Creation of integrated interaction monitoring in the construction companies management

E Pesotskaya¹, L Selyutina², E Trushkovskaya³

¹Department of Economics and Management in Services, Saint-Petersburg State University of Economics, 21, Sadovaya str., St. Petersburg 191023, Russia
²Department of Economics and Management in Construction, Emperor Alexander I St. Petersburg State Transport University, 9, Moskovsky pr., St. Petersburg 190031, Russia
³Department of Economic Theory, Saint Petersburg State University of Architecture and Civil Engineering, 4, Vtoraya Krasnoarmeiskaya str., Saint-Petersburg, 190005, Russia

E-mail: epes2@mail.ru

Abstract. The relevant theoretical and practical issues of the management system development in construction companies, adapted under modern non-equilibrium conditions of management are considered in the article. The methodical provisions on the use of the interaction concept in the management of the construction business organization adaptation are formulated in the article. Considering the obtained research results, the author's approach to creation in the construction companies of integrated interaction monitoring based on a principle of synthesis of strategy and tactics is stated. The special attention is given to a problem of the rational organization of the information environment at the company, excluding occurrence of "barriers" for passage of the information concerning problems of strategic and tactical adaptation, and concrete methodical techniques on their overcoming are offered.

1. Introduction

In modern conditions of the building complex reforming program in the structure of national economy importance of a business management system improvement grows. The successful solution of these problems depends on the substantiation level of innovative initiatives of construction companies and management solutions, ensuring the achievement of their competitive advantages in a growing market economy [1-4]. New opportunities in this direction are provided by the interaction concept, providing an opportunity for a sufficiently accurate and quite objective reproduction of the market behavior character of economic entities and, which features are outlined by modern economic science and practice [5-8].

The successful operation of any company depends on how quickly it reacts to changes in its external environment. A very important point in this regard is the definition of effective tools for the performance of key management functions: the analysis of the company’s state, considering internal and external factors, affecting the business activity, and on this basis, establishment and achievement of company development goals, aimed at its effectiveness improvement. Under these circumstances the construction business management based on principles of adaptation to the increased uncertainty
of external factors acquires new quality - from operatively regulated process it transforms into system of the actions synthesizing strategy and tactics that demands adequate reflection in management system of the construction organizations aspiring to strengthen competitive positions in a construction complex [9-11].

Today, in conditions of qualitatively new economy, monitoring means allowing forming adequate administrative decisions are widely used in administrative practice.

The aim of the research conducted in work is substantiation of integrated interaction monitoring in management of the construction companies which unites both strategic and tactical components.

2. Materials and methods
Within the framework of monitoring the interaction of construction companies with subjects of the investment and construction market: consumers, competitors, suppliers, subcontractors, intermediaries, investors, bodies of state and regional regulation, professionally oriented public organizations, it is necessary to perform both strategic and tactical actions.

The difference between these actions is not only in the persistence of the period under consideration, but also in their content [12,13]. Strategic actions have a general nature and are developed together (in a system). They always focus on achieving the strategic goals of the organization. With regard to monitoring tasks, strategic actions include, first of all, long-term observation of interactions; search for sustainable trends; systematic assessment of possible consequences based on the variability of proposals. Tactical actions can and should be formed on the basis of observations of separate groups of interactions; fixation of changes of private character; individual assessments of each of the changes; analysis of problem solution to the common aims of the building enterprise (organization). While strategic methods and techniques are essentially proactive and dedicated to achieving organizational sustainability in the long-term perspective, tactical measures can be reactive, it should be reflected in the construction of an algorithm for monitoring interactions [14,15].

Forming such an algorithm, it is necessary to characterize the essence of the term "monitoring" and the prospects for its use in the management of construction companies. The term has found wide application in recent years in both theory and practice. In the traditional and very common understanding, monitoring is a way of observing an object and preliminary analysis of the results of such observation. After the monitoring, the second stage of analysis is carried out, i.e. there is a link "monitoring - analysis of results". When managing organizations’ interactions, you can use monitoring tools that integrate such functions as: monitoring, analysis, forecasting and planning, and making management decisions.

3. Results and discussion
Formation of strategic and tactical decisions in the field of interaction of construction companies needs adequate organizational and economic support. The basic mechanism in such provision is the introduction of the integrated interaction monitoring function; its results should form the basis for the formation of management decisions in the field of strategic and tactical adaptation.

The integrated interaction monitoring should combine both strategic and tactical components. This feature causes some difficulties in its implementation. Since the functions of strategic and tactical management in organizations of any type are divided and carried out at different levels of the organizational structure, tasks are set to find ways to combine and consistently perform them. The monitoring function, which has been updated by many researches and methodological developments of the newest period, is absent [16-19]. It seems expedient to consider the integrated interaction monitoring as an independent, full-fledged function, which can form a separate hierarchically built "branch" in the organizational structure of the enterprise, capable (in accordance with the economic nature of hierarchical relations) of consistently solving strategic and tactical tasks.

The organizational structure of the enterprise, taking into account the need to perform the functions of a integrated monitoring of interaction, should be based on the following principles:
rational prioritization;
interconnection of management functions;
rational distribution of competencies in the field of resource management.

The figure 1 illustrates the placement of the interaction monitoring service in the structure of a construction organization.

![Figure 1. Placement of the interaction monitoring service in the structure of a construction organization.](image)

The general director is located on the first level, and the heads (directors) of each of the functional areas, respectively, are placed on the second, while the head of the unified monitoring of interaction service should be one of them. This approach is extremely important. On the one hand, it organizationally consolidates the positions of the integrated interaction monitoring service, and therefore the significance of its functions in the internal environment of a construction organization. On the other hand, it provides the ability to:

- possession of information about the resource potential of the construction organization, which is necessary for the formation of managerial decisions with full resource endowment;
- disposal of resources, which allows you to create a balanced resource consumption of the entire construction organization, as well as participate in resource management and direction, focused on monitoring interaction.

The integrated interaction monitoring service should solve its own range of tasks. The set of tasks should be formed on the basis of socio-economic content of the monitoring of interaction in its strategic and tactical components. In addition to the tasks of monitoring and analysis of interactions and formation of relevant management decisions, it seems expedient to give the integrated interaction monitoring service the prerogatives in the field of control over the implementation of the decisions taken.

In addition, the organization of the integrated interaction monitoring needs appropriate information support. Before system of information maintenance in the building organization the problems differentiated depending on what kind of their adaptation to dynamically developing external environment and interaction system (strategic or tactical) they touch are put. When managing strategic adaptation, when managerial decisions are made at the highest levels of the managerial hierarchy, the task of ensuring completeness, reliability and relevance of information about the dynamics of the external environment and the set of strategically significant interactions becomes a priority [20]. The solution of this problem is a substantive basis for monitoring. However, if to consider the integrated interaction monitoring in a wide interpretation, giving it functions of formation and realization (the control over realization) administrative decisions, it is necessary to concentrate attention on information transfer process in structural divisions of integrated interaction monitoring service, and also in all divisions of the building organization. Such information should include, as a mandatory
element, information on managerial decisions taken at the upper hierarchical levels in the field of interactions and the methods of their implementation, which is the start of the process of implementation of decisions by various structural units. Rational organization of the intra-company information environment at the enterprise requires the creation of such structures that would exclude the appearance of "barriers" to the passage of information concerning the problems of strategic and tactical adaptation [21]. If information support is considered as the infrastructure component of the adaptation management system of building organizations, then two levels should be distinguished:

first: level of the construction company management and the interaction monitoring service management;
second: the unit level of the companies.

Table 1 describes these barriers in detail and provides guidelines for overcoming them.

**Table 1.** List of barriers to information provision, consequences and measure to be taken.

| Barrier and its Signs | Consequences | Measures |
|----------------------|--------------|----------|
| 1. Level of the construction company management and the interaction monitoring service management | | |
| 1.1. Organizational barrier. Lack of a processing and analysis center for incoming information at the enterprise | It is difficult to perform a complete comparative analysis of the information received. Loss of some important analytical information and reduced quality of information support Lack of the completeness assessment and reliability of the received information | Inclusion of the information processing center in the integrated interaction monitoring service Development and use of the integrated interaction monitoring system of indicators that reflect the dynamics of the most important indicators in the field of interaction Inclusion of the information processing and analysis center functions to assess its completeness and reliability |
| 1.2. Barriers rejection information. Striving for a wide use of the routine method, searching for repetitive situations and using proven solutions | The desire to reject information that is not related to past experience With increasing uncertainty caused by the complexity of market interactions, the method of routine destroys the process of forming sound management decisions | Organization of professional development by senior managers with their focus on the activation of non-standard thinking, as well as the expansion of knowledge, which is used to form an analog base-the basis of routine |
| 1.3. Governance barrier. Rejection by senior managers of information that negatively affects the position of the head of a construction organization | Redistribution of power between the commercial sector and the production Department, rejecting information about the dynamics of external factors as insignificant | Implementation of advanced training system and retraining of construction company managers who directly manage the integrated interaction monitoring service |
| 2. The unit level of the companies | Information isolation of the enterprise from the processes occurring in the construction sector | Implementation of external consulting on the creation and use of databases in the integrated interaction monitoring system Implementation of combined consulting at the strategic and |
2.2. **Methodical barrier.**
Incorrect choice of methods for collecting and analyzing information

2.3. **Psychological barrier.**
As a result of psychological reasons for resistance control on the part of middle managers

| Methodical barrier | Psychological barrier |
|--------------------|----------------------|
| Misrepresentation of information embedded in the integrated interaction monitoring | Lack of initiatives on the part of mid-level representatives |
| Implementation of methods based on the involvement of expert specialists in the formation of management decisions | Destruction of the internal information field |
| Implementation of measures for the formation of organizational culture and a favorable socio-psychological climate |

It should be noted that the technology to overcome the above barriers is based on the use of internal information networks, the creation and maintenance of which is one of the main functions of the integrated interaction monitoring service.

4. **Conclusions**

Summarizing the aforesaid, it is necessary to underline that in the course of management of interaction of the building organizations it seems expedient to allocate tasks on formation of monitoring of interaction. This group of tasks should be solved not only at the strategic but also at the tactical level. In this connection it is recommended in management of the construction companies to use integrated interaction monitoring, structurally built on principles of synthesis of strategy and tactics.

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