

Features of Strategic Analysis of Externals Factors of the Building Organization: Methodological Aspect



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Abstract The article considers the types of modified PEST analysis (PESTLE, SLEPT, DESTEP, PESTPMED, STEP, STEEPLE, PESTLIED), which are important in the development of projects and development programs. It is determined which tasks can be solved with the help of strategic analysis. It is the strategic analysis that answers the question of how to achieve the desired in 3–5 years. The features of strategic analysis of building organizations are certain. It is proposed to use the LoNGPESTLE method—analysis for the implementation of international projects, which will minimize risks and increase profitability. Its advantages are: simplicity, the ability to carry out individually or collectively, allows you to capture many thoughts at once; identify factors that may effect, for a construction organization, this is important in the implementation of projects using funds from international organizations (and/or) the involvement of innovative technologies. It can be used regularly with a fixed time to track the dynamics of changes in strategy indicators.

Keywords PEST-analysis · Strategic analysis · LoNGPESTLE · STEP · Building organization

1 Introduction

In the conditions of the digital economy, the role and value of the building industry are considerable. Because the environment we create affects the physical and psychological well-being of people who live and interact from birth to death. Therefore, the introduction of innovations and environmental standards cannot only meet the needs of modern society in housing but also ensures the formation of an effective social infrastructure that affects the quality of life. The last 10 years have been difficult for

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the construction industry of Ukraine. The difficult political, socio-economic situation in the domestic market, the unfolding of the global financial crisis, and the armed conflict in Ukraine have led to an increase in the number of threats.

The presence of internal problems in the industry: constant changes in the State Architectural and Construction Inspectorate, which lead to delays in permits and commissioning of buildings, high level of corruption, lack of qualified personnel, low level of investment attraction, slow introduction of innovations in the construction process, high level of moral and physical depreciation of fixed assets of construction companies, slow introduction of energy and resource-saving technologies. All this leads to a decrease in the competitiveness of the industry and the need not only to address these issues but also to develop an anti-crisis strategy taking into account current trends and pandemics. Because it was the COVID-19 pandemic that created new threats, but also opportunities for construction development, especially in regional markets. At the same time, it demonstrated the relevance of strategic analysis methods for building companies.

In the scientific literature, the study of strategic analysis, its methodology was engaged in such scientists: Ansoff I [1], A. Thompson, A. Strickland [8], Gerasymchuk V., Azoev G. [2], Dovgan I., Shershneva Z., Solovyov V. [11], Nemtsov V., Onyshchenko V. [12–16] etc. The methodology of strategic analysis is being improved taking into account globalization and the growth dynamics of environmental factors, so it needs further research.

2 Main Body

In world practice, strategic analysis demonstrates the possibilities of forming strategies for the development of corporations, the conduct of competitive activity is on international markets, development of effective anti-crisis strategies.

In Ukraine of practical workers of strategic management and analysis did not yet occupy a high level. Building organizations in Ukraine are difficult to apply strategic management for lack of experience, dynamic terms of manage, absence of only methodological basis, lack of funds for innovation, lack of education. At the same time, these factors determine the need for strategic analysis. Strategic analysis is a key factor in the success of management. It allows you to study the organization and its work environment to develop an operational strategy. It improves the efficiency of operational management and forms the key success factors. Thus, strategic analysis allows you to set the goals to be pursued to get the desired result and the tasks to be performed.

At the same time, improvement plays an important role. Improvement is one of the constant tasks in the construction organization, which requires constant, systematic implementation. Therefore, to develop it is necessary to periodically conduct strategic analysis. Then it will help to build organizations to plan in good time and define, what directions need perfection. Therefore, the following features (Fig. 1) characterize the strategic analysis of the building organization.

<p>1. The use of the system of strategic indexes of management is with macro economic indexes</p>	<p>2. Taking into account of the stages of development of life cycle of commodities and enterprises</p>	<p>3. A high degree of vagueness and risks is in the economic phenomena</p>
<p>4. Necessity and possibility of balancing of results, costs and profits and other</p>	<p>5. The need to adjust all analytical assessments and policies of the enterprise (accounting, product, price, etc.).</p>	<p>6. High complexity of strategic analysis</p>
<p>7. The difficulty of choosing a method of strategic analysis</p>	<p>8. Dependence on human factor, that determines and forms the parameters of analysis and provides introduction of data</p>	<p>9. Dependence on information and analytical support (moderns CRM end i ASM)</p>

Fig. 1 Features of strategic analysis of building organization. Source: Compiled by the authors

Thus, in the process of organization of strategic analysis of building organization it may be to decide next basic tasks (Fig. 2).

This is ensured by adhering to the following principles of strategic analysis (Fig. 3).

During the strategic analysis of the construction organization, the main elements (indicators) are determined, which are then used in external and internal reports (Fig. 4).

It allows providing the possibility to elect direction of further development of building organization. Without the result of strategic analysis of strategy, id est reasonable plan it will be difficult to realize the pre-arranged actions and attain a desirable effect. The strategic analysis gives answers to three basic questions:

<p>1. Forms an information array for management activities (cycle).</p>	<p>2. Allows you to identify reserves for enterprise growth.</p>
<p>3. Ensures the investment attractiveness of the enterprise by determining positions in national and other rankings.</p>	<p>4. Ensures the adaptability of management by responding to changes in the external environment.</p>
<p>5. Allows you to assess the efficiency, competitiveness at the level of competitors, industries, countries.</p>	<p>6. Determine the market value.</p>

Fig. 2 Basic tasks that are decided by the strategic analysis of building organization. Source: Generalized by authors based on source elaboration [2, 4, 9]

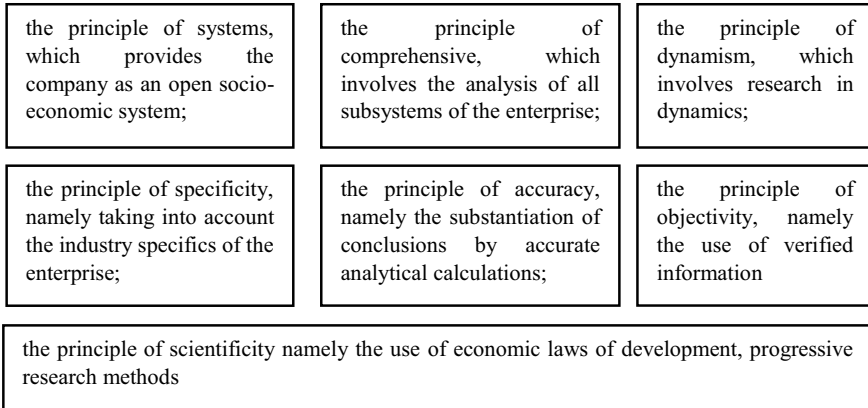


Fig. 3 Principles of realization of strategic analysis of building organization. Source: Generalized by authors based on source elaboration [1, 2, 4, 8, 9]



Fig. 4 Basic elements (results) of strategic analysis of building organization. Source: Generalized by authors based on source elaboration [3, 8]

- 1) In what position is a company now?
- 2) What position must a company be in through a certain interval of time (through three, five, ten years)?
- 3) What do exist ways of achievement of desirable position?

Examining the organization of strategic analysis at a construction company, we found that an important role is played by methodological support (Table 1). It involves the use of general scientific methods. Also, the use of various applied techniques, which reflects their uniqueness and difference from traditional methods of analysis.

The analysis of scientific works revealed that different approaches to classification are used for strategic analysis. In this case, we offer them to group in three basic groups of methods of strategic analysis: macro environments, meso environments, and microenvironments. Such an approach allows distinguishing the strategic alternatives of development of building organization, especially when the strategy of development is developed and project requests are formed on the realization of strategic projects with bringing in of investors and under back money. This will minimize risks and increase business transparency.

Table 1 Methodical support of the process of strategic analysis of the enterprise

Types of analysis	Methods of analysis
Strategic analysis of macro environment	Segmentation methods; PEST analysis; Econometric modeling; Extrapolation forecasts
Strategic analysis of the meso environment	Enterprise life cycle analysis; Analysis of input and output barriers of the industry; Analysis of strategic groups of competitors; Benchmarking; Cluster analysis; Methods of expert assessments; SWOT analysis; SPACE analysis; Compiling an environment profile; Monitoring of weak signals; Matrix methods of strategic analysis;
Strategic analysis microenvironment	Enterprise life cycle analysis; Product life cycle analysis; SWOT analysis; Time series analysis; Methods of predicting bankruptcy; Network analysis methods; Analysis of key success factors

Source: Generalized by authors based on source elaboration [3–9].

Among the most common methods of strategic analysis of environmental factors is the method of a PEST analysis. PEST analysis is a simple and widely used tool that helps analyze political, economic, socio-cultural, and technological changes in your business environment. The founder of PEST analysis is Francis J. Aguilar, a professor of management at Harvard University. He developed this macro-environment analysis tool for scanning the business environment (1967). The factors of PEST analysis will depend on the importance to the company depending on its industry and the products and services it provides (Table 2).

It is important to mark that during realization of evaluation of factors, then specific gravity (V) is determined on the degree of importance from 0,001 to 0,9. A total sum must present 1. Points are set by experts: 0 - a factor does not have an influence; 1 - a factor exists, but does not have an influence; 2 - the factor exists and may affect the results; 3 - exists and has no direct impact on the result of the enterprise; 4 - exists and has a direct impact on the result of the enterprise; 5 - has a significant impact on the activities of the enterprise and its results.

Table 2 PEST analysis

political	specific weight, V	point, P	product, P	social	specific weight, V	point, P	product, P
total				total			
Middle estimation of influence of political factors				Middle estimation of influence of social factors			
The strength of the influence of political factors				The strength of the influence of social factors			
Economic	specific weight, V	point, P	product, P	Technological	specific weight, V	point, P	product, P
total				total			
Middle estimation of influence of economical factors				Middle estimation of influence of technological factors			
The strength of the influence of economical factors				The strength of the influence of technological factors			

This helps you understand the «big picture» of the forces of change you are undergoing, and take advantage of the opportunities they present. It is important to consider PEST analysis as part of external analysis for strategic planning or strategic analysis. Another option is a PESTLE analysis, to which legal and environmental factors are added. If people want to add another layer locally, nationally, or globally, they can use another option, namely the so-called LoNGPESTLE. There are the following variations of PEST analysis (Fig. 5).

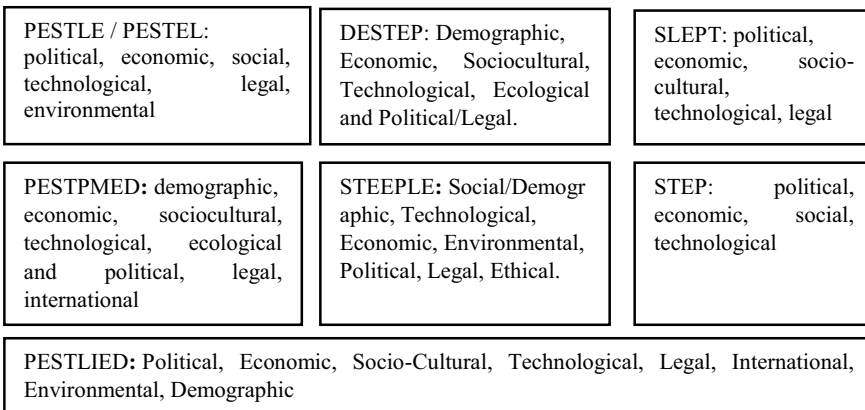


Fig. 5 Types of PEST analysis. Source: Compiled by the authors

The realization of PEST analysis for building an organization will be useful for four principal reasons (Fig. 6).

Based on of PEST analysis for building organizations that aim to go out to the international market it is recommended to use LoNGPESTLE is an analysis that was formed based on PESTLE—to the analysis. In contrast, it provides an analysis at three levels (Table 3).

LoNGPESTLE structure—the analysis allows to classifying economic, political, social, technical, legal, and ecological factors taking into account geography.

Its advantages are: simplicity, the ability to carry out individually or collectively, allows you to capture many thoughts at once; identify factors that may influence and engage ordinary professionals. The peculiarity of its holding is the geographical factor, which must be clearly defined and discussed.

And the last method is STEP analysis (Table 4), which is a kind of PEST analysis. This method envisages the analysis of key factors that influence the activity of building organization. Him it may be to apply on regular basis with the fixing of time, that allows watching the dynamics of changes of indexes, and also their influence. It allows estimating the influence of factors of environment of building organization.

Thus, several modified methods are used in world practice to study environmental factors, in particular, PEST analysis: PESTLE, SLEPT, DESTEP, STEP, LoNGPESTLE, PESTPMED. They allow a more detailed analysis of environmental factors to identify strategic alternatives and minimize risks. As the external environment

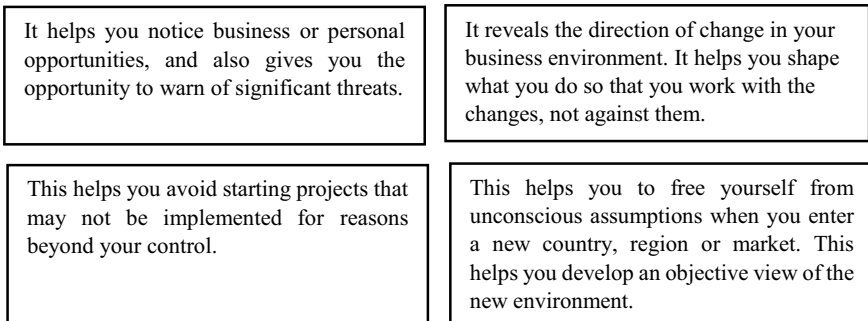


Fig. 6 Advantages of using PEST analysis. Source: Compiled by the authors

Table 3 LoNGPESTLE analysis

Levels	Factors					
	Political	Economic	Social	Technological	Legal	Ecological
Local						
National						
Global						

Source: Generalized by authors based on source elaboration [5–7].

Table 4 STEP analysis matrix

Factor	Events/factors	Threats/opportunities	Probability of occurrence event or manifestation factor	Importance factor or event	Impact on organization	Action/program
Economic						
Political						
Social						
Technological						

Source: Generalized by authors based on source elaboration [7].

in Ukraine is very dynamic and difficult to predict, their role and significance are important and necessary. Therefore, it is advisable to expand the practice of using PEST analysis, especially in the implementation of foreign economic activity of construction companies. Therefore, it is expedient to suggest using LoNGPESTLE, PESTLE, SLEPT, DESTEP, STEP, PESTPMED. In Ukraine, the analysis of the macro-environment will allow us to develop more accurate cash flow forecasts and improve the position of construction companies. Will reduce the number of unsuccessful construction projects. It will allow the introduction of innovations in the process of housing construction, commercial real estate, infrastructure.

3 Conclusions

Thus, further research is needed by the questions of development of strategy of changes of building organization based on factors that will be set in the total PEST analysis or PESTLE, SLEPT, DESTEP, STEP, PESTPMED and their intercommunication with motive forces of the market. The importance of the decision of these questions consists in the necessity of the permanent monitoring of influence of factors of environment of enterprise in an order to envisage character and degree of their influence. It will identify trends and tendencies, respond to them and implement strategic changes. It will reduce the number of errors in the implementation of international construction projects.

References

1. Ansoff I (2009) Strategic management. Classic edition, 344 p
2. Azoev G (2000) Competitive advantages of the company. Printing house "News"
3. Davydov GM (2011) Strategic analysis: training manual. Knowledge
4. David F (2006) Strategic management: concepts and cases, 11th edn. Prentice Hall
5. PESTLE analysis of Adidas. <http://pestleanalysis.com/pestle-analysis-adidas>. Accessed 29 Jan 2021
6. PESTLE analysis of Starbucks. <http://pestleanalysis.com/pestle-analysis-ofstarbucks>. Accessed 29 Jan 2021
7. PESTLE analysis of Uber. <http://pestleanalysis.com/pestle-analysis-uber/>. Accessed 29 Jan 2021
8. Thompson A, Strickland J (1998) Strategic management: art of development and implementation strategy. Banks and exchanges
9. Thompson AA, Strickland AJ (2006) Strategic management: concepts and situations for analysis. Williams Publishing House
10. Whellen T, Hunger D (1992) Strategic management and business policy. Addison Wesley. Publishing Company Inc., N.Y.
11. Bondar-Pidhurska OV, Solovyov VP (2017) The strategy of sustainable innovative society-oriented development of Ukrainian economy (by the example of mineral resource industry). Sci Bull Nat Min Univ 4(160):122–132

12. Onyshchenko VO, Filonych OM, Bunyakina NV, Senenko NB (2020) A new agent for removing concrete residues from the surfaces of polypropylene molds in the manufacture of paving slabs and its advantages. https://doi.org/10.1007/978-3-030-42939-3_67
13. Onyshchenko V, Sivitska S (2014) Alternative energy developing investment support in terms of energy dependence. *Econ Ann XXI* 9–10:34–37
14. Onyshchenko V, Sivitska S, Cherviak A (2018) Construction industry in Ukraine credit analysis. *Int J Eng Technol (UAE)* 7(3):280–284. <https://doi.org/10.14419/ijet.v7i3.2.14420>
15. Iasechko S, Haliantych MK, Skomorovskyi VB, Zadorozhnyi V, Obryvkina O, Pohrebniak O (2020) Contractual relations in the information sphere. *Syst Rev Pharm* 11(8):301–303. <https://doi.org/10.31838/srp.2020.8.46>
16. Onyshchenko V, Sivitska S, Cherviak A (2020) Buildings reconstruction within the new educational space project in Ukraine. https://doi.org/10.1007/978-3-030-42939-3_66