

Cross-Cultural Competence of Employees of International Companies in Terms of Fourth Industrial Revolution

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Abstract— The technologies of the fourth Industrial Revolution, such as Artificial Intelligence, blockchain, Internet of Things, neural networks, etc., present specific requirements for business and management. Modern organizations should take into account the impact of these technologies on their activities. The level of internationalization of companies is constantly increasing. The development of new technologies, on the one hand, increases the requirements for employees in terms of their professional competence, and, on the other hand, these new technologies are able to take on part of the staff job functions.

The purpose of this study is to identify the features of the formation of cross-cultural competencies of employees of international companies under the conditions of the 4th industrial revolution.

The authors used the following research methods: mathematical analysis, interviews, statistical analysis, qualitative research.

Keywords: *the fourth industrial revolution, cross-cultural competence, international business, artificial intelligence, intercultural communication, global economy*

I. INTRODUCTION

In the context of the 4th Industrial Revolution, the pace of the development of new technologies is constantly increasing. Artificial Intelligence, the Internet of Things, blockchain, neural networks and other technologies are changing the global economy framework, organizations and our ways of interacting them [8]. The level of complexity and uncertainty of the business environment is constantly increasing. All those factors pose new demands on society, business, and management of a modern organization [2]. One of these requirements is the possession of cross-cultural competencies.

The introduction of new technologies, as a rule, has the following impact on employees:

- Full replacement of certain functions of employees;
- Increased demand for new features that appear due to the introduction of new technologies that require specific competencies.

Cross-cultural competencies can be recognized as one of these specific needs that arose in the era of the 4th Industrial Revolution. Today, employees who do their job well and succeed in the local market are often not as successful as part of international activities [9]. In most cases, they lack the ability to understand and analyze the cultural context of their foreign partners [10].

It should be noted that under the conditions of the 4th Industrial Revolution, the introduction of modern technologies will more and more liberate employees from performing routine functions, which will lead to the need to develop competencies related to social activity, including cross-cultural competencies. This means that the development of cross-cultural competencies is becoming one of the priorities for companies operating in the global economic space. However, many international companies today do not pay enough attention to the development of cross-cultural competencies of their employees. This is mainly due to the lack of a clear definition of cross-cultural competencies, undeveloped tools for their development and a lack of understanding of the importance of their development in the modern economy.

In this article, we will define cross-cultural competencies, define their list and identify which cross-cultural competencies need to be developed in the first place and for which categories of employees.

II. ARTIFICIAL INTELLIGENCE – DEFINITION AND CLASSIFICATION

Among the benefits from the introduction of Artificial Intelligence, one of the first scientists to define cross-cultural competence is Gertsen. He defines it as “the ability to function effectively in a different culture” [5]. However, this definition seems too general and not concrete enough; it does not reflect the structure of cross-cultural competence and its features.

The definition given by Black and Mendenhall looks somewhat more specific, it refers to content and skills that will facilitate effective cross-cultural interaction [3].

Hofstede succeeded in further specifying the definition of cross-cultural competence. He highlights such cross-cultural

competency components as awareness, knowledge and skills [6] (Fig. 1).

In 2006, Apud et al. identified cross-cultural competency as the ability to use a specific set of knowledge, skills, and personal qualities for successful interaction with representatives of other cultures. The main idea is that it is not knowledge, skills, abilities, or personal qualities that are important in themselves, but the ability to use them in an international business environment.

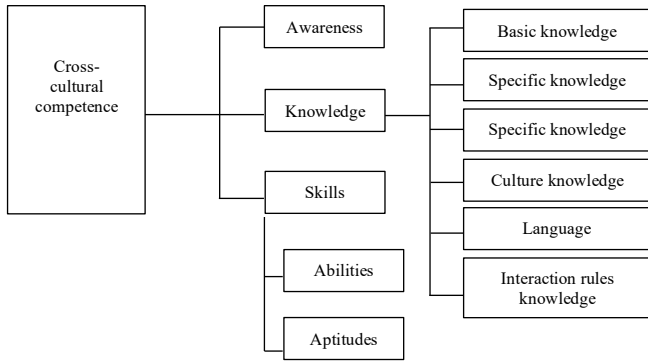


Fig. 1. Cross-competence model according to Hofstede (prepared by authors)

The authors also developed a cross-cultural competency model, presented in Fig. 2, which reflects the dependence of the use of knowledge, skills, and personal qualities on institutional ethnocentrism, which can be defined as the extension of the accepted style of work in one culture to representatives of another culture [6] and cultural distance, which is the general difference between “home” culture and that of colleagues or business partners.

An important feature of cross-cultural competencies is the limited opportunity for their development - a certain set of knowledge and skills can be generated, but their application in a cross-cultural business environment depends heavily on the individual’s personal qualities, which can only be partially formed.

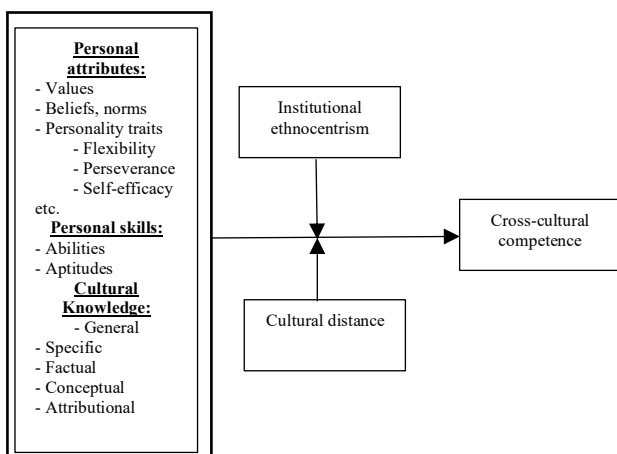


Fig. 2. A model of cross-cultural competence [1]

As a basic set of cross-cultural competencies, it seems appropriate to dwell on the following competencies:

- Understanding cultural differences as a necessary element of business and social cooperation;
- Ability to adapt to sociocultural context;
- The ability to self-reflection in the framework of intercultural interaction;
- The ability to empathize with the emotional state of representatives of another culture;
- Knowledge of foreign languages;
- Ability to create a non-conflict environment in the framework of intercultural interaction;
- Ability to collaborate with other cultures;
- Knowledge of cultural differences in the context of intercultural interaction;
- The ability to apply knowledge about various types of business cultures and their features in their professional activities;
- Ability to make decisions in the framework of intercultural interaction.

III. RESEARCH METHODOLOGY

During this study, both primary and secondary methods of research were used. At the first stage of the study, an array of data from open sources was collected and analysed, relating to current trends in international management, technologies of the 4th industrial revolution, their impact on the functional responsibilities of employees in the framework of international and intercultural interaction.

In the second phase of the study, we conducted an initial study through a survey of experts representing Key Industry Participants (KIPs) - market leaders engaged in international activities. The Delphi method was used (3 iterations).

IV. FINDINGS

According to experts representing Key Industry Participants (KIPs), the most important component of cross-cultural competence is the specific set of personal qualities (Fig. 3) - 39% of experts say so. 32% consider a certain set of skills as the most important component, and 29% - knowledge

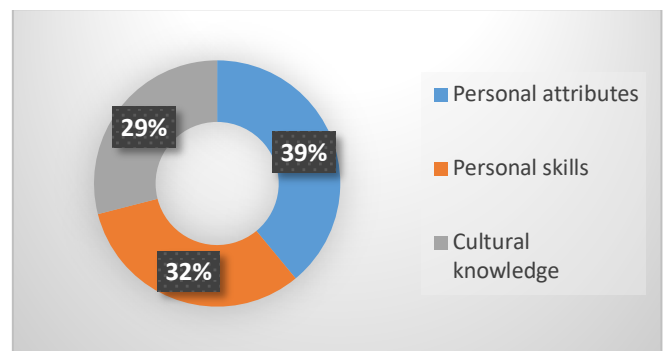


Fig. 3. The most important cross-cultural components (prepared by authors)

Percentage of KIPs representatives who selected a certain cross-cultural competence to the top 3 competence is shown in the Fig. 4.

So, the top-3 cross-cultural competencies are:

- Ability to collaborate with other cultures;
- Understanding cultural differences as a necessary element of business and social cooperation;
- Ability to create a non-conflict environment in the framework of intercultural interaction.



Fig.4. The most important cross-cultural competencies (prepared by authors)

Fig. 5 reflects the percentage of experts who selected a certain cross-cultural competence to the top 3 in terms of ease of formation.

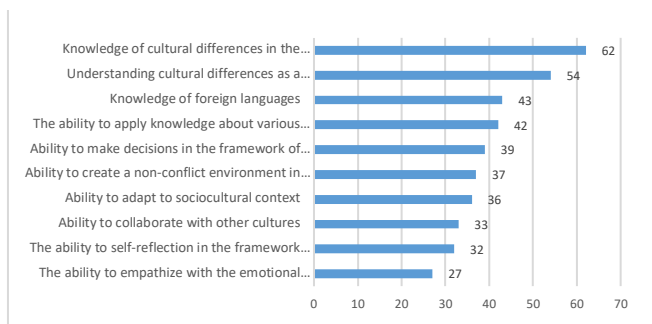


Fig. 5. The ratio of the cross-cultural competencies in terms of ease of formation (prepared by authors)

Fig. 6 highlights the key industries in terms of cross-cultural competence demand.

34% belongs to retail and e-commerce. The second is financial sector with 18%, the third is Media and entertainment – 16%.

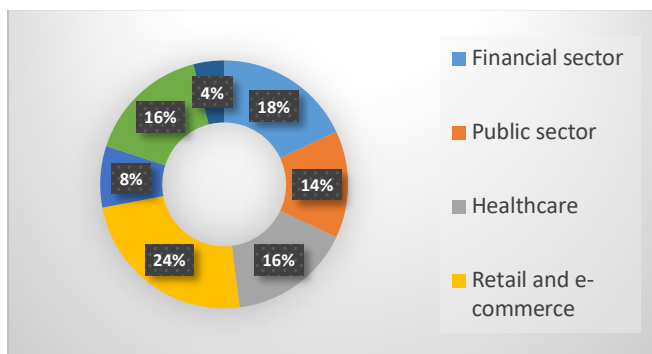


Fig. 6. Key industries in terms of cross-cultural competence demand (prepared by authors)

Top 5 job fields in terms of cross-cultural competencies demand is reflected on Fig. 7.

Management is on the first place with 23%, sales is the second with 23%, service / support is the third – 18%, engineering is the fourth – 21% and IT is the fifth with 12%.

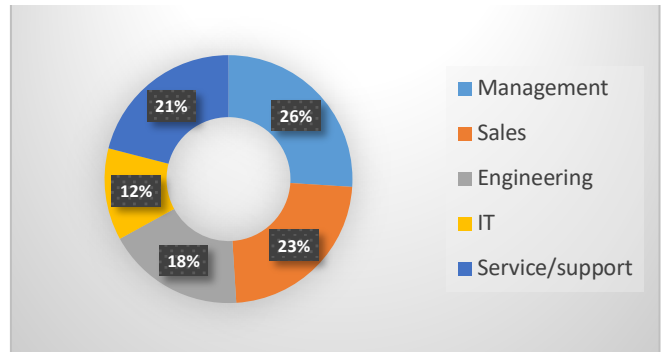


Fig. 7. Top 5 job fields in terms of cross-cultural competencies demand (prepared by authors)

Fig. 8 reflects the experts opinion regarding the necessity of the cross-cultural competence in terms of the 4-th industrial revolution. 54% of experts consider that having a cross-cultural competence is critical, 38% consider that it is rather important and only 5 % of the KIP representatives consider that cross-cultural competence is not important.

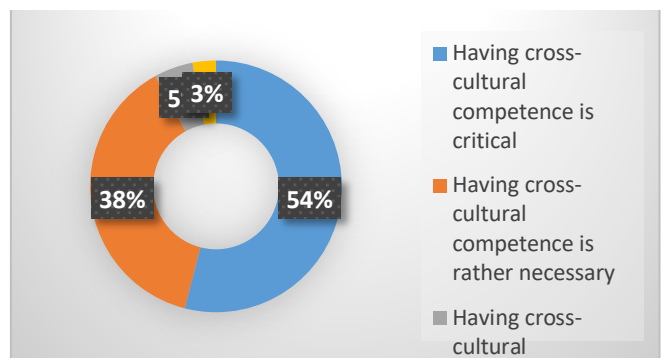


Fig. 8. Cross-cultural competence necessity in terms of 4-th industrial revolution (prepared by authors)

V. DISCUSSION AND CONCLUSIONS

Based on the results of the study, it could be said that the presence of cross-cultural competence among employees of international companies operating in the framework of a cross-cultural environment can be recognized as critical. This conclusion is based on the fact that the widespread development of technologies of the 4th Industrial Revolution contributes to the intensification of the international activities of even small companies. The use of various types of aggregators and marketplaces makes it easier for companies to access the global market. In addition, the development of innovative technologies in the organization's management systems will lead to a redistribution of the functional responsibilities of employees. Today social and communication skills that provide employees with competitive advantages over Artificial Intelligence become very important. The cross-cultural competencies can be one of the key success factors on a global market.

As for the demand for cross-cultural competencies by various categories of employees (Figure 7), it should be noted that one or another position in this rating is occupied by categories implying a different volume of business communications. In addition, the organization's management is developing a strategy that, in modern realities, should take into account the cultural characteristics of business partners and employees of foreign branches.

The high demand for cross-cultural competence by industries such as "Retail and e-commerce" and "Financial sector" can be explained by the fact that these industries are advanced in terms of developing foreign markets. The technologies of the 4th Industrial Revolution make it much easier for trade and financial organizations to enter foreign markets. In addition, the competition is extremely high, therefore, understanding of customer needs is becoming a key success factor. Naturally, cultural characteristics directly affect the consumer preferences of foreign customers and suppliers of goods and services.

Fig.5 demonstrates the rating of cross-cultural competencies in terms of the ease of their formation. Today, to form the required level of knowledge about the cultural characteristics of representatives of various countries, as well as the linguistic component of cross-cultural competence, taking into account the use of modern teaching technologies, is not difficult. Appropriate skills to apply previously acquired knowledge in their professional activities are somewhat more difficult to form.

As for personal qualities, their formation within the framework of cross-cultural competence is rather difficult [6], and moreover, it is not always possible due to cultural distance and institutional ethnocentrism [1].

Thus, we can say that the most important cross-cultural competencies are those that represent personal qualities, because, on the one hand, they are the most difficult to form, and on the other, they affect the use of acquired knowledge and skills. The strategy development manager needs to develop skills that facilitate the adoption of intuitive strategic decisions — creative thinking, abstract thinking skills, the ability to analyse context, and not just facts.

As for such cross-cultural competence as knowledge of foreign languages, its importance is gradually decreasing in the era of the fourth Industrial Revolution. Artificial intelligence systems are already capable of performing such a function as translating text and speech from one language to another. The importance of this competency still remains exclusively for company management, which needs to have direct oral communication with business partners abroad and employees of foreign representative offices of parent companies.

Today, the technologies of the fourth Industrial Revolution are a real economic driver for many companies, contributing to their entry into the global market. International and intercultural interaction has long been a natural part of business life. One of the key success factors in international markets is the presence of cross-cultural competencies among company employees — they help employees and managers more effectively interact with their foreign partners and colleagues [7]. The absence or lack of cross-cultural competence can lead to quite serious problems due to a lack of understanding of differences in the way of thinking, behaviour and values of representatives of other cultures [4].

The presence of cross-cultural competence among managers and employees of companies operating in international markets significantly increases their personal effectiveness, which ultimately leads to an increase in the efficiency of the entire company.

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