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Analysis of the Impact of Digital Communication Tools on Organizational Culture and Communication Effectiveness Within Enterprises

Alla Poltoratska^{1,*}, Olena Garmash², Iryna Marchenko³, Olena Garmatiuk⁴ and Volodymyr Stefinin⁵

¹PhD in Philology, Associate Professor, Department of English Philology and Translation, Interregional Academy of Personnel Management, Kyiv, Ukraine.

²Doctor of Philological Sciences, Professor of the Department of Translation, Faculty of Social-Humanitarian Science, Pryazovskyi State Technical University (PSTU), Dnipro, Ukraine.

³Candidate of Technical Sciences, Dean of the Social and Humanities Faculty, Associate Professor of the Department of Informatics, Faculty of Information Technologies, Priazovskyi State Technical University, Mariupol, Ukraine.

⁴PhD, Senior Lecturer at the Department of Marketing, Management and Business Management, Institute of Economy and Business Education, Pavlo Tychyna Uman State Pedagogical University, Uman, Ukraine.

⁵Candidate of Economic Sciences, Associate Professor, Department of Entrepreneurship, Trade and Applied Economics, Faculty of Economics, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine.

Corresponding authors: (e-mail: apoltoratska@gmail.com).

Abstract The issue of improving the organizational culture of enterprises is becoming increasingly relevant in light of the need to enhance the effectiveness of human resources policy and employees' motivation. Being aware of the importance of developing organizational culture and the effectiveness of internal communication, managers of enterprises very rarely have an information basis for a model of their effective construction. The study aims to analyze the current role of digital transformation tools within the communication process to optimize organizational culture and increase communication effectiveness. The research was conducted using the general methods of scientific cognition, in particular, analysis and synthesis, induction and deduction, abstraction, specification, and formalization. The study identified the potential of digital communication tools for the cultural and communication optimization of companies. The authors have analyzed the factors of insufficiently effective development of organizational culture. The article substantiates the need for the synergy of process, system-behavioral, adaptive-situational, psychodynamic, and competence approaches. The authors have proposed ways of digital transformation of organizational and communication culture. Based on this, the main vectors for optimizing the concept of organizational management of the transformation of the communication sphere of companies have been identified. It has been proved that the conceptual model of an effective organizational culture is based on long-term measures to implement the strategic goals of enterprise development through continuous self-development and continuous improvement of communication skills using modern and innovative digital tools.

Index Terms transformation, organizational culture, barriers, assessment, management strategy, modernization, digital technologies, communication

I. Introduction

In the context of the global digital transformation processes, the leaders of most organizations realize the importance of optimizing the traditional approach to organizational culture and internal communication. However, many of them cannot build an effective model for its formation. The reasons for this include:

- 1) A lack of motivation.
- 2) A shortage of employees with digital skills.
- 3) An insufficient level of synergy between the team's efforts to achieve the company's strategic goals.

Therefore, under current conditions, the actual problems of developing companies' organizational and communication cultures, taking into account their industry specifics, are be-

coming increasingly important.

Numerous scientific papers [1], [2] are devoted to the study of some aspects of the problem under investigation. However, they are characterized by fragmentation and overview, revealing the general theoretical aspects of optimizing organizational culture using digitalization and digitalization tools. This issue has also received considerable attention in the research of scholars [3], [4] who study the essence of the phenomenon of the communication system within organizations. Some authors [5], [6] have identified a direct correlation between the level of effectiveness of the company's organizational culture and its financial performance.

Despite significant scientific achievements, it is necessary to note that further scientific analysis is required on the

following issues:

- communication effectiveness within organizations within the framework of the enterprise's organizational culture;
- their positioning as a fundamental concept of convergence between the overall digitization of the management system and the digitization of the communication concept;
- optimization of the qualitative characteristics of the studied phenomenon.

Its transformation is taking place against the background of positioning digitization as a stimulator of development in the integrated economic environment. Thus, despite the undeniable significance of scientists' developments, the issue of digitizing the organizational and communication system of the company and forming a corresponding toolkit, technologies, requirements, and approaches requires comprehensive research by the scientific community.

II. Literature Review

Based on diverse scientific approaches to identifying its essence and correlation with the definition of "corporate culture", numerous modern scholars investigate the potential of digital communication tools in optimizing the processes of forming the organizational culture of companies. Numerous publications on this topic have been made in specialized scientific journals.

The theoretical and practical aspects of the management system for the development of companies in the face of an unstable socio-economic environment and the dynamics of regulatory policy are reflected in the studies by some modern scholars [7]–[9]. These aspects necessitate the transformation of the organizational culture of enterprises. Among the research results, it is worth highlighting studies by Kudrina [10], Mandych et al. [11]. These works fundamentally substantiate the prospects for maximizing the potential of artificial intelligence and cloud services. The research papers of several scholars are devoted to solving the problems of forming the organizational and cultural sphere of companies in the sustainable development concept [12], [13].

At the same time, some scholars [14] focus on the problem of identifying the influence factors of the organizational culture phenomenon on the performance and competitiveness of organizations. In particular, they assess the stages of organizational culture development and their correlation with the financial performance of companies. Several authors [15] have formed an algorithm for digitalizing communication processes. They have updated the hub of technological means of digitalization and electronic document management in organizational corporate culture.

In addition, despite the significance of the scientific and practical achievements of scientists in this area, it is necessary to intensify scientific research on the potential of cloud technologies and tools for the digitalization of organizational and cultural processes. This will ensure that the level of development of the corporate interaction sphere meets the modern requirements of the intensive development of innovative

technologies. The article aims to substantiate theoretical provisions as well as scientific and methodological approaches, further developing practical recommendations for improving the management of organizational and communication culture transformation in enterprises in the context of digital transformation.

III. Materials and Methods

The theoretical and methodological framework of this study involves:

- the paradigm of organizational theory;
- concepts of strategic management;
- management of organizational change in enterprises.

During the research, we employed various general scientific methods, including:

- analysis and synthesis methods were used to study current theoretical concepts and scientific developments on the issues of managing the digital transformation of the organizational culture of enterprises and to clarify the terminology;
- comparison method was used to systematize conceptual approaches to the definition of basic concepts and criteria for choosing an effective direction of transformation of the organizational culture of enterprises and to identify related risks and obstacles;
- structural and logical methods were used to develop proposals for improving the organizational mechanism.

The informational background of the study includes publications on management and organizational theory, materials from scientific and practical conferences, and informational Internet sources.

IV. Results

The era of the latest management algorithms at all levels of the socio-economic system, along with the intensification of the implementation of sustainable development principles, requires an institutional transformation of the organizational and communicative environment for operations. The rapid diversification of existing management practices and large-scale technological and innovative development in the context of globalization leads to the formation of the concept of increasing the efficiency of production and economic processes.

The efficient functioning of companies, productivity growth, and economic efficiency require solving a wide range of issues related to competitiveness growth, innovative development prospects, the introduction of the latest effective management tools, and the development of a set of appropriate measures. These measures could mitigate adaptation processes in conditions of increased competition. At the same time, the main conceptual principles of such transformations are currently based on digital optimization capabilities [16].

It should be noted that digital optimization is a continuous process. It is inextricably linked to innovative technologies, aiming to meet market expectations and increase productivity and competitiveness. Today, the role of digital optimization

in the structure of the management system can hardly be overestimated. It is worth noting that the resulting effect can have different forms of expression. It can also be achieved through various methods and means. The analysis of the basic strategic principles in the field of organizational culture digitalization and internal corporate communication forms a strong belief in the need for synergy of efforts in terms of active implementation of digitalization tools while ensuring the implementation of a security strategy in the digital space. Such processes take place in the developed countries of the world community. It is worth noting that currently, there is no single algorithm for digitalizing organizational culture and internal corporate communication. The spectrum of imperatives requires the effective implementation of the analytical component of the conceptual structure of the transformation algorithm. Therefore, analytical processes should become an effective prerequisite for successfully digitalizing the studied area.

As a rule, any solution developed through analytical and informational activities significantly differs from the existing practice. As a result, such a solution will require from the participants of the transformation system not only the expected changes in knowledge and skills but also an active perception of innovations and the ability to find and effectively implement solutions to problems that constantly arise during production activities [17]. In this case, it is worth highlighting the need to optimize the company's internal management. It will automate most internal processes, distance some of them, and form a new corporate culture. At the same time, this process should be permanent and prioritized, triggering positive dynamics of transformations within the company and encouraging further self-development.

The general structure of the digital optimization process of organizational culture and internal corporate communication of enterprises is shown in Figure 1. It is worth highlighting the basic principles of forming a digitalization model, including:

- preventive strategic direction and focus on continuous development;
- multi-component structure of the operating system and the creation of practical tools on its basis;
- adaptability to modern technologies;
- innovative means of working with large data volumes.

While analyzing foreign experiences of successful implementation of digital modernization of organizational culture and internal corporate communication, it is worth noting the most popular digitalization areas. They include the use of artificial intelligence and digital tools (in particular, chatbots, service programs, mobile applications, digital archives, and behavioral analysis). The promising benefits of active use of these measures include:

- expected results in the form of user's experience personalization;
- optimization of communication functionality;
- increased speed of information processing through interaction with chatbots;

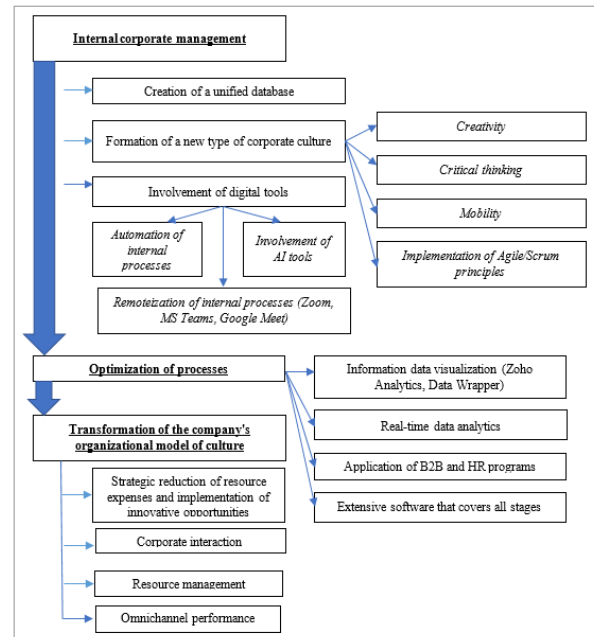


Figure 1: Digital optimization of organizational culture and internal corporate communication Source: authors' elaboration

- analytics of large amounts of data and their statistical processing [1], [2].

Obviously, based on the results of market needs and expectations analysis, the optimization of the company's internal management is considered a necessary stage in the implementation of digital communication tools. Such optimization involves the creation of a single database, the use of maximum digitalization capabilities (including artificial intelligence), as well as the transformation of corporate culture in the vectors of creativity, critical thinking, mobility, and the implementation of Agile/Scrum principles. These principles presuppose a flexible approach and a teamwork system [15].

The direct optimization of production and economic processes of companies should be based on the visualization of informational data and their real-time analytics. Modern programs such as Zoho Analytics or Datawrapper allow obtaining large amounts of information, such as visually perceptible charts, graphs, and tables. They significantly speed up the information processing [14]. At the same time, by using the potential of B2B and HR programs in optimizing business production and economic processes, the efficiency of information and economic interaction within the internal communication process can be increased dramatically [15].

It is worth noting that the implementation of the aforesaid approach, first of all, requires improvement of the existing system of corporate interaction, strengthening of integration processes, and optimization of communication strategies. After all, at the present stage of social communications development, the integration of information and communication interaction subjects results in the synergy, coordination, and rational organization of the resource potential [5], [6]. The

implementation of the concept, formed upon the basis of an improved organizational culture system, should include an adequate risk assessment. This will be the basis for the direct formation of the strategy and its further implementation. Performance analytics and ongoing control with appropriate operational adjustments are mandatory components of the concept of effective digital optimization of internal communication processes within a company [10], [11].

Available resources and organizational, economic, financial, and informational support facilitate the effective convergence of the HR management paradigm and marketing system processes and effectively transform the company's organizational culture. They also identify related issues, barriers, vectors, and trends in optimizing the internal communication strategy [12], [13]. In many cases, companies have certain factors that contribute to the low level of organizational culture development efficiency, including:

- the lack of functional interaction that does not ensure proper data exchange;
- neglect of real customer needs;
- refusal to implement cloud platform tools that allow for optimal information management;
- insufficient digital skills of staff;
- inability of the company's management system to support innovative communication requests of customers [3], [4].

The main barriers to the effective transformation of companies' organizational culture towards digitalization are as follows:

- imperfect organizational structure;
- low staff motivation;
- insufficient funding;
- the lack of strategic goals, mission, and management support;
- poor awareness of digital trends;
- inability to make necessary adjustments to organizational culture;
- the lack of required databases and poorly developed IT infrastructure;
- shortage of specialists with digital competencies [12], [13].

An integrated approach within the framework of the outlined concept of using digital communication tools for the optimization of the organizational culture system and increasing the efficiency of communication within the company will facilitate the following processes:

- achievement of a significant positive effect by minimizing personnel management costs;
- automation of HR processes and successful personnel management;
- identification of the need for targeted investment in terms of self-development;
- continuous training of employees;
- intensification of the overall level of competitiveness of the company through the implementation and develop-

ment of a customer-oriented approach;

- digitalization of management processes.

V. Discussion

The vast majority of modern scholars see innovative communication optimization of the company's organizational and communication culture as the basis for effective transformation toward sustainable development. In most cases, they consider the active influence of digital capabilities on the communication process as a prerequisite for increasing the quality and speed of optimization of the economic activity sector.

In the context of integration processes in the global socio-economic space, the scientific community is actively researching the dynamics of organizational aspects of companies' operations, especially within the concept of digital transformation. The outlined range of issues is actively studied by many scholars [18], [19]. The scientists see the main positive effects of using digital communication technologies with artificial intelligence support as being high speed. They minimize the risk of data loss or unauthorized use and save time. Some scholars [20] believe that the newest direction of artificial intelligence application in the communication system is promising. It involves automated identification of potential threats and increased cybersecurity of cloud providers.

According to modern researchers [21], there is a problem with specialists' adaptation and acquisition of relevant skills. This issue is caused by the globalized actualization of digitalization technologies. Scientists emphasize the need to ensure the effectiveness of measures to optimize communication processes within the internal corporate environment. They note that such measures require intensification of the aspect of efficiency and timely management decision-making. Some scholars [22] studied the identification of digitalization as a direction of innovative development of communication processes. They argue that the digitalization problems of the company's organizational culture mainly depend on the complexity of the procedures for implementing digital tools. At the same time, the authors emphasize that the introduction of remote forms of communication and the widespread use of information and communication technologies stipulate the need for encryption of informative data and for the latest security strategies.

Representatives of the latest research areas [23] argue that the digitalization of the organizational and communication process is a complex and multi-stage process that requires massive financial investments. According to experts, the main goal of digitalizing the organizational culture system is to synergize data sets and contacts for their optimal use. This goal can be achieved through various effective algorithms. The authors emphasize that multiple factors, including time constraints, financial capabilities, and the level of intellectual resources, influence the process of digital optimization.

Contemporary scholars [24] emphasize that today only a few aspects of the organizational and communication culture system of companies use innovative technologies and auto-

mated solutions. Some experts [25] believe that the demand for different variations of cloud services will rapidly grow in the future. Such services create variations for the effective use of multiple programs and applications without any expenses for their purchase. Scientists believe that the development of cloud technologies can significantly affect the adaptive dynamics of software for solving organizational and communication tasks. This will lead to a fundamental change in approaches to the organization of the corporate environment.

At the same time, scientists [26] identify specific prerequisites for effective digitalization within the system of organizational and cultural sphere of companies in transition. They highlight the availability of an appropriate resource base and the readiness of process participants for dynamic change as the main prerequisites. The scientific research of modern scholars [27] forms the belief that the communication sphere within the corporate culture under sustainable development requires, first of all, digital support through rational resource use, as well as increasing the efficiency of communication interaction. Such an approach will allow forcing the qualitative positive dynamics of the process of transformation of the organizational and cultural field towards the sustainability concept [28].

Despite the wide range of scientific research on this topic, the fundamental issues of practical implementation of the vectors of digital transformation of organizational culture and internal communication environment of enterprises due to the current challenges posed by the global digitalization of organizational and management processes still need to be better understood.

VI. Conclusion

Modern trends in the social and economic sphere require the transformation of organizational and cultural processes and internal corporate communication employing modern digitalization tools. Electronic optimization of those processes makes it possible to automate the routine collection, accumulation, processing, and transmission of information and reporting. In addition, digitalization tools ensure the speed, accuracy, and reliability of communication operations and facilitate corporate networking. Digitalization creates the preconditions for unlocking significant resource potential and increasing labor productivity.

This study analyzed the impact of digital communication tools on organizational culture and the effectiveness of communication within companies, as well as assessed their functionality. It has been determined that intensive digitalization of information collection and processing improves the quality of communication processes. It also strengthens the place of digital tools in the concept of innovative trends within global integration processes.

The article focuses on the potential risks and obstacles to digital optimization of the organizational culture system and the internal communication sphere of companies. It highlights the tools for adapting the traditional corporate interaction system to the requirements of digitalization. It is clear that the modern development of information technologies, artificial

intelligence, and digitalization tools allows the development and implementation of custom-made solutions to optimize the studied area of companies' operations. The prospect of further research involves a thorough analysis of technologies for integrating digitalization and artificial intelligence with communication processes in the exogenous and endogenous environment of companies. This also involves the development of a cyber security system to ensure the security of highly confidential data.

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