Information Technologies and Communications in the New Paradigm of Organizational Culture Formation

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Abstract— The processes that have been going on permanently in society for the last few decades have now noticeably increased the speed, revealing significant contradictions. Thus, the state policy of diversity conducted in a number of countries, aimed at protecting the rights and freedoms of the individual, has exposed the problems of atomization in society, which leads to entropy within socio-economic systems. It is possible to overcome these problems at the micro level by transforming the organizational culture. The key is the integration of information technologies into business processes, aimed at the integration of employees through the strengthening of internal communications. Activation of integration function of organizational culture can occur under the following conditions: development of managerial and/or leadership skills of management; interrelation of organizational structures with newly introduced technological elements; overcoming of resistance to changes on the part of personnel; efficiency of teamwork.

Keywords— Integration function of culture, information technology, business processes

I. INTRODUCTION

At the end of the last century, a demand was formed in society for identity search on the basis of the commonality of multiple interests. To date, researchers distinguish age, gender, nationality, race, social status, ethnicity, health, physical and mental abilities, sexual orientation, religion, level of education and level of organizational hierarchy as signs of diversity. People are also differentiated by their perceptions of diversity and social justice, including cognitive, behavioral, physical, emotional experiences, and values.

At the same time, it is necessary to take into account the opposite trend - the atomization of modern society noted at the macro level. Atomization is characterized as the Brownian motion of particles, when "...the coherence of chaotically moving particles is only the result of chance. It is based... on purely statistical laws and thus has no meaning or purpose. In terms of society, these are processes of violation of traditional ties in society, social consolidation, which leads at first to the emergence of disconnected minigroups, and then to mutual isolation of individuals. At the micro level, i.e., in the organization, the process of atomization can lead to the emergence of subcultures that can degenerate into destructive countercultures and destroy the entire functioning system.

Converge two approaches, one of which is aimed at taking into account the multiple differences of employees in personnel policy to obtain a synergistic effect, and the other determines the need for measures to prevent organizational destructions caused by the permanent processes of atomization of society, in socio-economic systems at the micro level, in our view is possible through activating the integrating function of organizational culture.

II. LITERATURE REVIEW

Many scientific works show that the policy of personnel diversity is able to provide socio-economic systems with economic [1; 17], organizational and managerial advantages [9; 4]. At the same time, researchers note the serious challenges associated with the processes of atomization [13] and reintegration of society [11], which lead to the erosion of values [5] and the loss of intellectual capital. Brătianu's theory of "factors-integrators", which can create synergy in an organization through the interaction of fields of internal organizational forces, differently affecting employees, is gaining popularity in issues related to the intellectual capital of the organization. The broad nature of factor-integrator theory can make it applicable in the field of organizational culture knowledge development as well. The literature highlights the critical factors that determine the success of business process management [14; 8; 4]. They can be refined in relation to organizational culture, in an inclusive work environment that considers workforce diversity [15], the degree of IT integration into an organization's business plan [3], the need for change management [10] and the development of collaboration and communication [18].

III. RESEARCH METHODOLOGY

Organizational culture as a system of values, norms, rules, goals and communications, directly or indirectly influencing the behavior of personnel, includes the mechanisms of self-organization inherent in socio-economic systems. As the bearer of culture in general and organizational culture, in particular, is an individual, the culture will be formed in the organization in any case: both when the managing part, understanding its importance as an internal resource,

purposefully forms it, and when the formation process proceeds without controlling influence, spontaneously and chaotically, including many risks, increasing with the growth of personnel diversity.

It is traditionally accepted to distinguish the following functions of organizational culture: cognitive, motivating, normative-regulatory, value-forming, communicative, innovative and stabilizing. Now there is a need to highlight the integrating function, aimed, first, at combining the interests and values of all members of the organization, taking into account their characteristics on various grounds, by developing a sense of belonging, identity, involvement in the processes of the organization and commitment to it; second, to create conditions for synergistic effect from the factors affecting the formation of organizational culture.

Every organization, regardless of its legal form, industry, size, or unique characteristics, is influenced by many endogenous and exogenous factors that can have a significant impact on organizational characteristics.

Exogenous can include such factors as "the economic environment, customers, social factors, national culture, globalization processes and legislation" [12], political situation, and the influence of the founder and/or manager, incentive and evaluation programs, organizational resources, company history, employee expectations, job characteristics, technologies used, including information technology (IT), company products can be considered endogenous factors.

Also, factors of organizational culture formation can be divided into three broader categories:
- first, managerial and leadership abilities of top management (founder's influence, incentive and evaluation programs, organizational resources);
- second, related to the organizational culture itself (history, employee expectations, work patterns);
- third, achievements in the field of technology, including information technology (company technology and products, IT).

The theory of "factors-integrators" Brătianu including technology and related processes, management and leadership, vision, mission and organizational culture [2], initially concerned with issues related to the intellectual capital of the organization, can be applied in the field of organizational culture knowledge development as well. Probably, factors - integrators allow socio-economic systems of micro-, meso-, macrolevels to achieve synergistic effects through the interaction of fields of internal organizational forces, differently affecting employees.

IV. RESEARCH

Information technologies and communications act in Brătianu theory as a factor-integrator mainly when correlated with the results of their use, regardless of the form of manifestation: Internet, intranet (internal private network of the organization, "Internet in miniature") or extranet of the organization (protected from unauthorized access corporate network that uses Internet technologies for internal corporate purposes, as well as to provide some corporate information and applications to the company stakeholders). In this regard, the disclosure and promotion of individual knowledge becomes important because it facilitates its transformation from tacit knowledge to explicit organizational knowledge.

Directly or indirectly, most organizations become dependent on IT and its use. Due to the fact that the key to business process management performance is the response to technology obsolescence, we can conclude that the evolution of IT determines a similar dynamic evolution of intra-organizational processes [14].

If we take into account that technological processes are not the only ones that are affected by the evolution of IT, then going beyond the content of factors - integrators proposed by Brătianu, we will supplement them with business processes. They are interrelated and relate to the methods of work, and represent the area of the production process, the heart of which is the direct (quantitative or qualitative) transformation of the object of labor. At the same time, management and support processes are constantly being reshaped in accordance with the development of information technology and communications. These technological processes are part of operational processes, providing a standardized approach to all kinds of activities, which, in turn, are subordinated to managerial processes.

In essence, a business process is a set of organization-specific activities that are interconnected both logically and over time. "...It brings together information, machines, tools, materials, methods, and human resources in order to achieve a particular goal» [8].

The development of technology has previously been seen as driven by the need to meet needs (vertical evolution). As they proved to be useful, qualitative leaps also became subject to a continuous process of diversification (horizontal evolution). These two factors, necessity and utility, are the external drivers of technological development. Now, with the development of research interest in the analysis of the process of technological change, it has become apparent that there are also internal factors affecting technology. For example, unresolved technical problems in the organization, or the emergence of new needs caused by technological progress itself.

Thus, the dynamics of technology, as a relatively new developing scientific field, is focused on the analysis of the process of technological change, explained by taking into account both external and internal factors of influence. Regardless of the theory under study (social construction theory of technology, systems theory, normalization process theory), experience has shown that "...the introduction of a new technological element aimed at adapting the company to the external environment and/or achieving competitive advantage implies in most cases the restructuring of organizations, thereby affecting organizational processes" [6].

Having summarized the available data on the critical factors that determine the success of business process management, let us present their expanded structure:

I. Management and leadership, their parameters [14]:
—— degree to which managers share vision and information with their subordinates;
—— the ability to create a trusting atmosphere between supervisor and subordinates;
—— the degree to which supervisors use subordinates' ideas effectively;
—— degree of realistic expectations of senior management;

— knowledge of senior management;

— patterns of senior management communication with their subordinates and customers;

— top management support as it relates to business process changes;

— constituent involvement;

— correlating business performance to business processes and change

— delegating authority in the decision-making process;

— creating and maintaining an inclusive work environment that is responsive to workforce diversity [15].

II. IT and their parameters [3]:

— degree of IT integration into the organization's business plan;

— extent of information system utilization;

— efficiency of information transmission channels;

— restructuring (redesign) of IT systems;

— consistency of IT with the organization's business process management strategy;

— the cost of attracting customers, their annual cost,

— the cost of losses due to unsatisfied customers.

III. Change Management [10]:

— adapting the compensation program to new personnel needs;

— continuous professional development of employees through educational programs;

— awareness and understanding of business process management concepts;

— selection of a suitable process reengineering plan;

— employees' willingness to improve current processes.

IV. Collaboration and Communication [18]:

— effective communication between managers and their teams;

— degree of trust employees have in each other;

— solving team problems within the team itself;

— mutual recognition of performance;

— consideration of customer expectations when planning future development.

Model of interrelation of IT, business processes and organizational culture, capable of activating the integration function at a qualitatively new level, should have interrelations in terms of: firstly, managerial and/or leadership skills of the management level; secondly, interrelations of linear and functional structures with newly introduced technological elements; thirdly, mechanisms to overcome resistance to change by the staff; fourthly, achieving teamwork efficiency.

V. Conclusions

Having investigated the presented factors, which can be fully attributed to the category of integrators, different points of view on the dynamics of the organizational change process, we believe that there is an interrelation of IT, business processes and organizational culture, which should also take into account different options of personnel reaction (from full support of transformational processes to resistance to change). Both technological progress and business processes influence the human factor, both on ordinary employees and at the management level, triggering a chain reaction, which is reflected in a change in organizational culture through the

activation of its integrating function. Factors of the external environment, such as atomization and diversity of society, in their combination, can lead to the formation of an intra-organizational crisis at the micro level, which, being local, can be transformed into a systemic crisis. And the higher the heterogeneity of the organization, the stronger the crisis can be. It is possible to overcome such contradictions, moving in the direction of complex projecting of changes in organizational culture.

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