CHAPTER 2

Organizational Culture in Polish Transport Companies in Industry 4.0

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Summary: We deal with the problem of the development of organizational culture in the era of the Fourth Industrial Revolution. The main aim of our study is to thoroughly investigate this phenomenon using empirical research which aim was to evaluate organizational culture in transport companies in the Małopolska Voivodeship. The research tool used for this purpose was a questionnaire. The study was conducted on a sample of fifty employees of transport companies located in the Małopolska Voivodeship. Although the research may be considered as unrepresentative, its results are optimistic. This applies both to the methods in which the organizations were managed, the building of the desired atmosphere

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in the workplace, as well as cooperation between employees. The organizational culture of transport companies cannot be developed in isolation from the environment of Industry 4.0, which allows access to practically all information, at any time, from any place. The results of the research show the huge role of values such as respect or taking care of employees as well as the importance of informing workers about the strategy and mission of the company. The process of human resources management, the atmosphere in the workplace and cooperation between employees are therefore the essence of organizational culture and building loyalty.

Keywords: organizational culture, organization, industry 4.0, artifacts

1. Introduction

The concept of organizational culture has been drawing constant attention in recent years both from researchers and practitioners as nowadays, organizational culture largely determines the market position of a modern organization in a turbulent market environment. It allows for the use of specific patterns of reaction in situations of competition threats, influences the implementation of the human resources management process and shapes the patterns of personal actions, affecting interpersonal relations and the level of satisfaction of employees with their work. Job satisfaction denotes the positive feelings that employees have towards the task they perform, emotional feelings that are helpful and positive after doing their work. Lack of job satisfaction may cause lowered morale among the staff and has a undesirable effect on the productivity of the whole organization (Prasetio, Yuniarsih, Ahman, 2017). It should be remembered that modern organizations have come to exist in Industry 4.0. This fact has a significant bearing on the formation of their organizational culture.

Organizational culture is therefore built by people and therefore the basis of every organization should always be its employees. Their skills, competences, and knowledge together with the experience add to the functioning of the organization. It should also be noted that modern social capital can be treated as one of the key elements that influence the level of social trust and collective working. Those issues in turn influence the level of cooperation in a society and competitiveness of given economies. A growth in the economy, an inflow of investments abroad or new contracts are an effect of the

influence of the social capital. A growth in the economy, an inflow of investments abroad or new contracts are the effect of the influence of social capital.

Therefore, it seems interesting to examine the face of this phenomenon in Polish transport companies, in times of the fourth industrial revolution. For this purpose, the chapter looks at the results of empirical research concerning the evaluation of organizational culture in transport companies in the Małopolska province.

2. Theoretical background

2.1. Organizational Culture in Modern Companies

Organizational culture enables contemporary organizations to function in a turbulent market environment, in the industrial age of 4.0. The latter is characterized by the ability to transform economies, jobs, and societies by introducing new technologies and processes. The formation of an organizational culture allows for the application of specific patterns of response in a situation of threat posed by competition (Parent, Lovelace, 2018).

Every organization develops a specific atmosphere that influences its effectiveness and efficiency to achieve its goals. It strives to motivate employees and promotes the development of the company. The literature of the subject does not specify a single, generally accepted interpretation of the term, so its ambiguity may prove to be a considerable difficulty in its diagnosis (Romanowska, 2002).

Organizational culture is often defined as a system of interpersonal communication, understood as a human work (Fitria, 2018; Sharma, 2017; Litwin, 2008). It is taken as a set of basic assumptions that a given group has established in the process of solving problems of adaptation to the environment and creation of internal integration (Sivathanu, Pillai, 2018).

According to another view, organizational culture can be interpreted as “collective programming of the mind that distinguishes the members of one organization from members of other organizations” (Hofstede, Hofstede, 2000; Zeyada, 2018; Grześ-Bukłaho, Szydło, 2020). There are also interpretations of organizational culture as

a model of the main assumptions built by a particular group in the learning process. These models show how to deal with problems of external adaptation and internal integration. They represent a set of values that are taken for granted and allow members of the organization to understand which activities can be considered as acceptable (Marcinkowska, 2000).

Organizational culture creates a whole range of human behaviors in groups and ways of establishing interpersonal and workplace relationships. It also builds common attitudes, beliefs, values, norms, methods of meeting needs, ways of exploring the world, safety, as well as physical and mental comfort (Men, Yue, 2019).

The phenomenon in question does not constitute any form of existence that can be observed directly. It has a stabilizing function, reducing uncertainty. It is developed and shaped in a reflective and evolutionary way (Leśniewski, Morawska, 2012). The organizational culture is conditioned by various internal and external factors, which include the type of environment and the type of organization as well as the attributes of the organization.

Figure 1. Dimensions of organizational culture

Source: Based on Minkov et.al., 2017, pp. 386–404

In every organization, organizational culture serves numerous purposes. First of all, it allows to understand the vision, strategy and mission of a given economic entity. It allows for the integration of employees around the organization's strategic objectives and determines the methods of achieving these objectives (Bugdol, 2014). It also assumes utilitarian functions, which include determining the principles of power, meeting the needs of affiliations, setting uniform criteria for evaluating behaviour and decisions, and developing a common language and conceptual system (Sikorski, 2007).

Various approaches to the classification of organizational culture can be found in the literature. Taking into account the type of value of cultural patterns it is possible to divide them according to different dimensions. The exact specification is shown in Figure 1.

2.2. Components of the Organizational Culture

Organizational culture is an important condition for human resources management. It affects the employees working in the organization, their motivation to work, commitment and loyalty (Cronley, Kyoung Kim, 2017). The literature of the subject presents various approaches suggesting elements that contribute to the culture of a given organization (Sikorski, 2007). In this respect, similar positions are held by E. Głuszek (2004) and M. Gitling (2013), including artifacts, i.e., artificial cultural creations that are visible to outsiders and also understood by the employees themselves. Artefacts include linguistic artifacts, behavioural artifacts and physical (tangible) artifacts.

Other authors (Wołk, 2009; Bugdol, 2014) also mention thinking patterns. They provide the members of the group with criteria for evaluating various phenomena and situations, as well as behavioural patterns that give appropriate ways of responding to these phenomena and situations, as well as symbols that help to disseminate and consolidate the thinking and behavioural patterns among the members of the group. The elements of the organizational culture include open and hidden (informal) aspects. The former comprise objectives, technique, structure, rules and procedures, and financial resources. The hidden aspects include insights, attitudes, feelings (despair, anger, fear, etc.), as well as values, informal contacts and

group norms. To such a defined group, A. Potocki adds human creations and behaviours as well as norms, symbols, rituals and values (Potocki, 2005).

Nevertheless, the basic cultural assumptions should be regarded as the most durable and at the same time the deepest element of organizational culture. They refer to the nature of the human being, the nature of the environment, the organization itself, interpersonal relations and the organization's relations with the outside world (Sułkowski, Seliga, Woźniak, 2016).

2.3. How Organizations Operate in the Industrial Age 4.0

The rapidly advancing digital transformation in the era of Revolution 4.0 contributes to global development. Organizational culture is being shaped under its influence, and the ideas of this revolution spread to all contemporary enterprises. Organizations have been forced to confront the most modern technology, encompassing more and more branches of industry. This technology significantly affects the volume and quality of production and the functionality of products (Krzyżanowski, 2017).

Industry 4.0 (Miśkiewicz, 2019) has introduced leading IT solutions in all aspects of production, allowing the creation of not only specific products but also of entire integrated value chains. The production process is precisely tailored to the customer's expectations using advanced ICT technologies. This process occurs while maintaining low costs, high quality, and efficiency. Methods of conducting business activity, functioning of enterprises and market structure are changing rapidly. These processes are accelerated by new business models and technologies such as Artificial Intelligence or incremental manufacturing.

The contemporary organization (Rzepka, 2019) must operate in the above-mentioned reality. All its components should therefore adapt to it, including organizational culture. New specialist vocabulary is emerging, and thanks to dynamic digitization – new ways of communication are too. Employees have increased access to data, which is growing rapidly every year.

3. Methodology, Results and Discussion

To get to know the issues of organizational culture in contemporary organizations in depth, empirical research was conducted. Its aim was to assess the organizational culture in transport companies that operate in the Małopolska Voivodeship. Fifty employees working in transport companies located in the Małopolska Voivodeship were surveyed. The respondents differed in terms of age, gender, education, work experience, the character of their position, as well as the size of the company in which they work. The survey was conducted on a sample of 150 respondents working in various industries, of which 50 respondents were representatives of transportation companies. The number $n=50$ was used in the chapter, which constitutes 100%.

80% ($n=40$) of the surveyed employees were employed as drivers, while the remaining 20% ($n=10$) were employed in other positions. The results of the research have exposed the level of knowledge about organizational culture among the employees. It turns out that 34% ($n=17$) of the respondents were not able to define this concept, and the remaining ones interpreted it as a set of values, norms, ways of thinking and behaviour of employees.

Almost half of the respondents $n=22$ (44%) were unable to determine whether culture affects their daily work. 22% indicated that it has little impact, while 16% ($n=8$) described it as significant.

The values that the organization's management is guided by in relation to the employee were mainly employee care (44%; $n=22$), respect for the employee (30%, $n=15$) and profit orientation (26%, $n=13$).

The respondents considered the knowledge of the company's strategy and mission by its employees to be an important element which influences the organizational culture. 44 respondents are familiar with these concepts (90% of responses). As part of the organizational culture, the respondents listed expressions associated with industry vocabulary. The answers to this question are presented in Figure 2.

The respondents were also asked to assess their loyalty to their employer. It was evaluated positively (see Figure 3).

The issue of building relations within the company was also investigated. The result shows that the respondents have a good opinion

of this issue in their company. As many as 58% (n=29) indicated the relations were built very well, whereas 52% (n=26) rated them well. Detailed data is shown in Figure 4.

Figure 2. Occurrence of characteristic expressions at the workplace

Source: Own study based on the research

Figure 3. Evaluation of loyalty to the employer

Source: Own study based on the research

Figure 4. Assessment of building interpersonal relations in the company

Source: Own study based on the research

An important issue undertaken in the research was to indicate the factors that the management uses in its contacts with employees. In this case, the respondents mostly indicated respect for their co-workers (see Figure 5).

The surveyed employees have a positive opinion of the atmosphere in the organization, and the vast majority identify with their workplace. Optimistically, more than half of the respondents (n=30, 60%) have positive comments on the rules and principles prevailing in the workplace. At the same time, the respondents presented factors which could worsen this situation – inappropriate compensation system (n=28, 56%) and inappropriate management and management (n=22, 44%).

The surveyed employees are aware of the rapid technological progress that is taking place as part of the 4.0 revolution. All respondents admitted that the company provides them with access to any information at any time and from any place, thanks to technologies such as the Internet and cloud computing. Employees, machines, and IT systems freely exchange information with each other.

Figure 5. Relations of the company's management with subordinate employees

Source: Own study based on the research

4. Conclusions

Organizational culture in the era of industry 4.0 remains one of the most important conditions for the implementation of the process of human resources management in contemporary organizations (Ziaei Nafchi, Mohelská, 2020; Kocot et al., 2022). This phenomenon cannot be

analysed in isolation from the progressing fourth industrial revolution (Mohelská, Sokolova, 2018). The results of empirical research conducted with the use of a questionnaire among employees of transport companies in the Małopolskie Voivodeship are very optimistic. The process of human resources management, the atmosphere in the workplace and cooperation between employees were positively evaluated by the respondents, even though they did not have much knowledge about the essence of organizational culture. Consequently, the respondents may not have been fully aware of its role in the company management process.

The organizational culture of transport companies is formed in the environment of Industry 4.0, thanks to which the access to practically any information, at any time, from any place is possible. The surveyed companies are implementing solutions consistent with the concept of Industry 4.0. This allows for connecting multiple devices, in different locations, to one cloud system. Through such solutions, visualization, scaling and advanced data analysis become helpful management tools.

5. Recommendations

Building organizational culture in transport companies is of a high importance in the process of managing modern entrepreneurships. Research conducted in transport companies in the Małopolska Voivodeship, allows to formulate a few recommendations for companies:

Managerial staff should cultivate such values as respect and caring for workers. Each employee should be informed about the strategy and mission of the company. Managerial staff should pay attention to creating positive correlations among employees which would be helpful in building allegiance to the company.

In the era of Industry 4.0, companies should allow access to all information at any time and from any place, thanks to such technologies as Internet or cloud computing.

References

- Bugdol M., 2014, *Znaczenie sprawiedliwości w zarządzaniu ludźmi. Dlaczego warto być sprawiedliwym*, Warsaw, Difin.
- Cronley C., Kyoung Kim Y., 2017, *Intentions to turnover: Testing the moderated effects of organizational culture, as mediated by job satisfaction, within the Salvation Army*, "Leadership & Organization Development Journal" Vol. 38, No. 2, pp. 194–209.
- Fitria H., 2018, *The influence of organizational culture and trust through the teacher performance in the private secondary school in Palembang*, "International Journal of Scientific & Technology Research" 2018No.7(7), pp. 82–86.
- Gitling M., 2013, *Człowiek w organizacji: ludzie, struktury, organizacje*, Warsaw, Difin.
- Głuszek E., 2004, *Zarządzanie zasobami niematerialnymi przedsiębiorstwa*, Wrocław, Wydawnictwo Akademii Ekonomicznej im. O. Langego.
- Hofstede G., Hofstede G.J., 2000, *Kultury i organizacje. Zaprogramowanie umysłu*, Warsaw, Wydawnictwo PWE.
- Karakaya E., Hidalgo A., Nuur C., 2014, *Diffusion of eco-innovations: A review*, "Renewable and Sustainable Energy Reviews" No 33, p. 394.
- Kocot D., Wiench P., Maciaszczyk M., 2022, *Inter-Organization Relationships on Virtual Level in Terms of Employee Agility as Determinant of Industry 4.0 Era. In Self-Management, Entrepreneurial Culture, and Economy 4.0*, Routledge, pp. 102–117.
- Krzyżanowski P., *Przemysł 4.0 – rewolucja przemysłowa rozgrywa się na naszych oczach*, www.komputerswiat.pl/artykuly/redakcyjne/przemysl-40-rewolucja-przemyslowa-rozgrywa-sie-na-naszyc-oczach/pzfpbnb (Accessed 29.11.2019).
- Leśniewski M. A., Morawska S., 2021, *Zasoby ludzkie w organizacji*, Warsaw, Wydawnictwo CeDeWu.
- Litwin J., 2008, *Okresowe oceny pracownicze [in:] Zarządzanie zasobami ludzkimi*, W. Golnau, M. Kalinowski, J. Litwin (eds.), Warsaw, Wydawnictwo CeDeWu.
- Marcinkowska M., 2000, *Kształtowanie wartości firmy*, Warsaw, Wydawnictwo PWN.

- Miśkiewicz R., 2019, *Industry 4.0 in Poland – selected aspects of its implementation*, “Scientific Papers of Silesian University of Technology. Organization and Management Series” Vol. 136, pp.403–413.
- Men L. R., Yue C. A., 2019, *Creating a positive emotional culture: Effect of internal communication and impact on employee supportive behaviors*, “Public relations review” No. 45(3), www.doi.org/10.1016/j.pubrev.2019.03.001.
- Minkov M et al., 2017, *A revision of Hofstede’s individualism-collectivism dimension*, “Cross Cultural & Strategic Management” Vol. 24, No. 3, pp. 386–404.
- Mohelska H., Sokolova M., 2018, *Management approaches for Industry 4.0–the organizational culture perspective*, “Technological and Economic Development of Economy” Vol. 24(6), pp. 2225–2240.
- Potocki A. (ed.), 2005, *Zachowanie organizacyjne*. Wybrane zagadnienia, Warsaw, Wydawnictwo Difin.
- Prasetio A. P., Yuniarsih T., Ahman E., 2017, *Job satisfaction, organizational commitment, and organizational citizenship behaviour in state-owned banking*, “Universal Journal of Management” No. 5(1), pp. 32–38.
- Parent J. D., Lovelace K. J., 2018, *Employee engagement, positive organizational culture and individual adaptability*, “On the Horizon” Vol. 26, No. 3, pp. 206–214.
- Romanowska M., 2002, *Podstawy organizacji i zarządzania przedsiębiorstwa*, Warsaw, Wydawnictwo Difin.
- Rzepka A., 2019, *Innovation, inter-organizational relation, and co-operation between enterprises in Podkarpacie region in Poland*, “Procedia Manufacturing” Vol. 30, pp. 642–649.
- Sharma P., 2017, *Organizational culture as a predictor of job satisfaction: The role of age and gender*, “Management – Journal of Contemporary Management Issues” Vol. 22(1), pp. 35–48.
- Sikorski C., 2007, *Drogi do sukcesu, Profesjonalizm kontra populistyczna kultura organizacyjna*, Warsaw, Wydawnictwo Difin.
- Sivathanu B., Pillai R., 2018, *Smart HR 4.0 – how industry 4.0 is disrupting HR*, “Human Resource Management International Digest” Vol. 26, No. 4, pp. 7–11.
- Sułkowski Ł., Seliga R., Woźniak A., 2016, *Kultura organizacyjna i zarządzanie uczelnią z punktu widzenia systemu zapewniania jakości w Polsce*, “Przedsiębiorczość i Zarządzanie” No 9, pp. 221–233.

- Szydło J., Grześ-Bukłaho J., 2020, *Relations between National and Organisational Culture – Case Study*, “Sustainability” No. 12(4), www.doi.org/10.3390/su12041522.
- Wołk Z., 2009, *Kultura pracy, etyka i kariera zawodowa*, Radom, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji – PIB.
- Zeyada M., 2018, *Organizational culture and its impact on organizational citizenship behavior*, “International Journal of Academic Research in Business and Social Sciences” Vol. 8(3), pp. 418–429.
- Ziaei Nafchi M., Mohelská H., 2020, *Organizational culture as an indication of readiness to implement industry 4.0*, “Information” Vol. 11(3), www.doi.org/10.3390/info11030174.