Reengineering of construction organizations and reengineering of the construction industry

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Abstract.

The change of technological and managerial processes caused by scientific and technological progress and designated in the state strategy as the digital transformation should be reflected in the qualitative transformation of organizational structures and methods of implementation of investment and construction activities both at the corporate level and at the industry level. This qualitative transformation is commonly referred to as reengineering. As a practice and as a methodology reengineering has in its genesis certain phenomena, and for justification uses theoretical tools advised by them. In this regard, the authors in the article argue that digital transformation should be a component of a deeper change in the sectors of the national economy — technological transformation.

In terms of practical value reengineering for the industry and its corporate level can be seen as an effective technology for managing the timing and cost of construction, taking into account the needs of the population in the formation of a comfortable and safe environment of life.

1 Introduction

Reengineering of construction organizations and industry have their own features directly related to the specifics of the investment and construction sphere, with the prevalence of management processes at these levels, as well as the need to form regulatory impacts on construction production and its provision. At the same time, the connection with production processes at these levels weakens. If at the corporate level along with general corporate management and planning the planning and management of a specific construction object is carried out, then at the regional and then at the branch level the connection with the objects (except for socially important or falling within the sphere of state interests) becomes abstract, and planning and management are implemented mainly on the basis of cost indicators, rather than natural (physical) as at the level of a construction object. In this regard, it seems possible to formulate the main directions, as well as theoretical and methodological foundations of reengineering of construction organizations and industry.

2 Methods

The theoretical basis of the study was the system approach, the logistics of regulatory
3 Results and Discussion

Fig. 1. Directions for reengineering of construction organizations

- Changes the organizational structure
  - Changing external relations
  - Changing internal relations
- Transformation of business processes and technological processes
  - Business process transformation
  - Technological process transformation

Organizational convergence (or divergence)

Technological convergence
direction in the organization and economics of construction and was non-alternative for a long period of time in our country. However, well explaining the external and internal integration of a business entity in terms of deepening specialization and development of cooperation, then diversification, disintegration, as well as the transformation of management and technological processes the above approach highlights is not so slender with some assumptions and additional elements associated with the development of the technical component of productive forces.

In the context of the study in this regard, it should be noted another approach, according to which the reengineering activities of the construction organization are explained by the principles:

- organizational convergence (or divergence)
- technological convergence

Technological convergence is a process of integration of unrelated technologies into their new types (additive, nature-like technologies, nanotechnologies, etc.).

Organizational convergence is the combination of different highly specialized subdivisions in one structure. In this case subdivisions can differ not only by the type of work performed, but also by functionality, belonging to different types of construction (for example, within an engineering company).

The processes of technological and organizational convergence can be interrelated. So, for example, as a result of the above-mentioned integration activities there may be a need (which often happens) for workers or employees to acquire additional knowledge, skills, abilities (competencies) not related to their specialty, then in such a situation we can talk about professional convergence. A particular case of which can be considered mastering related professions (plasterer-painter, concrete worker-carpenter, etc.).

The opposite phenomenon to organizational convergence can be the divergence of the same name, which manifests itself in the deepening of specialization of the economic entity. Although convergence and divergence have opposite vectors, they are not only equally present in modern social production, but also in a sense are different manifestations, sides of one phenomenon.

Considering the reengineering of the construction industry, it seems appropriate to note the following:

- The need to take into account the peculiarities of reengineering at the lower levels of the hierarchy;
- the presence of the phenomena of territorial convergence.

As mentioned above, the reengineering of construction organization has specific features, which can be strengthened by individual characteristics of a particular business entity. In this regard, the qualitative transformation of the construction industry will include transformations of the corporate level, but in some integral representation, and can be explained by the phenomena of organizational and technological convergence.

It would be logical to project these considerations to the reengineering of territories (renovation, reclamation) and buildings (renovation, reconstruction, change of purpose) and consider them in further research.

The level of development of productive forces employed in construction also varies by territory. But at the same time, due to the mobility of participants in investment and construction activities, these differences are smoothed and it can be defined as a productive aspect of territorial convergence.

Given the above, as well as the provisions of the theory of regulatory impact in investment and construction activities, we can point to the dominant sectoral level in creating a regulatory framework of qualitative transformation of technological, managerial processes in the construction of the building, as well as similar transformations of capital.
Construction objects themselves at the stages of the life cycle. Direct realization of these reengineering measures is the prerogative of corporate level.

The fundamental provisions of the reengineering of construction organizations and industry can be formulated and implemented in the theoretical and methodological framework of convergence. Depending on the level and purpose of the reengineering measures the principles of technological, organizational and territorial convergence can be used.

4 Conclusions

Based on all the above it can be stated that reengineering of both construction organizations and the construction industry as a whole has as its goal the formation of competitive advantages through the qualitative transformation of existing management and technological solutions based on permanent changes in science and technology. The consequence of reengineering for the industry and its corporate level can be a reduction in the duration of construction, reducing costs and more fully meet the needs of the population in the formation of a comfortable and safe environment of life.

References

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