

# Quality Parameters of Human Capital in the Digital Economy

**Sławomir CZARNIEWSKI**

University of Finance and Management in Białystok, Ul. Ciepła 40,  
15-472 Białystok, Poland, E-mail: [s.czarniewski@wp.pl](mailto:s.czarniewski@wp.pl)

**Abstract** *The quality of human capital is one of the main factors influencing the location decisions of economic activity. Flows of capital and technology take place primarily through the activities of transnational corporations (TNCs). It is they who are the carriers of globalization. The crucial role of human capital is due to the fact that today, the most advanced industries and technologies are knowledge-intensive, and they are what that determine growth. This article argues for the necessity to improve human capital in the context of modern information technology. The work is also an attempt to present the impact of human capital on the process of globalization, and to identify features which should characterize human capital in a globalized reality. Reflections contained in the paper do not have definite characteristics and should be treated as an opinion in the discussion.*

**Key words** Human capital, new technologies, globalization, information

DOI: 10.6007/IJARAFMS/v4-i3/1182

URL: <http://dx.doi.org/10.6007/IJARAFMS/v4-i3/1182>

## 1. Introduction

Human capital management is an important component of the HR strategy of organizations functioning in a competitive economy. Human capital, as has been repeatedly proven, is a key factor in the efficient and effective functioning of the organization. The most important tool for success is considered to be talented employees who are both a source of operations of strategic importance to the organization, as well as the determinant of its competitiveness. The organization is constantly building its competitive advantage by strengthening the links between the assumed business objectives and the employees fulfilling them. With these assumptions, the company is able to plan the resources needed to achieve their goals and quickly improve the quality and efficiency of human capital.

## 2. Human capital in the context of new technologies

Human capital is primarily a carrier of technological knowledge, which is the basis of scientific and technological advances. It plays a crucial role in the development of new technologies and is an essential factor for its effective use. The development of technology, especially telecommunications and information technology, requires their creators and users to have an appropriate level of qualification. Today, the ability to adapt to rapid changes is of great importance. Since the dawn of human civilization human existence has depended on the possession of knowledge and the skills to use it. Nowadays, when knowledge has achieved the status of supreme factor in development, it is reasonable to desire to transfer it to the level of a region or country (Best, 2005: 23-29). The phenomenon of the polarization of the world has always existed, but because of the dynamic process of globalization, it has become much clearer.

According to many authors, organizations are created by the people and for the people, because it is people who play the most important role in organizations (Ramos-Rodriguez, Ruiz-Navarro, 2004). The strategic objectives of the organization are inextricably linked with the proper management of human capital, which thus becomes the most important strategic resource of the organization. The right decisions related to the management of employees can be a major factor in achieving success, and the wrong decisions may mean failure.

Issues related to the management of human capital are considered the basic element of strategy management. In the digital economy, there are new forms of business, such as Internet companies and virtual organizations, where the right employee is a key success factor. The basis for the transformation of the traditional economy into a digital economy is continuous technological progress. This creates new conditions and new challenges for the functioning of human capital in the organization (Hakanson & Snehota, 2005: 45-49). Information Technology determining the functioning of the digital economy creates ample opportunities of acquiring, collecting, sharing and using information and knowledge, which are seen as necessary for the functioning and development of e-society, e-commerce, and e-business. The information and knowledge owned by the organization and by its employees become the basis of its function.

Human capital, understood as labor resources, must undergo a tremendous qualitative transformation in order to be able to play the role attributed to it. Changes in the method and structure of production and employment, and the encroachment of Computer Science into every aspect of life are challenges which humans must address in the era of globalization. The "global world" or "global village" needs people who can think, and there is never a lack of demand for them (Skrzypek, 2010: 58).

Globalization means increased competition between enterprises and human beings, in accordance with the principle of "winner takes all". Human capital, and more specifically its quality, is one of the main factors influencing the location decisions of economic activity. The flow of technology and capital take place primarily through the activities of transnational corporations (TNCs). It is TNCs which are the carriers of the globalization process.

Currently, in order to function efficiently in society and in the economy, a certain amount of information is needed (information minimum). The process of globalization not only speeds up the flow of information, but also cause this minimum to increase. Therefore, the next challenge of globalization is the ability to understand, recognize connections, and synthesize information from a growing number of sources.

The qualifications of employees, their knowledge and skills, determine the attractiveness of a location and take priority when making investment decisions. Until recently, what was important was cheap, low-skilled labor, but today it is well-educated human resources and research facilities. The growth in capacity and flexibility of production, and the short life cycle of products, leads TNCs to locate their operations where human capital is well developed.

The crucial role of human capital is due to the fact that the most advanced industries and technologies are knowledge-intensive, and they are what that determine growth. Undoubtedly, such factors as access to communication, sales market, operating costs, and legislation are important when deciding on the location of a business, but even the most favorable conditions will not contribute to the influx of TNCs of the most desired character without the adequate quality of human capital.

### **3. Human capital in the context of education**

An educated society is the "capital" conditioning the implementation of economic objectives, which is confirmed by the theory of *human capital*, the development of industrialized countries, as well as the implementation of fundamental human rights and human development goals. Investments in human capital are long-term investments. They constitute one of the main factors stimulating socio-economic development and shape the international level of economic competition. When making an investment in the development of human capital, the organization incurs expenditures for the improvement and education of employees, assuming that they will bring it economic benefits in the future. The organization creates initial human capital through the selection, training, and relocation of employees, provision of appropriate working conditions, social and health care, and then takes any action necessary to maintain its human capital, including its continuous improvement. Employees are also involved in the improvement of human capital, taking care to maintain the level of their qualifications and competence necessary to carry out the tasks designated to them by the organization within the adopted strategy.

In a globalized world of constant change, a new approach to education is necessary. Most employees will be forced to change jobs every 5-10 years. The shorter period of activity in many professions brings about the need for lifelong learning. Today, everyone must identify the gaps in their knowledge and skills, and look for ways to fill them. The lengthening of full-time education has become a necessity. Part time, freelance, and work done on commission is growing in importance. Increasingly, one has to create their own place of work.

Thus, self-reliance, creativity, communication, interdisciplinarity are features that should characterize human capital. The quality parameters of human capital in the context of globalization are shown in Table 1.

Table 1. The quality of human capital and aspects of globalization

Selected aspects of globalization	Requirements for human capital
Growth of international links	<ul style="list-style-type: none"> <li>• knowledge of foreign languages</li> <li>• mobility</li> </ul>
Information and communication technologies	<ul style="list-style-type: none"> <li>• high level of education</li> <li>• knowledge of relevant computer programs</li> </ul>
The new nature of work	<ul style="list-style-type: none"> <li>• independence</li> <li>• creativity</li> <li>• ongoing education</li> </ul>
New professions	<ul style="list-style-type: none"> <li>• new qualifications and skills</li> </ul>

Source: own research

In the current market realities, running a business requires a constant search for areas in which one can gain a competitive advantage in the market, while constantly improving operations, proving the superiority of the company over the competition. The condition for effective improvement of operations is hiring competent employees who know how to perform the tasks they are assigned. This is particularly important when the improvements to operations are complex and vital to the running of the business. Shaping the work environment is one such area, especially when it is characterized by quality requirements.

Many authors argue that organizations "compete through people", stressing that success increasingly depends on human capital (considered as the economic value of knowledge workers, and their skills and abilities), as well as the organization's ability to manage talent (Snell & Bohlander, 2012: 4-6). Experience and skills forming the talent of each of the company's employees have a huge impact on the company's operations. However, there is need for continuous improvement in accordance with the pace of development of the available technology.

#### 4. Professional competence as an element of human capital

Professional competence is the sum of material intellectual resources affecting the long-term building of competitive advantage in the market (Szczygielska, 2012: 139-150). Among others, the nature of the skills of the members of the organization determine the organization's operational possibilities. In the construction of the mission statement and strategy of the organization, taking into account social and humanitarian objectives allows one to create a new organizational culture (Urbanek, 2007: 48). The values of the organization are an important factor in the ability to achieve the organization's goals.

The ability to build organizational culture should be treated as a key competence associated with the identity of the organization, affecting its market position and competitive advantage. In turn, the condition for acquiring competence is a specified range of information necessary to determine the magnitude of the required skills necessary to perform specific tasks to satisfy the needs of the company.

Professional competence should be treated as an important corporate asset, enabling the organization to gain long-term competitive advantage. Competence of employees is determined by the ability of the company to perform the tasks it is entrusted with, including the ability to perform work. The volatility of economic conditions requires the introduction of continuous changes to adjust competence to the existing situation. This can be treated as the development of human capital in the company, contributing to the increase in its value (Kumar & Shah, 2009: 34-38).

A necessary condition for the proper development of professional competence is to possess the information necessary to identify the scope of improvement and the motivation needed for a particular procedure. Such information, treated as "useful information", is a necessary element in the development of each area of the enterprise, including the development of the work environment. It is particularly important for the process to be implemented systematically, enabling sustained success in the development of the enterprise.

Development in the competence of employees can be treated as development in human capital, increasing the usefulness of hired workers in performing given tasks. The higher the competence of employees, the higher the value of these resources, and larger the company assets. The tangible result of actions taken to increase human capital is innovation, improvement in work quality, work organization and work methods, and the effectiveness of the company (Tyrańska, 2008: 475-478). It can be assumed that the human capital of organizations is affected by the competence of managers and staff, their knowledge, skills, motivation, behavior and attitudes towards work. Employees are treated as a resource, in which one should invest.

Competence can be considered an element of an organization's environment, which is the combination of internal and external factors and conditions that affect the achievement of the organization's goals and then their maintenance in relation to all interested parties. It is essential to think about achievement and maintenance of goals in the long term. This is coupled with the organization possessing intellectual capital, including human capital. It often turns out that the market value of companies exceeds the value indicated in financial statements. This is related to the possession by the company of hidden intangible assets in the form of intellectual capital (Kłak, 2010: 367-381).

Table 2. Actions taken within the organization which determine the development of human capital

Required Areas	Implemented measures
Organizational Structure	<ul style="list-style-type: none"> <li>• building a flexible organizational structure that meets system requirements,</li> <li>• allowing employees to be self-reliant,</li> <li>• developing procedures for reporting the rationalization of projects, their evaluation and rewarding</li> <li>• ensuring incentives to promote the professional development of employees</li> </ul>
Organizational Culture	<ul style="list-style-type: none"> <li>• implementation of management concepts, taking into account the impact on individual areas of the company,</li> <li>• provision of an appropriate work atmosphere,</li> <li>• ensuring knowledge of the vision and goals of the organization,</li> <li>• standardization of information transmission</li> </ul>
Technology	<ul style="list-style-type: none"> <li>• creation of a material base where creative work can be conducted,</li> <li>• provision of good (employee friendly) work conditions</li> <li>• ensuring effective exchange of information between employees</li> <li>• creation of technical capabilities enabling the use of possessed knowledge.</li> </ul>

Source: own research

The improvement (increase in value) of human capital, determining the ability to shape the quality of the work environment, requires a change or improvement in professional competence. The scope and nature of the actions taken depend on the possession of information governing the conditions leading to the development of competence. These include organizational structure, organizational culture and technology. Their characteristics, as related to the specifics of the work environment, are given in Table 2.

The competence of employees is a result of the professional activities they are allocated, their powers related to the profession, and their responsibilities. Even though employees are subject to professional qualifications, their skills depend on professional experience, personality traits, attitude, behavior, and values. Motivation and environmental factors also affect their efficiency (Gupta & Lehmann, 2005: 93-95).

Competence is becoming an important value of the modern information civilization, and of knowledge-based enterprises. Continuously improving skills is the best way to adapt to new conditions, as well as to introduce potentially greater innovation and productivity into the organization.

## 5. Electronic tools for internal communication and the quality of human capital

By making the right decisions, a manager can make the most of human capital through the right combination of competence, knowledge, energy, skills and other values of individual employees. In the digital economy, the fusion of abilities, behavior, energy of all the people in the company becomes even easier.

For effective improvement of human capital, one should identify opportunities and conditions for the application of modern information technology, such as multimedia, computer networks, artificial intelligence and data warehousing. It is becoming increasingly important to be able to transfer the information necessary for the functioning of the organization in the digital economy through new alternative channels of communication, such as:

- wired and wireless telephony, which is the most popular and most widely available information channel;
- online services;
- Internet (mainly WWW), the fastest growing and most dynamic, and the most promising channel of the digital economy;
- multimedia kiosks;
- interactive TV.

The most popular tools used for internal communication within e-enterprises are digital forms of communication. They allow application of a variety of solutions - such as electronic newsletters (permitting the dissemination of current events to recipients), electronic mail (permitting the sending of information to all recipients simultaneously, creating opportunities for bilateral or multilateral communication, yet does not give a guarantee for immediate use of the information sent by the addressee), instant messaging (permits interactive contact and sending of information to all recipients simultaneously, and in this case, the sender of information is sure that the recipient has received the information sent), social networking (providing access to information published by individual employees).

Instant messaging, chat and video conferencing allow for dialogue with colleagues or trainers, with whom the employee does not have direct contact, either because of distance or the inability to organize a meeting. This gives employees the ability to interactively participate in virtual trainings and other forms of online learning in real time (Martin, 2010: 58-65).

As a result of the development of digital methods of communication, any action can attain a global reach. With the Internet, access to remote resources is cheaper and easier (distance basically ceases to matter). Universal systems and circulation of electronic documents reduces the nuisance related to accessing needed information and accelerates response time to market phenomena. It also changes the working conditions for an increasing number of jobs, because the place of residence of a worker, in the face of the opportunities offered by teleworking, loses importance.

The use of the web reduces the time required to complete the tasks of a given job to practically the minimum, as the circulation of information and documents is done in real time (or near real), regardless of the distance between co-workers. In e-commerce, time is important for precise planning of resources. The success of e-organizations is determined by their knowledge and their ability to deliver information at the right quality and quantity, to the right place, at the right time and in the most useful form, allowing optimal decision making and actions that will lead to better results.

## 6. Conclusion

The process of globalization is largely dependent on human capital. Globalization brings with it many changes and new conditions in terms of human capital. The interrelationships between human capital and the process of globalization are very strong. We should therefore seek attractive ways to contribute to the current trends in development. This becomes possible with the most efficient use of and investment in human capital.

Human capital must undergo a tremendous qualitative transformation to be able to play the role attributed to it. Changes in the method and structure of production and employment, and the encroachment of Computer Science into every aspect of life are challenges which humans must address in the era of globalization. Human capital, combined with modern technology, is the main driver of economic development. As a modern growth factor, it contributes to the increase in productivity of the economy, stimulates changes in the structure of production and employment and creates new values and attitudes. In human capital, such qualities as creativity and the ability to analyze and solve problems, should dominate. The development of human capital is inseparable from the development of the new digital economy.

## References

1. Best, R.J. (2005). *Market-based Management. Strategies for Growing Customer-Value and Profitability*. New Jersey: Pearson Prentice Hall.
2. Gupta, S. & Lehmann, D.R. (2005). *Managing Customer as Investment*. New York: Wharton School Publishing.
3. Hakanson, H. & Snehota, I. (2005). *Developing relationships in business networks*. London: Routledge.
4. Kłak, M. (2010). Zarządzanie kapitałem intelektualnym organizacji. T. Sikora (Ed.), *Zarządzanie jakością. Doskonalenie organizacji* (pp. 45-49). Krakow: University of Economics in Krakow.
5. Kumar, V. & Shah, D. (2009). *Expanding the Role of Marketing: From Customer Equity to Market Capitalisation*. *Journal of Marketing*, November, 119-136.
6. Martin, R. (2010). *Age of Customer Capitalism*. *Harvard Business Review*, 1/2, 58-65.
7. Ramos-Rodriguez, A.R. & Ruiz-Navarro, J. (2004). Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980-2000. *Strategic Management Journal*, 25.
8. Skrzypek, E. (2010). *Zarządzanie wiedzą i kapitałem intelektualnym w warunkach globalizacji*. Lublin: UMCS.
9. Snell, S.A. & Bohlander, G.W. (2012). *Managing Human Resources*. London: Cengage Learning.
10. Szczygielska, A. (2012). Rozważania teoretyczne o relacjach pomiędzy kluczowymi kompetencjami, wartościami i kulturą organizacyjną. E. Skrzypek (Ed.), *Problemy etyczne w organizacji uczącej się* (pp. 139-150). Lublin: Marie Curie-Skłodowska University in Lublin.
11. Tyrańska, M. (2008). Metody doskonalenia jakości kapitału ludzkiego. T. Sikora (Ed.), *Kompetencje zarządzania jakością. Doświadczenia i perspektywy* (pp. 475-478). Krakow, University of Economics in Krakow.
12. Urbanek, G. (2007). *Pomiar kapitału intelektualnego i aktywów niematerialnych przedsiębiorstwa*. Lodz: University of Lodz.