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VIRTUAL ORGANIZATION – SWOT ANALYSIS OF THE NEW MANAGEMENT CONCEPT

Introduction

Widespread changes in companies that are caused by the progress of virtualization and digitization force companies to transfer to virtual space. Traditional companies may prove insufficiently competitive against efficient, flexible, and fast entities operating in virtual space.

The new solutions are a response to the cooperation needs of companies that are developing global cooperation networks in line with the trend to open up to the world.

The aim of the article is to present the strengths of virtual organizations and their potential, while considering the weaknesses and threats that result from working in a virtual environment.

1. History of the network and the virtual organization

The virtual organization is a type of enterprise whose beginnings can be traced back to the 1960s.

On November 1, 1969, in the United States, computers from the University of California, Los Angeles, the Stanford Research Institute, University of California at Santa Barbara and the University of Utah were linked into the ARPA-NET network. This event was the beginning of both the Internet and the virtual organization.

This simple network developed enormously in a short time, The year 1970 saw the first FTF (File Transfer Protocols) and then, the Telnet communication protocol Another breakthrough happened in 1986, when a network covering the entire United States, referred to as *NSFNET* (*National Science Foundation Network*), was created. The next step was UDENET (a network supporting development and innovations) and IRC (Internet Relay Chat) – a real-time text communication system.

The end of the 1980s saw the networks expansion beyond the American continent. In 1991, Poland joined NSFNET. Four years later, NSFNET became a research network, and transfers in the virtual network were conducted by transmission between local providers. In the

following year, there was a rapid boom in the evolution of websites as well as a real battle in the graphic area between such giants as Microsoft Internet Explorer and Netscape Navigator¹.

The virtual organization emerged as a specific result of the synthesis of various management methods and concepts and advanced information and communication technologies².

2. Virtual organization

Virtual organizations are a new type of companies that can undoubtedly be created thanks to the development of information technology; they are also a response to the requirements of the free market and the need to be competitive. In the literature on the subject, the virtual organization is referred to as:

- the virtual corporation (W.H. Davidow and M.S. Malone, 1992),
- the network organization (Snow at al., 1992),
- the modular corporation (Tully, 1993),
- the virtual organization (Moshowitz, 1994),
- the virtual enterprise (M. Osterloh, J. Frost, 1996)³.

There are two approaches in defining the virtual organization:

- a process approach – which focuses on the activities and behaviors of the organization, which identifies it in a functional sense as an area of activity, a coordination mechanism, a tool, or an approach to managing an organization that creatively uses information technologies,
- a structural approach – according to which the virtual organization is a form of cooperation (an artificial creation, alliance, agreement-based contract such as franchising or outsourcing) of independent entities, which may be companies, organizations, individuals, or teams⁴.

A final, definite, and universally applicable definition of the virtual organization has not been developed, yet. Table 1 presents selected definitions of the virtual enterprise.

¹ https://www.ue.krakow.pl/fileadmin/user_upload/wydawnictwo/SE_Archiwalne/SE_37/10.pdf (accessed: 26 March 2024.).

² D. Dziembek, *Analiza SWOT działalności organizacji wirtualnej*, „Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług” 2015, No. 117, pp. 83-91.

³ D. Biniasz, I. Pisz, *Nowe formy organizacyjne przedsiębiorstwa w dobie e-gospodarki*, Oficyna Wydawnicza Politechniki Opolskiej, Akademicki Inkubator Przedsiębiorczości, Opole 2009.

⁴ M. Brzozowski, *Organizacja wirtualna*, PWE, Warszawa 2010, p. 38.

Table 1. Definitions of the virtual organization in the process and structural approaches

Structural approach	Process approach
J. Kisielnicki The virtual organization is created on a voluntary basis by organizations that enter into several types of relationships to achieve a goal that is to bring them greater benefits than if they operated in a traditional manner⁵.	W. Grudzewski, I. Hejduk The virtual organization is a dynamic management tool, based on computer networks and the possibility of using information banks, such as the Internet, ideal for achieving a competitive advantage in the global market⁶.
F. Wilson The virtual organization is a network or a loose coalition of manufacturing or administrative services, which uses IT for the integration of various groups of people for the needs of a specific business purpose, which is dissolved after achieving the goal⁷.	K. Olejczyk The virtual organization is a company that operates in computer networks (the Internet) or, in addition to operating on the traditional market, conducts activities (mainly sales and promotional activities) in the virtual market⁸.
J. Burn, P. Marshall, M. Barnett The virtual organization is a specific organizational structure based on various cooperation forms in order to jointly use competences, knowledge and other resources to produce a specific value or take advantage of an emerging market opportunity. The basic element of such an organization is the information technology⁹.	M. Warner, M. Witzel The virtual organization is an organization that uses communication technology as a substitute for material structure, thereby enabling the dispersion and decentralization of work performed, and causing the organization to become more flexible and indefinite than before¹⁰.

Source: Author's research.

The common feature of the above-listed definitions is the dependence of the existence of the virtual organization on the development of information technologies, databases, network communication channels and the Internet.

There are three basic reasons that directly influenced the creation of virtual organizations and their development.

- rapid technological growth:
 - rapid development of computer science and computing power,
 - development in the field of software, especially of management support systems,
 - development of ICT,
- globalization:

⁵ J. Kisielnicki, *Wirtualna organizacja jako wytwór ery informacyjnego społeczeństwa*, „Organizacja i Kierowanie” 1997, No. 4, p. 24.

⁶ W. Grudzewski, I. Hejduk, *Przedsiębiorstwo wirtualne*, Difin, Warszawa 2002.

⁷ F. Wilson, *Cultural Control within the Virtual Organization*, „The Sociological Review” 1999, Volume 47, Issue 4.

⁸ K. Olejczyk, *Organizacja wirtualna. Wykorzystanie Internetu*, „Nowoczesne Zarządzanie Przedsiębiorstwem, V Konferencja Naukowa”, Politechnika Zielonogórska, Zielona Góra 2000.

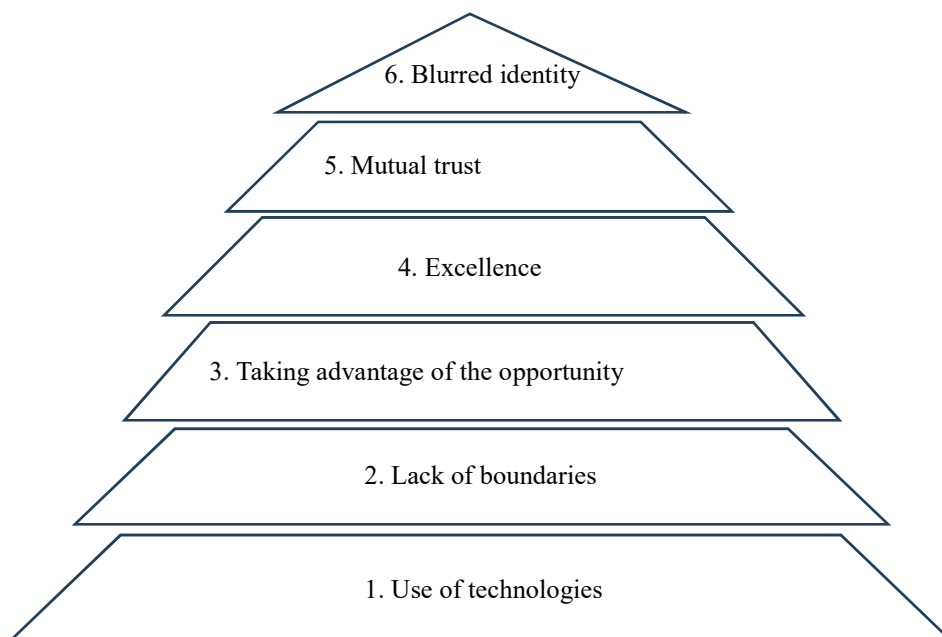
⁹ J. Burn, P. Marshall, M. Barnett, *E-business Strategies for Virtual Organizations*, Butterworth – Heinemann, Oxford 2002, p. 17.

¹⁰ W. Werther, M. Witzel, *Zarządzanie organizacją wirtualną*, Oficyna Ekonomiczna, Kraków 2005, p. 183.

- the fall of the Soviet bloc,
- the elimination of borders for business activities,
- the lack of borders in global computer networks (the Internet),
- the pursuit of organizations for efficiency.
 - elimination of excessive costs of office space,
 - organizations' focus on key competencies, eliminating political and interpersonal conflicts in favor of the emphasis on work effectiveness,
 - leveraging organizational knowledge – the development of constantly learning organizations ¹¹.

The virtual organization has many features that distinguish it from internet organizations and evolving traditional organizations¹². The most notable features of the virtual organization, arranged from the most significant to the least significant ones, are given in Figure 1.

Figure 1. The most notable features of the virtual organization



Source: A. Kuźmińska-Haberla, S. Bobowski (ed.), *Ekonomia i międzynarodowe stosunki gospodarcze*, „Debiuty Studenckie – Uniwersytet Ekonomiczny we Wrocławiu”, University of Wrocław Press, Wrocław 2020, p. 96.

¹¹ A. Gestern, *Kredyt wirtualnego zaufania*, „Rzeczpospolita”, 31.03.99, No 76.

¹² M. Machura, *Obszary wirtualizacji działalności współczesnych organizacji. Modele techniczno-społeczne wirtualizacji i udostępniania na żądanie zasobów IT*, Wydawnictwo UE w Katowicach, Katowice 2016, p. 3.

The shaping of business reality involves continuous pursuit of development and the achievement of goals. IT environment in its broad sense is an inseparable element of modern business goals. IT became an indispensable component of business activities.

Providing wide access to ICT with simultaneous use of all electronic communication channels can minimize many limitations and increase the value of modern enterprises.

On the other hand, the IT sector companies that provide comprehensive virtual environments are required not only to create a system itself, but also solutions that will support the mobility of not only decision-making centers, but also every employee, regardless of their position in the organization.

The virtualization of modern organizations means primarily a free selection of business partners that is based on trust and cooperation with various external entities. The use of cyberspace for monitoring, analysis, and assessment, as well as planning and forecasting activities and executing common processes is of particular importance not only in crisis situations¹³.

3. SWOT analysis

Among various methods and analytical techniques used for strategic analysis of ventures, projects, companies and other entities, SWOT analysis plays a vital role¹⁴.

SWOT analysis (*S - Strengths, W - Weaknesses, O - Opportunities, T - Threats*) is a tool to assess organization's strengths and weaknesses, as well as the opportunities and threats in its environment. It helps identify key elements that influence its stability and development, enabling informed decision-making.

SWOT analysis was developed in the 1960s by Alber Humphrey, a researcher at Stanford University. His aim was to develop a tool that would help companies and organizations to analyze their situation and facilitate strategic planning. The method gained in popularity in the 1980s and is still used in various areas today.

Its simplicity and effectiveness still make it one of the most common analytical tools.

SWOT analysis plays a significant role in the development of strategies both in small and large projects, which undoubtedly include virtual organizations. Its application to identify key aspects of a virtual organization working in a dynamically changing environment seems to be

¹³ M. Murawska (ed.), *Zarządzanie organizacją w sytuacjach kryzysowych*, Wydawnictwo Difin, Warszawa 2023, p. 94.

¹⁴ G. Gierszewska, M. Romanowska, *Analiza strategiczna przedsiębiorstwa*, PWE, Warszawa 2003, p. 78.

the best choice. Table 2 and 3 presents, respectively, the strengths and weaknesses of the virtual organization.

Table 2. Strength of the virtual organization

• Speed of creating a virtual organization - all procedures are conducted on-line. • Cost reduction – lower costs related to location, infrastructure, and employment. • Faster decision-making – faster and more effective communication in comparison to a traditional structure due to a flattened organizational structure, decentralized management, and the absence of formal organizational hierarchy. • Speed of transaction execution and convenience for customers. • High operational flexibility and easy adaptation – easy adaptation to changing market and technical conditions. • High innovativeness – the possibility to create and provide innovative products/services. • Voluntary cooperation and joint use of partners' resources and competencies – the possibility of combining dispersed resources and competences. • Focusing on continuous and rapid transformation allows for more effective use of existing resources: information, technology, personnel, and materials. • Achieving common economic goals without losing the independence of the copartners in the virtual organization. • Using only the best resources and achievements of collaborating entities. • Closer relationships with business partners thanks to shorter and faster communication channels. • Wider and easier access to scientists, innovators, consultants, researchers - the opportunity to cooperate with experts from around the world. • Remote work options: - benefits for employers – increased employee productivity/efficiency, reduced absenteeism, reduced office space requirements, the possibility to create international teams and train a larger number of employees at the same time. - benefits for employees – greater employee independence the possibility to take part in multiple teams and projects simultaneously, reduced commuting costs, increased privacy, which improves efficiency, • Environmental aspects – reduced traffic on roads and city streets, reduced air pollution.
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Source: Author's research.

Table 3. Opportunities of the virtual organization

• Dynamic and rapid development of e-business (accelerated by the COVID-19 pandemic), global virtualization of economic processes, and digitization of enterprises and institutions. • Opportunity for small entities to reduce the advantage of large companies in terms of economies of scale. • Access to new markets – a virtual organization can easily expand its operations to new geographical markets. • Gaining a larger market share – the cooperation with other companies and experts can help in gaining competitive advantage. • Increased competitiveness – the possibility to offer a larger product range and more competitive process, products, and services. • Possibility to respond quickly to changes in the environment, particularly to the emergence of a market niche. • Better relationships with customers – a virtual organization can offer to its customers more personalized products and services, and reaching target marketing groups is faster and easier. • No need for a permanent and formalized structure – high adaptability to individual activities and the exploitation of market niches. • Improved processes and innovations – the ability to more quickly implement modern technologies and processes (e.g. know-how).

- Possibility to finance operations through external sources (EU programs, foreign funds).
- Equal opportunities for regions with high unemployment and economic weaknesses due to remote work.
- Attracting new employees and specialists to the organization – no territorial restrictions.
- Increased mobility of managing staff, managers, personnel, and the resulting development of teleworking.
- Activation of people with disabilities.
- On-line access to training, courses, and studies to upgrade or change qualifications.
- Elimination of racial, cultural, religious prejudices through collaboration in international and intercultural teams.

Source: Author's research.

However, the virtual organization does not only bring beneficial effects to the company. This concept is not free from drawbacks and threats that should be considered when deciding on its implementation¹⁵. It seems reasonable to outline the weaknesses and risks that should be considered when implementing this management model in a dynamic business environment – see Table 4 and 5.

Table 4. Weaknesses of the virtual organization

- Lack of legal regulations in many aspects of the functioning of organizations that form virtual organizations and of their accountability to each other and their clients.
- Difficulty in estimating (lack of tools) the value of the entire virtual organization and difficulty in obtaining capital.
- Problems with finding suitable partners with complementary competencies.
- Lack of physical control – difficulties in direct control and coordination of partners' activities.
- Communication problems – potential difficulties related to communication and information exchange in a virtual environment.
- Dispersed location of organizations – lack of a single legal authority and difficulty in identifying the location of transactions.
- Lack of principles and rules for the cooperation between entities in case of difficulties and failures – cost sharing, complaints, liability.
- Increased costs related to technology – the need to invest in IT and equipment enabling operations.
- Dependence on partners - risk of losing control over processes and making decisions that are not aligned with the company's goals.
- Not in all areas (services, products) can the virtual organization concept be implemented.
- Lack of conduct patterns – the virtual organization is a relatively new concept.
- Problems related to remote work:
 - for employers – different work time zones; difficulties in synchronization, lack of personal contact with employees, reduced employee control, employee loyalty, difficult periodic staff assessment, need to provide remote work tools.
 - for employees – different work time zones, reduced personal contacts with coworkers, workaholism, stress and conflicts related to the fact that work and life take place in the same location.
- Deficiencies in organizational culture – difficulties in building a common organizational culture and employee identification.

Source: Author's research.

¹⁵ M. Brzozowski, *Organizacja wirtualna*, PWE, Warszawa 2010, p. 159.

Table 5. Threats of the virtual organization

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| <ul style="list-style-type: none">• Changes in legal regulations – possible changes in regulations regarding online activities and the activities of virtual organizations.• Reluctance to change – transition to a virtual organization management model from a traditional one.• Rivalry – competition from other virtual and traditional organizations.• Lack of trust and confidentiality of partners – potential involvement of dishonest partners who only want to obtain key information.• Image-related issues – inconsistency in building and maintaining a positive image of the virtual company due to short-term cooperation.• Risk of losing company's own identity and market recognizability.• Lack of trust from recipients, clients, consumers – an elusive and unstable organization that cannot boast of its "history."• Changes in technology – the need to constantly adapt to modern technologies and platforms.• Technical failures of hardware, lack of access to the network, power cuts.• Security threats – the risk of attacks and data breaches. Potential problems to maintain stable and secure IT systems (cyberterrorism, hacker attacks, intelligence activities)• Easier access from anywhere in the world to confidential information of economic and technological value (theft of know-how, technology, etc.)• Threat of the elimination of stationary jobs.• Threat of isolation resulting from remote work.• Cultural and mental differences between coworkers can lead to conflicts. |
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Source: Author's research.

According to Ch.Scholz, a success of a virtual organization is possible only when copartners have similar patterns of behavior, standards, value, and above all, the elements of culture based on mutual trust and tolerance¹⁶.

Conclusions

Virtualization of business operations is the key to success on the domestic and foreign markets, as well as a more effective way of acquiring customers and business partners who, encouraged by a modern organization, will be willing to start cooperation.

SWOT analysis is a perfect tool for assessing a virtual organization, helping to identify its strengths, weaknesses, opportunities, and threats, which facilitates strategic decision-making and increases its chances of success. In the context of the virtual organization, SWOT analysis can be used to assess the potential of the virtual structure, its development opportunities and identify potential obstacles that may have a negative impact on its operations.

Taking care of the development of the company should involve taking care of IT services and a modern, innovative structure.

¹⁶ R. Kamiński, *Organizacja wirtualna – wady i zalety*, „Przegląd organizacji” 1999, No. 5

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Abstract

The virtual organization is a structure in which independent business entities cooperate using their resources and competences to achieve a common business goal. Such an organization is created on a voluntary basis and is temporary in nature, and the cooperation takes place in a virtual environment. The article discusses the history, essence, and characteristics of the virtual organization. It presents the advantages and disadvantages of this organization and shows the opportunities and threats resulting from this management model.

Key words

Virtual organization, Internet, e-business, SWOT analysis.