
Irena Svydruk. Conceptual construction model of management interaction. *Економічний дискурс*. 2020. Випуск 2. С. 139-146.

DOI: <https://doi.org/10.36742/2410-0919-2020-2-14>

УДК 351.82

JEL Classification D2, M1, O3, L1

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CONCEPTUAL CONSTRUCTION MODEL OF MANAGEMENT INTERACTION

Abstract

Introduction. Achieving economic growth and high competitiveness of the enterprise in the market requires flexible development of tools to respond adequately to changes in the environment. The projected complication of the competitive business environment requires management to review existing management strategies and generate innovative ideas to identify new business priorities and formulate new models of managerial engagement.

Methods. The analysis is based on systemic, structural, functional and synergistic approaches. Universal methods of formal logic and scientific abstraction, basic principles of research of innovation, investology, institutionalism, system-functional analysis of organizational construction of administrative interaction are used.

Results. The direction of economic systems in the post-industrialization phase actualizes the need to move to innovative management principles to achieve competitive strategies. Established hierarchical models of management are not able to provide the necessary level of competitiveness of enterprises, which requires updating of management interaction schemes. The virtualized model takes into account the dynamism of the environment, provides high speed of transformations, initiates sufficient flexibility of technological and administrative-management infrastructures of the enterprise. The use of previously untapped benefits of information technology has led to the partial replacement of traditional management structures with more flexible ones. The need to save resources in times of systemic crisis leads to greater use of the outsourcing model, which forms a qualitatively new vision of virtualized business development. The flexibility of management interaction contributes to the leadership of the company when launching an innovative product on the market. Building a management system based on the principles of modeling complex business processes using horizontally directed information flows allows to build integrated competitive strategies of innovative production, involving managers of all levels in the management processes.

Discussion. Further research should be directed to the development of methodological foundations for reformatting the systems of managerial interaction, depending on the peculiarities of the functioning of domestic business, working out methods of calculating the effectiveness of updated organizational structures of management, issues of institutional support for innovative enterprises.

Keywords: economic system, competitiveness, management virtualization, information flows, management interaction, business process.

Introduction.

Achieving economic growth and high competitiveness of the enterprise in the market requires flexible development of tools to respond adequately to changes in the environment. The beginning of 2020 marked a new challenge for globalized economic systems, as the rapid spread of the COVID-19 pandemic led to a demand for social distancing, prompting the need to seek innovative management models with

widespread use of remote jobs for management personnel. The prompt solution of the problems of enterprise development is ensured by creating effective conditions for employees' self-realization, opportunities for transfer of innovations, systemic prerequisites for reducing production costs while improving productivity and quality of work. Despite the considerable efforts of scientists all over the world in the direction of overcoming the identified medical and social problem, its socio-economic consequences are difficult to predict today. In these circumstances, it is clear that the practice of managerial engagement that has been established over the last decades requires a radical change. The effect of the projected complication of the competitive environment on the whole is beneficial to the overall development of the domestic economic system, since increased competition has a positive impact on product quality and pricing policy of producers. At the same time, it requires management to review existing strategies for managing and generating innovative ideas to identify new priorities for activity and to form new models of managerial interaction.

Analysis of recent research and publications.

The high importance of transformation of established organizational models of management in domestic business has prompted many researchers to thoroughly analyze various aspects of this problem. Some of these studies address institutional management issues. In particular, O. Lukashov substantiated the principles of organizational construction of a complex mechanism of institutional regulation of strategic development at the regional level using the scientific concept of «self-study of the region» [8]. The author considers the organizational structure as a form of distribution and cooperation of management activities in order to achieve the strategic goal of increasing the competitiveness of the regional economy. O. Yershova devoted her research to the problems of institutional support of business entities [3]. The author emphasizes the necessity of institutional modernization by managing the development of business processes towards innovation.

Much of the research on organizational structure reorganization has to do with enterprise management. For example, I. Cherniavska studied the issues of improvement of innovative management processes in the enterprises of the industrial complex and offered her own model of estimation of their efficiency on the basis of parameters of innovative potential and innovative activity [18]. However, the author's approach, which provides a qualitative step-by-step algorithm of estimation, is difficult to extrapolate to non-production systems, since the methodology applies only to the in-house aspects of industrial enterprise management. N. Shabranska proposes the author's approaches to the formation of an effective organizational and economic mechanism for managing the activity of enterprises of different forms of management [19]. The researcher focuses on the development of a system of indicators to determine the degree of achievement of the programmatic goal of the organization. However, despite identifying systemic weaknesses in existing organizational governance structures, the author does not propose alternative models. T. Chebakova considered the economic essence of organizational culture at the enterprise, based on the application of binary logic, analyzed methodological approaches to calculating its level [17].

The expediency of development of the mechanism of formation of organizational capital, the corresponding tools of management of organizational changes were studied by I. Hontareva and Yu. Sheianova [1]. Organizational innovation within the study presented was considered to be a way of doing business, but the authors did not propose models for innovative job reorganization or external relations. L. Semerun, T. Nosova substantiated the need for a comprehensive evaluation of various aspects of managing the economic potential of the enterprise [13]. The authors proposed the author's method for determining the optimality of the structure of economic potential management, which is based on the results of the evaluation of the quality of business processes. T. Tsalko formulated a basic approach to explaining the essence of business process performance indicators [16]. O. Olshanskyi analyzed tendencies of improvement of business processes in the enterprises of trade, suggested the use of methods of quick analysis of the decision, redesign of the process, emphasized the importance of re-

engineering as the most radical method of process management [10].

An innovative view of the problem was demonstrated by I. Kotkalova-Lytvyn, who proposed the introduction of a strategy of reversing business processes based on the expansion of organizational and innovative horizons of the enterprise [7]. The approach proposed by the author makes it possible to greatly enhance the productive capacity of enterprises, accumulating its intellectual and financial resources to increase competitiveness.

Issues of reorganization of management interaction are sharply raised not only before the domestic business. Therefore, it is worth noting the work of foreign researchers in this field. Thus, L. Ferreira et al. proposed a virtual enterprise model as a project with a lifecycle appropriate to the period between its creation and the integration of constituent elements before its collapse, grasping its functioning and including its configurations [22]. T. Schmiedel et al. developed a business process culture structure and offered management tools for its analysis and development [25].

As we can see, despite the wide range of studies on organizational building of business management, the issues of reforming management models to achieve competitiveness remain practically unaddressed by scientists.

Purpose.

The purpose of this study is to propose alternative approaches to the organizational system of managerial interaction that would meet the challenges of the post-industrial period of economic system development.

Research methodology.

The analysis is based on systemic, structural, functional and synergistic approaches. Universal methods of formal logic and scientific abstraction, basic principles of research of innovation, investology, institutionalism, system-functional analysis of organizational construction of administrative interaction are used.

Results.

The economy of Ukraine, weakened by the six-year military conflict, was further negatively impacted by the COVID-19 pandemic in early 2020. According to estimates made by the Ministry of Economic Development, Trade and Agriculture of Ukraine, GDP is projected to fall by 4,2% in 2020 and accelerate inflation to 7% (against 4,1% in 2019), and fiscal stimulus will need to be increased budget deficit of up to 6% [9]. The IMF forecast for Ukraine [23], unfortunately, is even more pessimistic (Table 1).

Table 1. Macroeconomic forecast for 2020-2021 by different estimates*

Indicator	2019 p. ¹⁾	Plan for 2020. ²⁾	Consensus forecast ³⁾		IMF forecast ⁴⁾	
			2020 p.	2021 p.	2020 p.	2021 p.
GDP dynamics,% to previous year	+14,6	+3,2	-4,2	2,4	-7,7	3,6
Consumer price index, average for the year	107,9	103,4	105,8	107,7	104,5	107,2
Unemployment rate according of the Ministry of Labor Protection methodology,%	8,6	8,1	9,4	9,1	10,1	9,3
Dynamics of real average monthly wage (adjusted for the consumer price index),% to previous year	+16,1	+16,9	0	+7,8	-13,9	3,2

*Source: compiled by the author on the basis: [2; 5; 9; 23].

The losses from the reduction of business activity of large enterprises will to some extent be compensated by state support, since their decline can lead to irreversible losses of the entire economic system and to aggravation of social problems in their places of functioning. Smaller-sized enterprises and self-employed persons are less likely to counteract systemic crises, as a large part of their business is concentrated in services (tourism, hotel, restaurant, household) and small-scale production, which have suffered most from the systemic crisis.

However, as a well-known venture investor, one of the founders of Uber, J. Kalakanis, aptly remarked, "Wealth is created in a crisis and grows in a growing market" [21]. positions in competitive markets following the crisis have to reformat their own management concepts immediately Creating virtualized jobs for a large number of management staff, which became the first business response to the institutional demand of social However, such virtualization during forced quarantine occurred mostly spontaneously, using staff workplaces as workplaces, and their personal computers as tools of work. all the inconveniences of spontaneous organization of managerial work, business representatives have been able to improve and develop this model of managerial interaction, because potentially it is able to significantly save me Employers resources (through the release of service areas, the potential inability of conflict, the possibility of transferring non-core activities to outsource, etc.) and personal time and material costs of staff (no need daily as getting to the workplace).

Intuitive choice of representatives of the domestic business models of virtualization of part of management functions allowed these enterprises in the conditions of systemic crisis to maintain the possibility of functioning. The use of previously untapped benefits of information technology has led to the partial replacement of traditional management structures with more flexible ones. Note that enterprise virtualization methodologically involves the rejection of companies from traditional forms of business organization, delegating in full or in part the fulfillment of ancillary or even basic functions to employees with distant jobs [6].

The urgent need for comprehensive enterprise resource savings in times of systemic crisis is pushing for an increasing use of an outsourcing model that forms a qualitatively new vision for virtualized business development. In particular, within the strategic partnership the outsourcing company can outsource marketing, accounting and accounting processes, which will result in savings of staff salaries and related tax charges, depreciation, overhead costs for fixed and current assets, as well as identify market markets. enterprises at the expense of transparency of doing business [15]. The benefits of outsourced models of managerial engagement are increasingly being used by international business leaders. For example, let's say that the management of the American sportswear manufacturer Nike, Inc. outsourcing outsourced all production processes, which allowed for the local presence of the enterprise in the economic systems of different countries.

At the same time, the large international corporations have successfully applied the conceptually opposite model of management interaction, which is to create a network corporate management, which is formed around a central company. In this way, for example, the American automotive corporation FCA US LLC (Fiat Chrysler), using the network created to minimize costs through joint management of resource and information flows, coordination of logistics, internal corporate transfer of innovation experience [26]. It should be noted that the prerequisites for the creation of a network management model are a shared vision of the goals of development of its subjects, strategic priorities and the possibility of free flow of information.

It should also be borne in mind that the global economic space is actively and irrevocably heading into the post-industrialization phase, where new virtualized governance principles are being updated. Appropriate competitive strategies should take into account the dynamism, multidimensional interests of employees, stakeholders and potential consumers [11] and show some aggressiveness in achieving the goals. The competitiveness of individual enterprises is increasingly dependent on their flexibility in reviewing selected strategies (Fig. 1). In fact, today, in order to maintain a position in the market, an enterprise must constantly stimulate a potential consumer to choose in his favor. Therefore, competitive strategies should be based on a synergistic set of methodological and technological factors of such stimulation, which includes innovative models of organizational and technological behavior and fundamentally updated parameters of the management system.

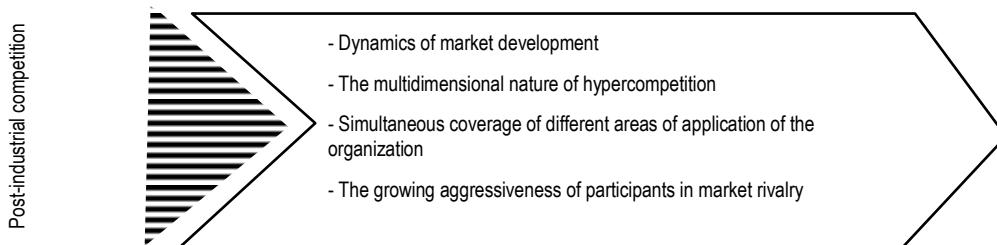


Fig. 1. Signs of competition in the context of post-industrialization*

* Source: author development.

The main market determinant of an enterprise's competitiveness is its innovative activity. Technological innovations, integrating existing technologies and inventions in the process of creating a new product or service, require updating the organizational culture of the enterprise to ensure the successful development of potentially profitable business programs. Needed in this case, the speed of updating, in turn, requires a high degree of flexibility of technological and administrative and management infrastructure of the enterprise, their ability to quickly reformat in accordance with changes in the environment. Flexibility of management interaction, moreover, contributes to the leadership of the company in the launch of an innovative product on the market. In logistics management, such leadership is ensured by the just-in-time concept, which minimizes costs due to the synchronization of quantity and time limits in the supply of material resources [24]. Accordingly, the enterprise, using the elements of just-in-time in the strategy of innovation business development, will gain the advantage to be in the market at the time when an external need for a new product or service arises.

A hierarchical organizational management system that is familiar to most businesses is focused on a stable and rigid organization with clearly defined staff responsibilities and vertical information flows [12]. The main purpose of a rigid hierarchical construction is to administratively maintain certain priorities in the functional responsibilities of staff of various units with a complex set of operational functions, communication channels and powers. However, the existence of rigid hierarchical ties virtually eliminates lower management staff from engaging in strategic planning, since instead of delegating authority and responsibility, it only involves the administrative delegation of operational tasks. In addition, in the post-industrial space, the vertical construction of information flows complicates, and in some places makes it impossible to, flexibly interact with the hyperactive external environment.

Therefore, a hierarchical management model is not capable of ensuring the competitiveness of enterprises under the changing conditions of rapid technological upgrading, continuous diversification and internationalization of markets. The task is to update the models of managerial interaction, to build it on the principles of modeling complex business processes, taking into account information flows, which allow to see the prospects of enterprise development more integrately. The reformatting of the management system is an alternative tool for ensuring the competitiveness of the enterprise in the context of rapid post-industrial restructuring of the economic space. First of all, it should provide proper administrative and managerial algorithms, in particular the interaction of hierarchical organizational structure with innovative models of business process organization, information flows, management of personnel knowledge development and organizational control [20]. Human capital management, as a major source of enterprise capitalization, also requires the development of methodologically validated staff selection and training programs to achieve competitiveness goals.

To some extent, to increase the competitiveness of enterprises, the introduction of tools of inter-business management interaction in the form of quasi-integration structures, because they create specific management effects of emergence, progressive systematization and factorization, isofunctionalism and

convergence [4]. However, this concept also relies on a hierarchical managerial structure and refers more to managing relationships with stakeholders rather than an internal business reorganization.

Management model, based on the principles of business process management, opposes the hierarchical management system, because the organization of management interaction crosses the management and operational divisions of the enterprise. The generalized concept of a business process implies any production action within the framework of a socio-technical business structure, aimed at transforming an existing set of resources into a set of results [14]. However, despite the rather broad methodological support of business process organization, this concept is mostly used to manage technology-driven operations within production or service delivery. In particular, the basic business process of innovative production with horizontal construction of information flows can be described as a model: *forecasting market needs* → *developing a market strategy* → *designing an innovative product* → *manufacturing an innovative product* → *commercialization of an innovative product* → *after-sales service*. At the same time, analysis of the conceptual provisions of this model shows that it is based on a clear differentiation of managerial influences depending on the identified business process, and this makes it possible to adequately extrapolate it into the organizational management system of the enterprise. Accordingly, managerial interaction to support the efficiency of the basic functional processes of innovative production, provided a combination of horizontal and vertical information flows, takes the form (Fig. 2): *management of human capital development* → *strategic planning* → *technological infrastructure development* → *determining the architecture of information flows* → *financial resources management* → *managing interaction with the external environment* → *managing economic security* → *managing knowledge development*. The continuity of the proposed model in each horizontal plane and the possibility of free information communication between the planes avoids a rigid hierarchy and involves managers in the management processes at each production level.

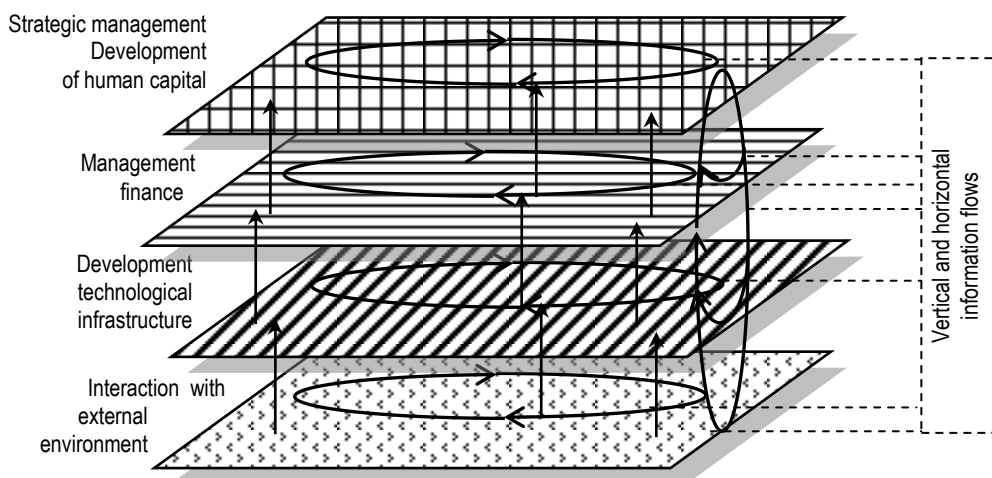


Fig. 2. The scheme of management interaction based on the principles of business process management*

*Source: author development.

For example, management staff involved in technological infrastructure development can take an active role in the routing and operational planning of production processes, which eliminates the risk of an unwanted alternative when planning an innovative product. Accordingly, by creating a common flow of information for these units, technological infrastructure planning will cover the production plan, technological characteristics and resources required. Integration of the received information with

information flows from production units allows to develop effective competitive strategies taking into account the whole complex of economic conditions of the internal and external environment. As the business processes of strategic planning, financial resources management, development of management interaction and technological infrastructure are closely interdependent, it allows to integrate them into the common organizational structure of management, which will be marked by the following innovative characteristics:

- each management business process is justified by horizontally directed information flows, according to the types of activity selected by the enterprise;
- each plane created by information flows has entry-exit points for receiving, generating or transmitting vertically directed information flows to other planes within the model, providing flexibility of the enterprise information system to achieve competitiveness goals.

Conclusions and discussion.

The direction of economic systems in the post-industrialization phase actualizes the need to move to innovative management principles to achieve competitive strategies. Established hierarchical models of management in the conditions of technological renewal and internationalization of markets are not able to provide the necessary level of competitiveness of enterprises, which requires updating of models of management interaction. The virtualized model of managerial interaction takes into account the dynamism of the environment, provides high speed of transformations, initiates sufficient flexibility of technological and administrative-management infrastructures of the enterprise. Building a management system based on the principles of complex business processes modeling using multidirectional information flows allows to build integrated competitive strategies of innovative production, involving managers of all levels in the management processes.

Further research should be directed to the development of methodological foundations for reformatting domestic systems of administrative interaction depending on regional or sectoral peculiarities of business functioning, elaboration of methods of calculating the effectiveness of updated organizational structures of management, issues of institutional support for innovative Ukrainian enterprises.

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Received: 04.20.2020 / Review 06.02.2020 / Accepted 06.20.2020

