their destruction of software. This is more about using a computer.

In order to properly apply information technology, the following steps must be taken: First, interviewing company executives, reviewing the new situation, and using appropriate literature to research related topics. As a result of this activity, answers that may be of a similar or different nature can be obtained (David, Malone, 2003). These answers should then be tested and redefined to obtain appropriate results, which are then applied (but not necessarily), ie Is there a need for partial or complete changes in the organizational structure?

2. Virtual organizational structure

Literature provides different definitions of what a virtual organizational structure is. Thus, Barnard (2009) and Blacker (2008) observe virtual organization through the role of information technology and the growth of virtual organization as a result of this process. Penrose (1996)

emphasizes that virtual organization is one of the new types of network-related firms. Virtual organizational structure is a form in which there is no traditional separation from the environment, that is, there are no boundaries and structure (Serto, 2003, p. 274).

A virtual organization is a non-hierarchical structure of multiple enterprises, which independently decide whether to enter this form of organizational structure with other enterprises that exchange energy, materials and information. In a broader sense, virtual organizational structure means organizational structure, with a temporary network of independent enterprises (suppliers, customers) that are interconnected with the information technology media to share opportunities and costs of expanding into a new market (Byrne, 2003).

This means that the company can design organizational structure with employee names, specific roles and activities to handle, as long as the raw materials and materials needed to operate, are not physically located in the company, but supplied by its suppliers, or employees are not located in the company, but not all work from home. The essence of this organizational structure model is that the enterprise performs only those activities in which it is a leader (the so-called core business), while the activities that are not its primary business (the so-called outsourcing) redirect it to other enterprises.

Furthermore, there are also great difficulties in determining the characteristics of virtual organizations, so that different approaches and attempts can be found in the literature. According to Barnat (2009), the characteristics of a virtual organization are:

- *it exists in the so-called "cyberspace", or a medium in which electronic communications and information programs take place and considers the naming of this space a critical feature of a virtual organization;*
- *transcends the boundaries of conventional organizational structures (Jansen, Steenbakkers, Jagers, 2000, 784-788);*
- *knowledge sharing;*
- *geographical dislocation;*
- *electronic communication;*
- *a general understanding of trust-based business among participants to perform the operation without written documents (Von Kortzfleisch, Al-Laham, 2000);*
- *combining key competencies to achieve greater market impact;*
- *the common name under which market recognition is provided;*

- *failure to provide additional centralized governance to eliminate bureaucracy;*
- *effective use of communication and information technologies to reduce coordination costs.*

However, meeting these conditions does not mean that the company should automatically enter into a virtual organization. Below, we provide an overview of the factors that influence whether or not an organization should enter a virtual organization.

Factors that influence a company TO ENTER into a virtual organization:

- *willingness to share risks and keep their promises, commitments and quality;*
- *publicly declare that it has adopted a virtual organization as a corporate strategy;*
- *to be in constant search for new partners;*
- *reducing the time needed to complete the work and speed up business processes;*
- *market access.*

Factors Influencing a Company to NOT ENTER a Virtual Organization:

- *when it has the competence and capacity to satisfy the needs of the market independently;*
- *when distracting the company from its growth strategy;*
- *when the risk is too high;*
- *when there is a mismatch between management style and philosophy;*
- *when there is a risk of producing a quality product or service;*
- *when there is no proper legal framework for the virtual organization.*

3. Opportunities for establishing a virtual organization in Macedonian companies

The increasing opportunities for the introduction of virtual organization in the enterprises in the Republic of North Macedonia arise as a result of the change of focus on the interest of the managers in the companies, the development of information and communication technology, the introduction of standards in the functioning and the establishment of mutual trust relations between the companies. As a result, a questionnaire was developed that included several questions in which potential managers gave their views on establishing this form of organization. To facilitate explaining the content of virtual organizations,

respondents were provided with a clear explanation of what a virtual organization is.

The interview involved 30 people, experts from different fields, who studied the organizational structure.

Eight questions were defined in the questionnaire and respondents were given the opportunity to choose one of five answers, ranging from one to five (Likert scale), where:

1 means - strongly disagree,

2 - disagree,

3 - indifferent,

4 - I agree, and

5 - I totally agree.

The minimum score that can be obtained is 30, and the maximum is 150. The answers are given in the following table:

Table 1. Questionnaire for analyzing the opportunities for introducing a virtual organizational structure in the enterprises of the economy of the Republic of North Macedonia

		Response					
	Question	Strongly disagree	I disagree	I'm indifferent	I agree	Totally agree	Total result
		1	2	3	4	5	
1	the company introduces a virtual organization	30	0	0	0	0	30
2	was ever introduced	30	0	0	0	0	30
3	focus on excellence	15	10	3	2	0	52
4	risk sharing	28	0	0	2	0	36
5	looking for new partners	5	5	5	10	5	95
6	legal framework for introducing virtual organization	30	0	0	0	0	30
7	application of ICT	0	0	5	10	15	120
8	there is trust	28	2	0	0	0	32

From the answers and their statistical analysis, we can conclude that due to the characteristics of the organizational fusion in our country, as well as the company's attitudes towards the conditions that must be fulfilled for the introduction of a virtual organizational structure in our business practice, the conditions for introducing a virtual organizational structure are all not yet fulfilled. In particular, it stems from a willingness to share risk, a lack of mutual trust between businesses and an underdeveloped legal system to regulate this issue, as well as providing legal protection to companies wishing to pursue such a relationship.

CONCLUSION

The twentieth century and the beginning of the twenty-first century in the theory and practice of organization and management are definitely recognizable as periods of changes in the existing organizational structure of enterprises. One such opportunity is given to the company by introducing a virtual organization (organizational structure). Therefore, it is necessary to understand the principles and legitimacy of the functioning of the virtual organization.

The essence of the virtual organizational structure is that the company performs only those activities in which it is a leader, while the activities in which it does not perform well extend to other enterprises. The following conditions for success of this concept must be fulfilled: mutual trust, high level of information and communication technology, focus on excellence and focus on greater degree of customer satisfaction. The opportunities for implementing a virtual organizational structure (organization) are created solely on the basis of providing these conditions.

Implementation or non-implementation of the virtual organizational structure does not occur automatically once these conditions are met. However, the answer to this question will be our responsibility and will be an integral part of our future scientific research.

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SUMMARY

The paper titled "ORGANIZATIONAL STRUCTURES BASED ON INFORMATION TECHNOLOGY" by Postolov, Bardarova and Ristovska, elaborates a contemporarty topic which comes as a result of the application of information technology. The application of information technology made life easier for people in terms of carrying out everyday activities, establishing direct communication between them, as well as providing a more efficient and more effective way of functioning. At the same time, the complete reliance on information technology creates alienation among people and makes them totally dependent on the Internet, mobile phones, etc.

However, we can't go back in time and so applying information technology is unevitable.

This leads two changes in the organizational structure of organizations or implementing new more modern and more sophisticated solutions. Such example is virtual organizational structure. The primary focus of our research is on virtual organizational structure. While doing in literature and in practice it showed many advantages as well as challenges which could be potential threat in its implementation.

Managers must emphasize the benefits and take care of the elimination of the negative consequences. Much of the disadvantages are the result of the technique, where a person is limited by his efforts, but, above all, he must focus on those moments that are connected with people's mindset and their desire and need for the implementation of this system.

We conducted a survey questionnaire which covered 30 respondentsin appropriate positions in their enterprises in order to see if we as a developing country really strive for improvement. Regarding issues related to organizational structuring, the findings showed that they do not go towards the implementation of the model. The results showed that none of the enterprises in which are employed has implemented this form of organizational structure. Secondly, they have not heard of an example in the practice of such an organizational structure.Another reason that leads to such negativistic attitude is due to the fact that there is no trust in the legal system, as well as in business partners. These are issues for which our managers, the legal and political system must take serious steps in the future in order to provide the conditions for application Because, otherwise, we will be far behind world experiences, and even behind less developed countries in the region.