**Principles of corporate governance as the basis for the formation of the strategic advantage of enterprises in the construction industry**

The classical interpretation of the principles of corporate governance in terms of effectiveness is important for understanding the economic essence of the management system and its evaluation. Constantly changing socioeconomic, epidemiological and geopolitical conditions make the problem of updating the principles of corporate governance important for the clarification of the requirements to be met to ensure a strategic advantage in the construction industry and to maintain competitiveness in the course of the life cycle of an investment construction project and in the process of the long-term construction facility operation. This statement is quite logical, because the focus of the economic science on understanding the principles of corporate governance is especially strengthened during periods of interphase cyclical transitions, triggered by the activation of an economic reform, accompanied by an increase in the uncertainty of business conditions.

The project format of modern investment and construction activities becomes the dominant form of its implementation due to the high potential of integration with targeted federal and regional programs and as a result of the adequacy of the task of resource management at each stage of the project life cycle, which in turn allows to effectively allocate resources in time and space.

**Keywords:** corporate governance, strategic advantage, management principles, economic efficiency, life cycle, competitiveness, structure-behavior-result

---

**I. INTRODUCTION**

Back in the 19th century, the fundamental and up-to-date theses were formulated by M.M. Speransky (Table 1) [1], which predetermined the content characteristics of modern ideas about the principles of corporate governance. These management principles were the basis for the reforms carried out in Russia at the end of the 19th century [1]. The analysis of their content showed that in addition to the priority of the object over the subject of management, consistency and planning, management should change under the influence of the “spirit of change”. According to the author of the pre-revolutionary reforms, the requirements applied to management should be clarified and brought to some “perfect” format. The Soviet period clearly shows how the principles of governance changed under the influence of altering development challenges. Such principles as the principles of partisanship, scientific character, democratic centralism, mass involvement in government, discipline, planning and accounting, party leadership, legality, and internationalism were not merely considered, but also contributed to legislative and regulatory legal acts. With the emergence of new economic relations and business conditions, especially in the course of transition to the market economy, the basic concepts of the management process, its goals and mechanisms changed. New business entities, or business communities emerged, which could not but lead to a revision of the general principles of management and the formation of their new contexts. The views of M.M. Speransky were contributed to the present-day principles of corporate governance, which, in fact, adapted to changes in the external and internal environment, and to a greater or lesser extent “were aligned with the spirit of the times”.

---

**II. STRUCTURING CORPORATE GOVERNANCE PRINCIPLES**

Understanding the essence of the principles of corporate governance in a highly dynamic environment of corporate functioning is impossible, if the features of their application in modern conditions is disregarded [2]. In addition, placing too much importance on a particular requirement is always accompanied by risks. Table 2 shows the risks of excessive distribution and prevalence of certain requirements. This indicates that the use of principles, as well as management measures, is systematic and balanced.

Consistency and mutual compliance of all horizontal and hierarchical components of the corporate governance system is not only a consequence of the continuous process of coordinating the economic interests of divisions, services and employees, but also the result of the implementation of the principles listed in Table 2.

In the current environment of accelerating transformation processes, organizational harmony should not only be achieved, but also supported by managerial efforts exerted in accordance with the requirements arising from the essence and features of application of management principles, provided that the risks of each of them are minimized.

It is necessary to define the principle of efficiency and competitiveness as the essence of the target criterion. Thus, the internal hierarchy of the principles listed in the Table 2 can be summarized in Fig. 2.

Following the scheme of subordination of principles, we note that the principles of integrity and reasonableness, loyalty, efficiency and competitiveness undergo significant changes in accordance with changes in the values of society and the business environment.
Table 1. Governance principles of Count M.M. Speransky

<table>
<thead>
<tr>
<th>No.</th>
<th>Principle title</th>
<th>Principle content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Governance instability</td>
<td>“… Lack of solid basis was the reason for our governance hitherto lacked any defined mode and many institutions, being perfect per se, decayed as swiftly, as they arose”</td>
</tr>
<tr>
<td>2</td>
<td>Consistency</td>
<td>“… Theories are seldom of any use to practice. They comprise only one part and take no consideration to the system friction, later lamenting over the human race”</td>
</tr>
<tr>
<td>3</td>
<td>Planning</td>
<td>“… Why all human regulations are so imperfect? Besides many other reasons, due to the fact that they are mainly accomplished fragmentary without general pattern”</td>
</tr>
<tr>
<td>4</td>
<td>Ideology commitment</td>
<td>“Correspondence of system of management to the spirit of time”</td>
</tr>
<tr>
<td>5</td>
<td>Priority of the Object over the Subject of management</td>
<td>“The Subject should always take into account features of the Object”</td>
</tr>
<tr>
<td>6</td>
<td>Self-governance</td>
<td>“Decision-making discretion — not benefit, but conditio sine qua non”</td>
</tr>
</tbody>
</table>

Table 2. The essence, features и risks of application of corporate governance principles

<table>
<thead>
<tr>
<th>No.</th>
<th>Principle</th>
<th>Essence, features and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Organizational harmony (Taylor) Congruency and compliance of hierarchal and functional levels of a corporate governance system. Feature: organizational harmony as a consequence of coordination of interests of corporate divisions, services and employees. Risks: development pace reduction, conflicts of interests as the source and driving force of development</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Principle of legality</td>
<td>All decisions taken in the course of corporate governance should comply with the current legislation. Feature: legality should be applied to the whole corporation, it also protects the rights of corporation participants. Risks: the waste of time for validation of actions (licensed product manufacturing, etc.)</td>
</tr>
<tr>
<td>3</td>
<td>Principle of management centralization</td>
<td>Main strategic decisions and responsibility for their implementation are focused in one hand. Practical implementation feature: professional expertise in finance, IT, production and HR should be the basis for individual or collective decisions to ensure a common policy. Main risks: incompetence and lack of perception of the overall pattern of development</td>
</tr>
<tr>
<td>4</td>
<td>Principle of delegation of authority</td>
<td>Delegating authority to subordinate governance bodies, structural divisionы, employees. Feature: update due to the increasing scale and complexity of production, narrower management specialization. Risks: disintegration and separatism of divisions and services</td>
</tr>
<tr>
<td>5</td>
<td>Principle of activity coordination</td>
<td>Coordination of management impact on the objects of corporate governance in order to achieve a single corporate goal. Feature: decline of direct managing influence on the objects of governance that disregards the consequences for all objects. Risks: slowdown, loss of development sustainability and efficiency due to the lack of system information for everyone about everyone</td>
</tr>
<tr>
<td>6</td>
<td>Adaptness principle</td>
<td>Bringing the corporate governance system into a state of maximum efficient use of all development resources. Features: the key importance of the time factor and feedback in respect of the elements and the entire corporate governance system exposed to changes in the external and internal environment. Risks: conservatism leads to partial realization of the company’s strategic advantage and loss of its competitiveness</td>
</tr>
<tr>
<td>7</td>
<td>Principle of corporation participants involvement in the work of management bodies</td>
<td>It applies, first of all, to participation in the work of the assembly, public, scientific and discussion platforms. Features: the possibility of participation in other corporate management bodies in the manner determined by both the law and the constituent documents of the corporation. Risks: procrastination in finding consensus</td>
</tr>
<tr>
<td>8</td>
<td>Information support of corporate governance principle</td>
<td>Functioning of the integrated information support system. Features: sufficient information must be provided for informed decision making at all levels. Risks: waste of time and money on collecting excessive information</td>
</tr>
<tr>
<td>9</td>
<td>Good faith and reasonableness principle</td>
<td>The activities of the management bodies of the corporation in the interests of the legal entity represented by it. Features: participation in the management of non-equity capital, the duty of the manager to show in the conduct of the company’s affairs an interest similar to that of an entrepreneur in similar circumstances. Risks: incomplete realization of the property interest of the owner of the capital</td>
</tr>
</tbody>
</table>
This hierarchy takes account of the development pace of external and internal factors of influence, as well as the continuous growth and change in the structure of consumer sentiment, the emergence of environmental and social filters, new communication technologies, the formation of public opinion, stable perception stereotypes, etc. In the context of division of management functions and ownership functions associated with the growth and increase in the scale of corporate activities, the requirement to ensure systematic actions for the benefit of a corporation is updated. It is implemented in practice according to the principle of good faith and reasonableness, which implies responsibility not only for one’s own actions, but also for evaluating the actions of other persons in terms of compliance with corporate interests. In this regard, it is important, on the one hand, to identify corporate interests, on the other hand, to establish the degree of freedom of corporate divisions, services and employees in their activities.

It is obvious that the totality of all corporate interests cannot be reduced to the interests of the founders and owners [3]. They also do not always coincide with the state. In this respect, it is no coincidence that the concept of “interests of a legal entity” (article 53 of the Civil Code of the Russian Federation) is fixed by the law and allows the autonomy and partial isolation from the state interests of a business entity, having the status of a legal entity.

The application of legality, loyalty, integrity and reasonableness principles in the corporate management of a construction company is the requirement established by the legislation of the Russian Federation in terms of pricing and estimated rationing in the field of urban planning, rules of land use and development, organization of design and construction works, as well as related mandatory measures aimed at obtaining approvals, permits and other documents issued by authorized bodies [4]. In such a case, depending on the situation, the company focuses on one of the principles in its activities, for example: if the activities of a construction company are more dependent on budgetary funding, then the principle of legality is taken as the basis; in case of extra-budgetary funds, the principle of good faith and reasonableness prevails.

At the same time, the effectiveness of management of a large construction corporation depends on the joint application of several principles, such as the principle of management centralization, delegation of authority, coordination of activities and information support. For example, strategic decisions are made by the head office (the meeting of founders), while local issues are resolved by subsidiaries in interaction with the head office of a large corporation engaged in the construction and sale of residential and commercial real estate in different regions of the country. At the same time, the information necessary for decision making is timely communicated both to the head office and the subsidiaries.

Corporate business stereotypes, that are currently being formed, are largely determined by loyalty requirements, but the content of principles of efficiency and competitiveness remains perhaps the most susceptible to dynamic changes in the environment, given the impossibility of ensuring competitiveness outside the modern understanding of efficiency underlying the sustainable development of a construction corporation.

### Table 2

<table>
<thead>
<tr>
<th>No.</th>
<th>Principle</th>
<th>Essence, features and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Loyalty principle</td>
<td>The corporation’s activities must be in the public interest. Features: the principle applies to both the internal and external environment. Risks: conflict of interests, development slowdown</td>
</tr>
<tr>
<td>11</td>
<td>Efficiency and competitiveness principle</td>
<td>The state of the corporate governance system, that is ahead of the entire competitive environment, is outlined according to the criterion of integrated efficiency. Features: additional requirements for capitalization, benchmarking, strategic priority, balance, redundancy, standardization, interchangeability, effective restructuring, budgeting, etc. Risks: loss of competitive advantages, bankruptcy</td>
</tr>
</tbody>
</table>

![Fig. 1. Hierarchy of corporate governance principles in the construction sector](image-url)
The focus of the principle of competitiveness and efficient implementation is placed on economic efficiency, while social and environmental efficiencies are fixed within acceptable limits (restrictions) and considered in the process of corporate activities as social and environmental filters [5, 6].

Fig. 2 shows that the focus is placed on the target efficiency. The determination of the concept of target efficiency of corporate activity, which objectively follows from the need to implement the principles of efficiency and competitiveness, within the framework of the fundamentals of the management theory, involves the decomposition into goal setting and executive efficiency [7].

The first component focuses on the degree of validity of corporate goals, including their selection and quantitative measurement. Performance efficiency reflects both the degree and quality of achievement of the set goals, which in turn is the basis for the competitiveness of a corporation.

All these types of economic efficiency are interrelated and come as a result of the certainty of values of functional and process efficiencies, set by the level of the target efficiency. In such a case, target effectiveness is a direct consequence of the strategic focus of activities. In the internal contour of Fig. 2, feedbacks show the need to organize a continuous process of targeted focus of corporate development with regard for the economic efficiency deviations of actual indicators in resource, functional and process sections [8].

Structuring the above types of economic efficiency of corporate governance requires their consideration not only depending on the types of resource provision or hierarchical levels, but also by project types and stages of project cycles. Accordingly, the target indicators of economic efficiency determined at each stage of corporate development are conventionally final, since they accumulate the previous effects and costs that date back to the previous stages of the life cycle of a real estate facility.

Thus, it is the target efficiency that is a decisive factor in relation to the resource, functional, process and project efficiency. The overall economic efficiency is ultimately determined by the degree of achievement of the pre-set final goals of the corporate activity.

III. THE MAIN TRENDS OF CHANGES IN THE PARAMETERS OF THE LIFE CYCLE OF COMMERCIAL REAL ESTATE PROJECTS

The project format of modern investment and construction activities becomes the dominant form of its implementation not only due to the high potential of integration with federal and regional target-oriented programs, including national projects, but also as a result of the adequacy of the task of managing the supply of resources at each stage of the project life cycle, which in turn allows project developers to effectively allocate resources in time and space. The framework of the concept of “structure-behavior-result” (SPR) assumes that the systemic characteristics of the external environment in relation to corporate activities directly determine the type of behavior of a corporation and, accordingly, the effectiveness of its activities [9]. In fact, in relation to the subject area under consideration, the industry-specific features of corporate activities determine the inter-corporate, inter-project and inter-phase distribution of resources. This means that as a result of competition for resources, a certain “rational system of corporate governance” (RSCI) is eventually developed [10]. Its distinctive features relate to the goal of accelerating the initial stages of project cycles in terms of rational resource consumption, included in the complex portfolio of real estate projects with regard for the factors of price and non-price competition.

---

**Fig. 2.** Types of economic efficiencies of corporate activities in managing the life cycle of a real estate facility.
that minimize the cost of producing finished construction products (Fig. 3). Rational resource consumption differs from minimalistic approaches in terms of its principal position in relation to the thesis of “obtaining corporate profit at any cost”. The inadmissibility of deterioration of the project social and environmental parameters currently fully complements the technical and technological requirements [11].

Rationality as a concept that combines the goals of the “Nature – Society – Man” system and cuts off the goals of obtaining super-profits by the business environment reflects the desire of the elements of the system to reach a consensus of interests. By projecting corporate interests to the management system, we will be able to take account of the results of many years of research focused on the essence of industry-specific corporate governance.

The meaning of this concept is reduced to the need for continuous development of the resource base needed for the implementation of project cycles. At the same time, it is quite obvious that each stage of the project implementation requires a special resource, and the polycentric format of corporate activities boosts the relevance of the problem of developing the construction resource base due to the need for long-term partnerships, given the complexity of construction projects [12]. As for construction within the framework of a nation-wide project in a certain territory (for example, a special economic zone, a territory of advanced socio-economic development), resource provision should encompass not only the construction stage of the project cycle, but also the construction facility operation. The latter is also divided into characteristic stages.

The analysis of the activities, performed by construction corporations, shows that the creation of construction products is not the only stage where construction services are in demand [13]. The implementation of current and major repairs, reconstruction of real estate facilities in operation requires the involvement of professional construction organizations and the experience has proven that the best results are achieved by general contractors involved in the initial phases of project implementation [14]. As an example, Fig. 4 shows the life cycle of a conventional commercial real estate project divided into consolidated stages (the construction of an oil pipeline with a diameter of 780 mm in the context of non-decreasing demand and stable operation within the coming 35–40 years).

Given the fact that this is a highly risky project, stages of its implementation should entail tightened safety measures. They include:

1) periods of continuous diagnostics of the system condition $T_i^c$.
2) periods of preventive measures and routine repairs $T_j^r$, which include not only the planned replacement of certain components of fixed assets. We assume that preventive measures are carried out in a planned manner, that they do not significantly affect the resource consumption and do not require the involvement of independent contractors. Hence, we will only indicate periods of current repairs on the chart. The cost of current repairs should correspond to the task of restoring and capitalizing the original cost of a construction facility;
3) periods of major repairs $T_k^n$. In practice, such periods may differ from the projected ones in terms of the start time, amount of work performed, and costs. It is important to understand that the
cost of major repairs must correlate with the prospects for the development of this property with regard for the alternative modes of its operation, as well as the technical and technological potential for the facility improvement;

4) renovation periods $T_m$, involving the renewal of linear and ground-based constructions. The capital intensity of the renovation is a consequence of the scale of renovation, that may involve the change in its functional purpose, capacity and significant correction of the level of operating costs.

We study the cost characteristics of the project cycle from the point of view of the potential and structure of emerging management problems and visualize them on the life cycle graph of a conventional commercial real estate project (Fig. 4). The main methodological assumption of the project cycle is the concept of total cost of ownership (TCO). In the international practice, it is used as an established concept of the "Total Cost of Ownership (TCO)" and is applied to the valuation of goods and wares, products or systems. Its essence is a comprehensive assessment of the total costs born throughout the entire life cycle of the project, including the pre-investment stage, issuance of initial permits, making contracts and selecting contractors for investment and construction activities, construction, operation of the facility through its liquidation at the end of the project lifecycle. Thus, along with market indicators, investment, collateral, and liquidation values, it is advisable to monitor the pace of the total cost of ownership of real estate within the framework of the TCO concept. This indicator becomes the main indicator for a developer or an investor.

Plummeting values ($C^m(t)$), namely $C^m_1 > C^m_2 > C^m_3 > C^m_4$ and $C^m_5$, are the consequence of the accumulation of depreciation of the linear property and growing operating costs, which naturally increase the TCO and encourage the owner to take measures to reduce the cost characteristics of the life cycle of the property.

The decision on the scope of repair and reconstruction of pipelines is influenced by the following circumstances:

- firstly, the pace of production and the demand for transported raw materials;
- secondly, the projected parameters of the design cycle with regard for the wear resistance of materials, the geophysical conditions of the pipeline, as well as the operating mode set by the design characteristics;
- thirdly, the degree of compliance with the design requirements in terms of the operation of the pipeline;
- fourthly, the nature of the environmental impact on the technical condition of the pipeline (the influence of overpasses close to each other, natural factors, including groundwaters, earth movement, etc.);
- fifth, the potential of innovative preventive maintenance technologies;
- sixth, the level of decapitalization of the project broken down by the periods and phases of the project cycle, etc.

The latter circumstance is of fundamental importance: the larger the decapitalization value, that is, $\Delta_i$, the larger the amount of the planned work to be carried out. In practice, this means that these

![Fig. 4 The life cycle of a commercial real estate project (exemplified by the construction of a pipeline facility divided into consolidated stages): $V^w$ — market value of the commercial real estate; $V^i$ — investment value at the delivery stage; $T^w$, $T^i$, $T^i_1$, $T^w_2$, $T^w_3$, $T^w_4$, $T^w_5$, $T^w_6$ — corporations’ interests zones; TCO — total cost of ownership of real estate object; $T_j$ — life cycle stages duration](image-url)
amount of work are of economic interest to construction corporations, forcing them to participate in competitive placement of contracts.

The decision of the owner to hire a contractor is influenced by the following factors:

- firstly, contractual terms and obligations of the Customer (the owner) and the Contractor involved in the first and second stages of the project;
- secondly, the balance sheet holder has its own production facilities for the repair and reconstruction of pipelines;
- thirdly, local contractors can minimize the costs of expedition and shift modes;
- fourthly, the state of the competitive environment and potential opportunities can reduce the cost of repairs and reconstruction of the pipeline, etc.

The studies show that construction contracts of the extended type are usually not concluded, and the choice of the Contractor is influenced exclusively by the cost characteristics, therefore, the Project is deprived of capitalization [15]. This approach reduces the wear, but, as a rule, performance characteristics do not change. It is quite obvious that the Project developer and the General Contractor, who are aware of all the technical, technological and geophysical details of the properties, are able to really assess not only the scope of work, including the entire pipeline length, but also to have the highest quality work done. At the same time, we will mind that projects that have long life cycles are implemented by the teams whose composition may change in the process, but if BIM technologies are applied, the accuracy and consistency of information available at all stages of the project implementation allows to solve the problems of maintenance and growth of the market value of the Project without prejudice to the comprehensive assessment of operational issues. The need for BIM technologies is determined by the market nature of the corporate activities performed by the Contractor and the Customer, who also needs to increase the value of the business enterprise [8].

Starting from the end of 2020 o information, documents, materials concerning the operation of a building and a structure, including the maintenance of a building or a structure, current repairs of a building or a structure, and operational control are subject to inclusion in the information model!

The information model of a capital construction facility, including processes of collecting, processing, classifying, recording and electronic storing of interrelated information, documents and materials about a construction facility and (or) the demolition of a construction facility:

The development and maintenance of an information model of a construction facility are performed by the developer, the customer, the person who provides or prepares the investment due diligence, and (or) the person responsible for the operation of a construction facility.

IV. Conclusion

Thus, understanding and clarifying the history of a construction facility allows the owner to minimize the total costs, since it enables him to realize that in most cases they depend on the quality of pre-investment and construction stages, that's when the efficiency of the facility's service life and its phases are specified. The frequency and duration of ongoing repairs, the need for major repairs and the lack of alternatives to renovation in all cases are specified in the project documentation and, in accordance with the concept of "structure-behavior-result", the pace of structural factors of the external environment is considered.

Changes in the parameters and objectives of consolidated project stages are effectively evaluated using the tools of the concept of "the total cost of ownership". The comparative analysis of predictive methods of strategic focus confirms the advantage of foresight methods, allows not only to identify "the breaking points" in the life cycle of a commercial real estate facility, but also to identify the potential for the parallel development of events.

REFERENCES

Принципы корпоративного управления как основа формирования стратегического преимущества предприятий строительной сферы

Классическая трактовка принципов корпоративного управления как основных требований обеспечения его эффективности важна, в первую очередь, для понимания экономической сущности системы управления, а также выработки критериев ее оценки. Общезвестно, что принципы определяют подходы к организации реструктуризации, а также выявление характера деятельности субъектов управления и механизмов их взаимодействия с объектами управления. В настоящее время, в связи с постоянно меняющимися социально-экономическими, демографическими и геополитическими условиями, проблема актуализации принципов корпоративного управления важна в целях уточнения требований обеспечения стратегического преимущества в строительной сфере как достижения устойчивого состояния конкурентоспособности не только в жизненном цикле инвестиционного строительного проекта, но и в перспективном эксплуатационном цикле. Это вполне логично, так как внимание экономической науки к принципам корпоративного управления особенно усиливается в периоды межфазовых циклических переходов, обеспечивающих активизацию реформирования экономики, сопровождаемой ростом неопределенности условий хозяйствования.

Проектный формат современной инвестиционно-строительной деятельности становится доминирующей формой ее реализации, которая обеспечивает стадийное упорядочение требований обеспечения жизненного цикла строительного объекта, что, в свою очередь, позволяет эффективно распределять средства во времени и в пространстве.

Ключевые слова: корпоративное управление, стратегическое преимущество, принципы управления, экономическая эффективность, жизненный цикл, конкурентоспособность, структура-поведение-результат

ЛИТЕРАТУРА

Об авторе: Волков Роман Вячеславович — кандидат экономических наук, проректор; Российский университет транспорта (РУТ (МИИТ)); 127994, ГСП-4, г. Москва, ул. Образцова, д. 9, стр. 9; РИНЦ ID: 872062; volkov-su4@mail.ru.
