Ministry of Education and Science of Ukraine
Kyiv National University of Construction and Architecture

Li Ying

The graduate thesis

to obtain the master's degree

The topic of the work: Transformation of the management system of construction enterprises on the basis of modern development

Head: Doctor of Economics, Professor O.M. Malykhina

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The relevance lies in the need for enterprises to be adaptable to rapid changes in a dynamic business environment. This is especially important for development companies in Ukraine, which need modern management approaches that will ensure effective response to challenges, optimisation of resources and strategic development in the context of globalisation and the information economy.

The purpose of the certification work is to scientifically substantiate the management approaches used in the management of an enterprise, taking into account current trends and the changing external environment.

Objectives of this paper:

1. To describe the basic theoretical and methodological foundations of the concept of ‘management approaches’.

2. To consider the main elements of each management approach.

3. Identify the features of the transformation of management approaches in the context of digitalisation.

4. To give a general description of the economic activity of KyivBudDevelopment.

5. To analyse the main elements of management at each stage of the life cycle of the PUSHA HOUSE project.

6. To consider the approach to management based on environmental management in the context of sustainable development.

7. Analyse the risks that may affect the implementation of the PUSHA HOUSE project, develop measures based on a process approach to risk management.

The object of the study is the approaches to the management of the construction company KyivBudDevelopment and the management of all stages of the life cycle of the project ‘PUSHA HOUSE’.

The subject of the study is a set of theoretical, methodological, scientific, methodological and practical principles of management at the enterprise.

The information base for writing the final certification work was the legislative acts of Ukraine, official reporting documentation of the enterprise, works of foreign and domestic scientists, Internet resources, as well as our own research and developments. All mathematical calculations were performed using modern computer technology.

Today's market environment is characterised by a high level of instability, which necessitates the development of adaptive and high-quality management systems capable of rapid response to crises and increased competition. Effective management depends on the continuous improvement of planning, motivation, organisation and control processes that take into account dynamic changes in the external environment. As a scientific and practical field, management evolves along with socio-economic conditions, updating its paradigms to reflect modern ideologies and approaches to management through historical, ideological and technological contexts.

Systematization of the author's approaches to the interpretation of the essence of the concept of "management"

Author	Definition
I.Φ. Komarnytskyi	Management is a purposeful influence on the collective of employees or individual performers in order to fulfill the tasks and achieve the defined goals of the organization.
L.I. Nechayuk, N.O. Beef	Management is an integrative process by which professionally trained specialists form and manage organizations by setting goals and developing means to achieve them.
F.I. Hop	Management is a – specific type of activity aimed at achieving certain foreseen goals by a production and economic organization that functions in market conditions, through rational use its material, labor and financial resources.

a fragment of the table is shown

Basic approaches to management, which define the main methods and principles of managing an organization.

Classical (scientific) approach: This approach focuses on increasing productivity through standardization, rationing of work processes, and maximizing resource efficiency. The founder of this school is Frederick Taylor, who believed that management principles should be based on scientific analysis. The main ideas include the division of labor, the development of clear work instructions, and encouraging employees to achieve high productivity.

Systemic approach: Management is seen as an interdependent complex where different parts of the organization interact to create a single system. The systemic approach takes into account technological, social and economic factors that affect the activities of the enterprise and integrates them into a coherent structure to ensure the balanced development of the organization.

Situational approach: This approach emphasizes the importance of adapting management decisions to specific conditions that are constantly changing. Managers should take into account environmental factors and choose appropriate strategies depending on specific situations. Thus, the situational approach helps to respond more effectively to challenges and changes.

Process approach: Considers the activities of an enterprise as a set of interdependent business processes. The goal of the process approach is to ensure the effective organization of all processes and flexibility in achieving strategic goals. Processes are coordinated in such a way as to achieve the set goals at minimum cost and maximum efficiency.

It is also important to highlight **integration models (such as the 7S and the competing values model)**: Involve a comprehensive analysis of an organization's resources and capabilities, emphasizing the importance of balancing different aspects of the organization, such as structure, value system, management style, and personnel. These models are aimed at improving the efficiency of the organization and its ability to adapt to changes in the external environment.

Each approach has its own strengths and limitations, and the choice of the appropriate approach depends on the size of the company, its resources, and market conditions.

Name of the approach	Advantages	Disadvantages
Classical (scientific) approach:	Increases productivity through standardization and rationing of work processes; clearly defines employee responsibilities; avoids overuse of resources.	Ignores the individual characteristics of employees and the human factor; often focuses on short-term efficiency; can lead to low motivation and burnout due to strict standardization.
Systematic approach:	Promotes a holistic view of the organization, taking into account its various components; allows for better integration of different processes and resources; helps the organization to be flexible and adaptive to change.	Requires significant resources and time to analyze and integrate all components; difficult to manage the relationships between elements; more suitable for large enterprises with extensive resources.
Situational approach:	Allows to adapt management decisions to specific conditions and requirements of the environment; provides flexibility and quick response to changes; contributes to making more informed and practical decisions.	Can cause confusion due to the diversity of management styles; requires high qualifications from managers; lack of standards can make it difficult to monitor and evaluate performance.
Process approach:	Optimizes business processes, making them transparent and manageable; reduces costs and increases efficiency; ensures consistent achievement of strategic goals through process coordination.	Requires a lot of resources to monitor and improve processes; excessive focus on processes can reduce innovation and creativity; difficult to implement due to the need for detailed analysis of each process.
Integration models (e.g., 7S and competing values model):	Provide a balance between different aspects of management, helping the organization achieve stability and adaptability at the same time; promote alignment of resources and goals; increase efficiency by integrating different elements.	Difficult to implement due to the need for a significant amount of information and resources; may be ineffective without a clear strategy and management support; not always suitable for small businesses with limited resources.

After analyzing the transformation of management approaches in the context of digitalization, the following main features can be identified

The classical approach:

Changes in traditional management functions, such as standardization and automation of management processes, reduce the need for a large staff. Basic tasks are completed faster by automating routine actions.

Focusing on efficiency by automating simple tasks, allowing managers to focus on strategic aspects of work.

Systematic approach:

Implementation of integrated digital platforms that connect all business units into a single network to share and process information.

Digitalization provides a comprehensive integration of all processes and a single information platform to unite departments, which allows for optimized real-time process management.

Situational approach:

The emergence of digital tools to adapt to rapid changes in the external environment (economic, technological and market). Provides flexibility and rapid response to changes through forecasting and scenario modeling.

The use of analytical systems to quickly analyze data and make informed decisions, which ensures effective adaptation to changing conditions.

Process approach:

The use of new digital models to visualize and manage business processes, enabling faster design, control, and execution phases.

Automation of processes allows you to optimize costs and improve the quality of work. Implementation of BPM (Business Process Management) systems to monitor and control all stages of construction.

Integration approach and BIM (Building Information Modeling):

The introduction of BIM technologies allows you to create an integrated digital model of the project with the ability to interact with all participants in the process in real time. Creation of a single digital model of the object, which is available to all project participants at all stages of its life cycle. This helps to reduce project implementation time, improve the quality of work and reduce risks.

Digitalization is radically transforming approaches to managing construction companies by introducing new technologies and methods that increase the efficiency, flexibility and adaptability of management processes. The main aspects of this transformation are:

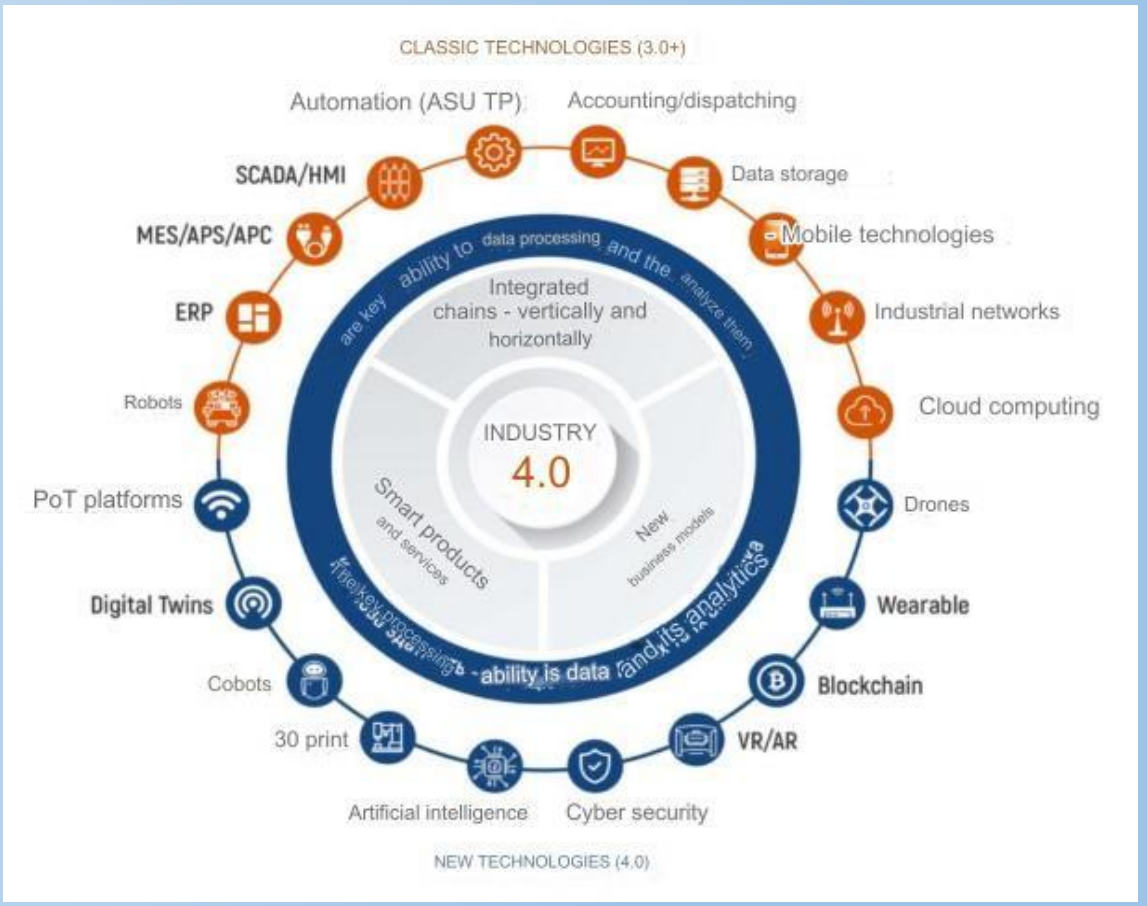
Automation: Reducing dependence on human resources by automating routine tasks, allowing managers to focus on strategic aspects of management.

Integration: Implementation of digital platforms and BIM technologies that provide a single information network for all departments of the enterprise, improving coordination and collaboration.

Flexibility: Use of analytical systems to quickly adapt to changes in the external environment, which increases the ability of enterprises to respond quickly to new challenges.

Process optimization: Implementation of new models of business process management, which leads to higher quality and shorter project execution times.

Thus, digitalization not only changes management tools, but also requires new competencies from managers, which is key to ensuring competitiveness in today's market.



The information presented in the image shows the prospects for the use of digital technologies in all sectors of the economy.

After analyzing the activities of KyivBudDevelopment, we can characterize their activities as follows:

KyivBudDevelopment LLC (KBD) has been operating in the market since 2016, investing heavily in construction projects, including residential complexes in the Pechersk district of Kyiv. The war in Ukraine has had devastating consequences for the construction industry, but KBD continues to build, focusing on the rehabilitation of housing for internally displaced persons.

The company's organizational structure is built on the principles of transparency and efficiency, which ensures interaction between departments. The analysis of financial indicators for 2019-2021 indicates losses incurred due to the COVID-19 pandemic. Going forward, the company will remain an important player in providing housing and creating jobs, although it needs to revise its strategy to overcome financial difficulties.

Indicators	2021	2020	2019	Absolute deviation, +,-	
				2020 to 2019	2021 to 2020
1	2	3	4	5	6
Net income (revenue) from the sale of products (goods, works, services)	132711	100818	146826	-31893	46008
Cost of sales of products (goods, works, services)	113880	91731	130240	-36934	53294
Gross profit (loss)	18831	9087	16586	5041	-7286
Other operating income	3857	37	1143	-3820	1106
Other operating expenses	21383	15530	10655	-5853	-4875
Other income	373	40	777	-333	737
Other expenses	1619	794	462	-825	-332
Financial results from ordinary activities before taxation:	60	-7160	7389	7564	-235
Income tax from ordinary activities	200	1395	1287	1195	-108
Clean profit (loss)	-140	-8555	6102	-14657	-8415

Source: [Compiled and calculated on the basis of the company's financial statements]

Key performance indicators of economic activity

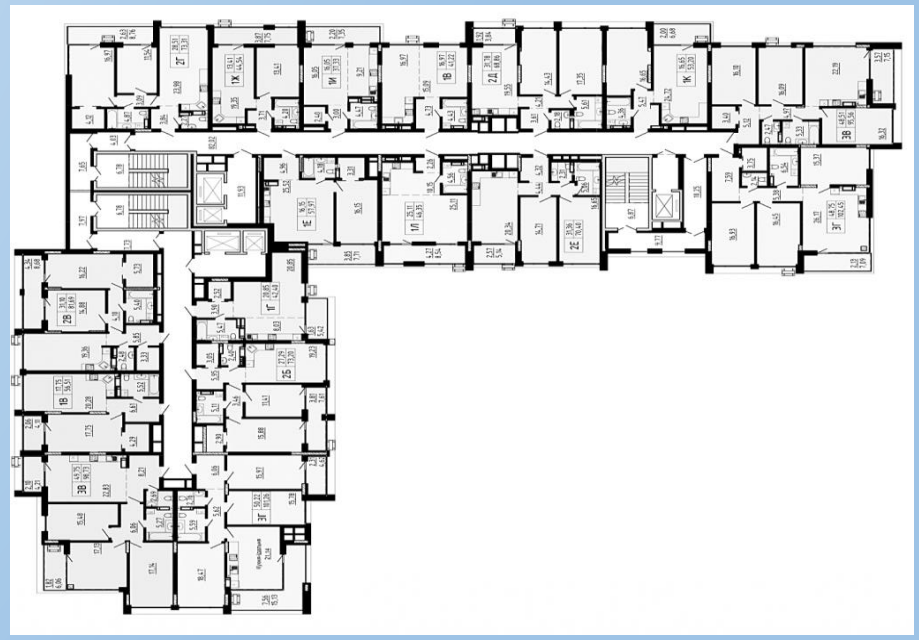
General description of the PUSHA HOUSE project

The PUSHA HOUSE project by KBD.estate is a modern business-class residential complex located in the suburbs of Kyiv (Pushcha-Vodytsia), which has a picturesque environment, convenient transport links and a cozy microclimate.

The complex consists of three 8-storey sections in the constructivist style. The construction is based on monolithic frame technology with the use of high-quality materials. For the convenience of the residents, there is an infrastructure with shops, a beauty salon, a pharmacy, a coworking space, a rooftop lounge area, as well as children's and sports grounds.

The housing stock consists of 96 apartments (1-, 2-, 3-room) with layouts that correspond to the business class. The price per square meter ranges from $750 to $1100. Construction is scheduled to be completed by the end of 2022.

View of residential complex "Pushcha House"



Pushcha House residential complex plan

Key life cycle stages and management elements:

Project initiation:
Formulation of the idea and concept: Key parameters, market needs, financial feasibility and risks of the project are identified.
Feasibility study: A resource plan is created, and profitability and financial performance are assessed.

Planning:
A detailed plan: Includes budget, timeline, scope of work and risk management. Distribution of functions: A responsibility structure is formed and executives are appointed.

Implementation:
Operational management and control: Resource provision, construction monitoring, team coordination.
BIM modelling: To track changes and adapt the project in real time.

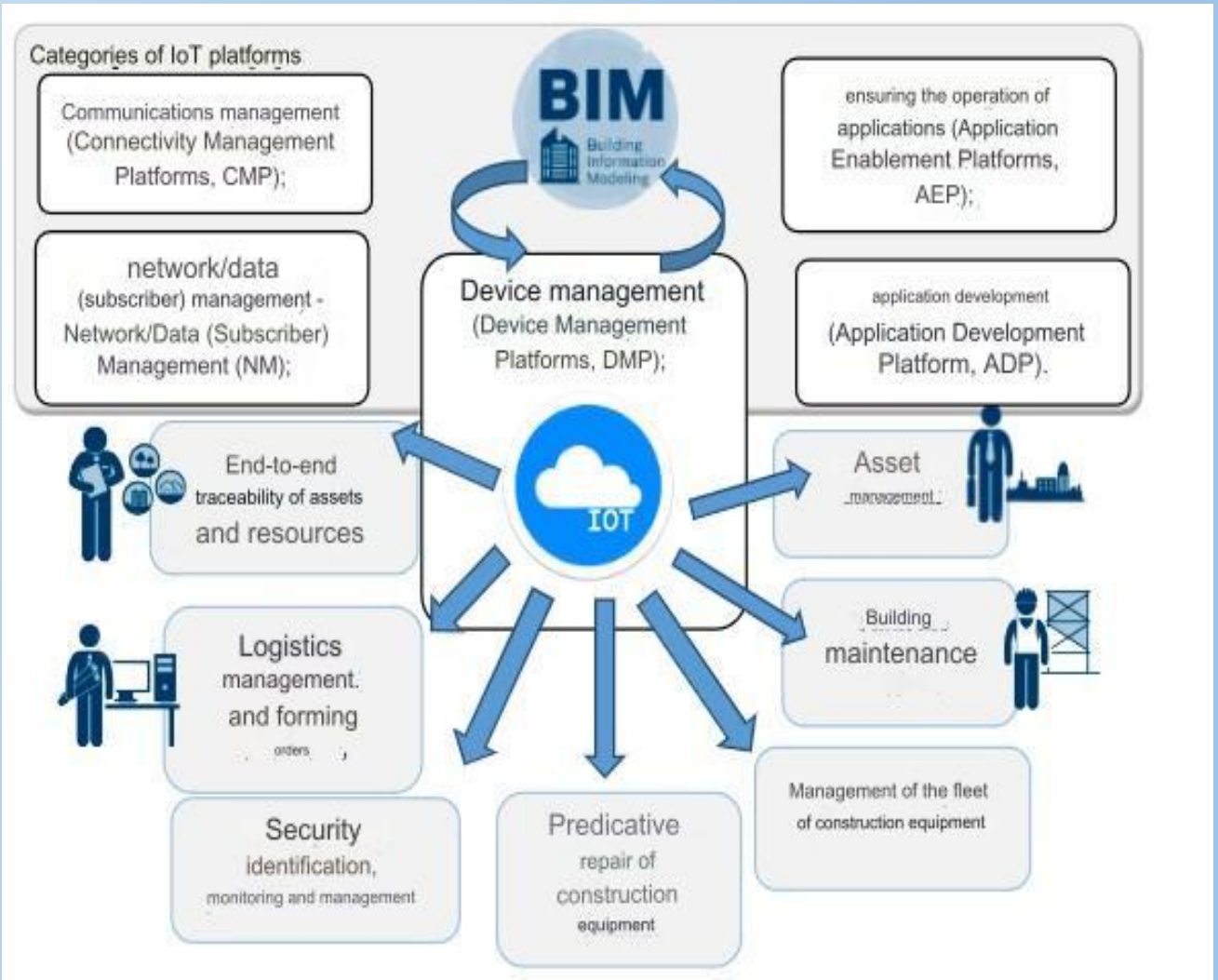
Control and monitoring:
Deviation management: Controlling time and budget, adjusting the plan.
Analysis of results: Evaluate the effectiveness of management and use of BIM for accurate quality control.

Project completion:
Handover: Completion of works, commissioning and turnkey delivery.
Evaluation of the results achieved: Financial and quality assessment for future improvement.

Operation:
Monitoring: Providing facility maintenance, feedback from residents and analysis to improve future projects.

KBD LLC uses BIM technology to ensure an integrated approach to project management. This makes it possible to optimise processes, improve the quality of project planning and implementation, especially in a multi-project operating system.

To achieve the strategic goals of PushaHouse, it is important to ensure a holistic and integrated approach to management at every stage of the project life cycle, from concept to operation, using innovative tools and digitalisation technologies. This allows KBD LLC to increase its competitiveness and establish itself in the market as a leader in construction development.



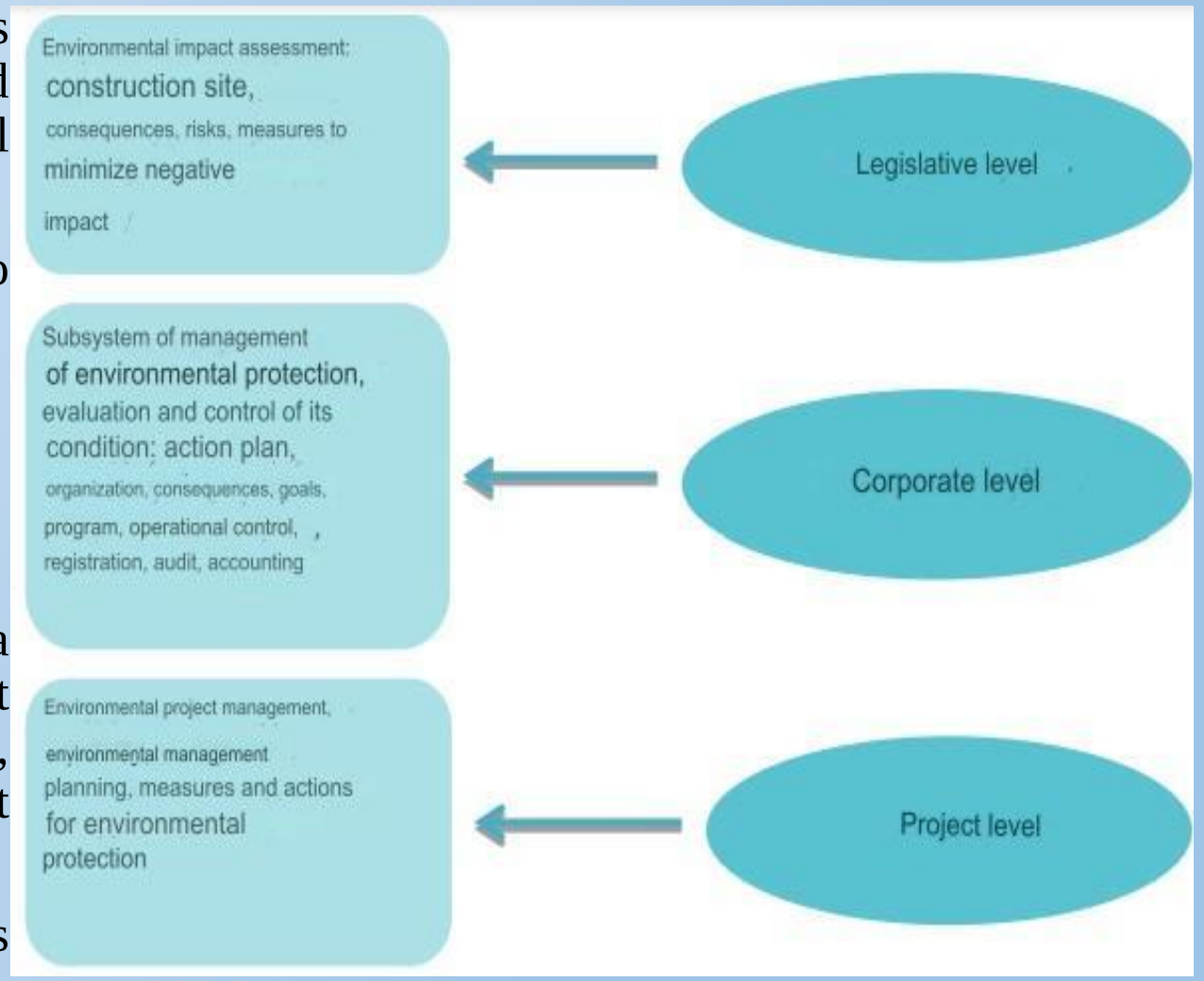
Today, it is important to integrate environmental strategies into the activities of construction companies to ensure sustainable development and competitiveness, taking into account environmental and economic interests.

We classify the environmental management system into 3 groups according to the level of management:

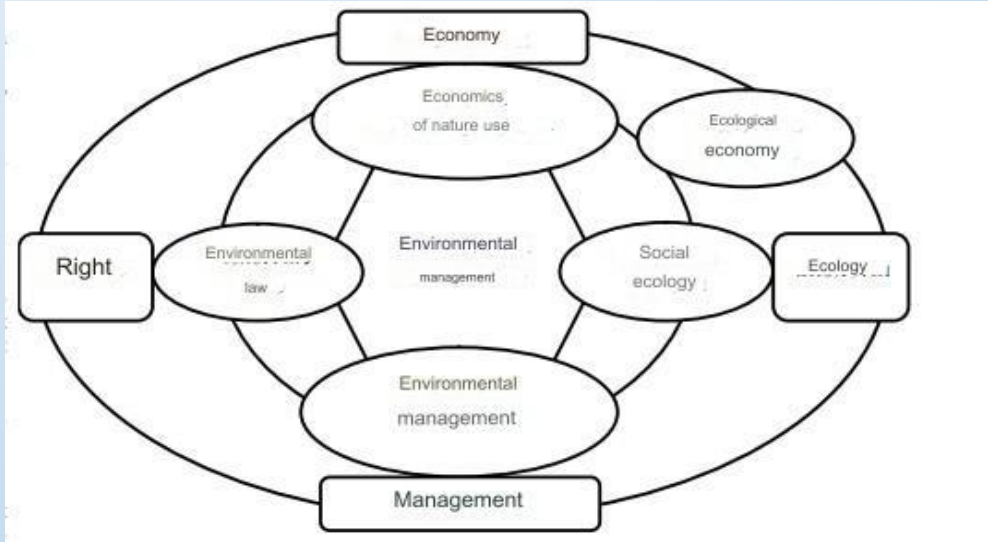
1. legislative;
2. 2. corporate;
3. 3. at the level of each individual project.

Thus, it is possible to propose the construction of a subsystem for environmental management, assessment and control of its condition in a development company, which is a structural component of the management system.

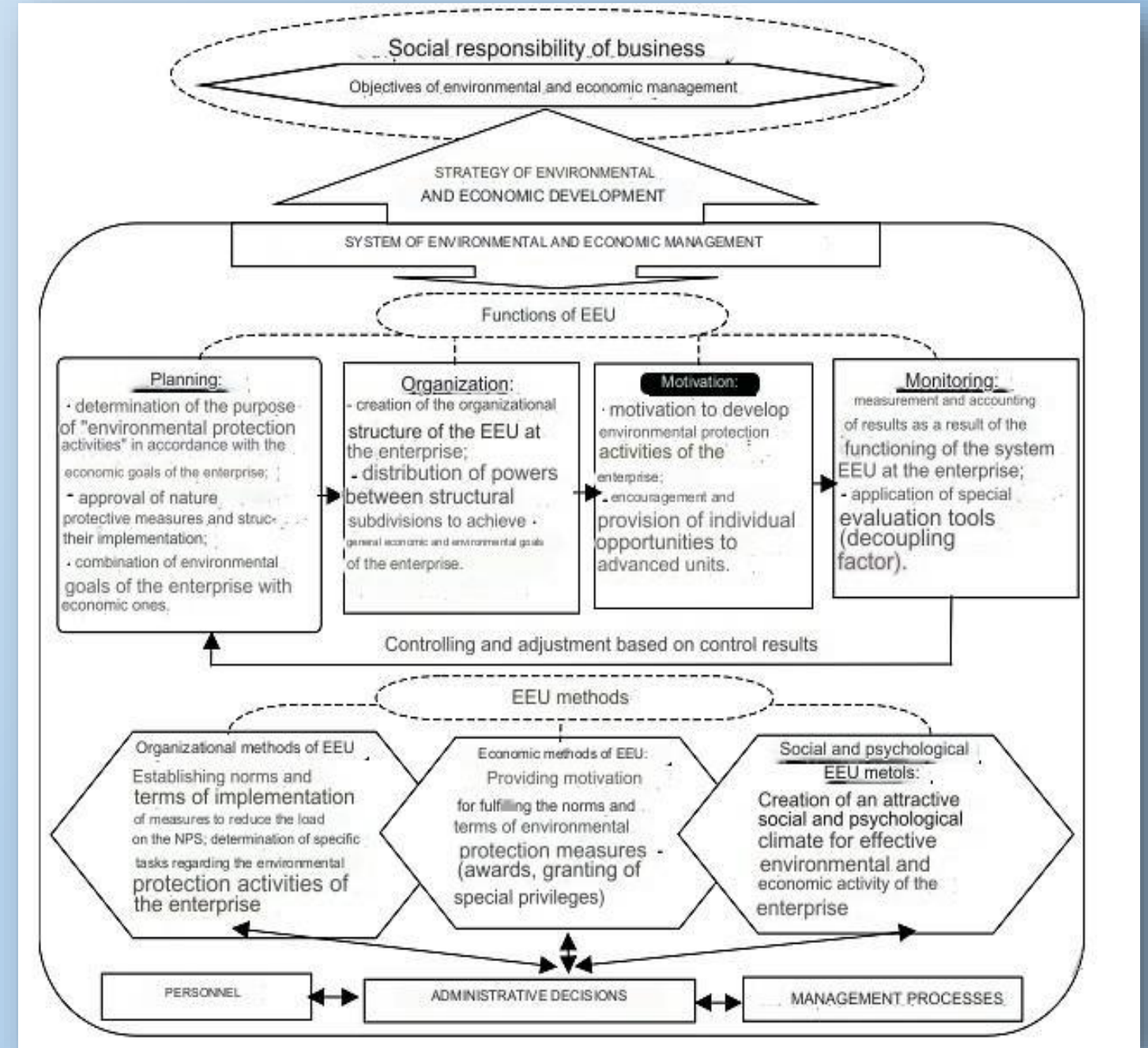
The environmental management system in Ukraine is defined, shaped and regulated by the Law of Ukraine ‘On Environmental Protection’, which was adopted in 1991. It has now been amended and submitted to the Government of Ukraine.



The environmental management of KyivBudDevelopment LLC (KBD) can be described as a comprehensive approach aimed at minimising the negative impact of construction activities on the environment and supporting the principles of sustainable development.



Components of environmental management



The environmental management of KyivBudDevelopment LLC is aimed at minimising the environmental impact of construction activities and supporting sustainable development.

Key aspects:

- Three-stage management system - covers legislative, corporate and project levels, which allows integrating environmental standards into all stages of work.
- Waste management - sorting, recycling and reducing waste at construction sites.
- Lean approaches - lean production to minimise resource waste.
- BIM technology - process optimisation to reduce the environmental footprint.
- Adaptive environmental and economic management is a flexible model for sustainability and rapid response to environmental risks.

The emergence of risks is an objective element of the investment process, and therefore minimising the scale of their impact on the financial condition of construction participants is an important area of the company's activities.

The main risks for the «PushaHouse» project:

Financial risks:

- Instability of financing due to problems in the banking sector and the real estate market.
- Delay or lack of financial resources from investors and construction financing funds (CFF).

Project risks:

- Risks associated with the design and execution of construction works, such as changes in the design documentation that may affect the timing and cost.
- There may be delays in the supply of materials and equipment, which could lead to delays in the completion of construction.

Operational risks:

- Inadequate planning and logistics methods at the construction site, which may lead to excess waste or additional costs.
- Poor quality of work due to errors or shortcomings of contractors, which affects the quality and reputation of the project.

Legal and regulatory risks:

- The project does not comply with new regulatory requirements or environmental standards.
- There may be delays due to the need to obtain permits or certification of construction works.

Safety and environmental risks:

- Violation of health and safety standards at the construction site.
- Negative environmental impact that could lead to public or governmental discontent.

Having analysed the above risks associated with the project implementation, we have developed the following measures based on the process approach to risk management

Financial risks:

- **Creating a reserve fund** for unforeseen expenses to ensure financial flexibility.
  Insuring financial risks and attracting additional investors from different market segments to diversify financial flows.
  Controlling cash flows through systematic financial monitoring and reporting.

Project risks:

- **Implementation of the BIM (Building Information Modelling) system** to coordinate changes in project documentation, which will ensure transparency and control over design and construction.
- **Regular audits** of materials**supply** and quality control of works performed to identify possible delays and problems in a timely manner.

Operational risks:

- **Implementation of Lean methodologies** to optimise processes and minimise waste at all stages of construction.
  Monitoring contractor performance and clearly defining responsibilities at each stage to help avoid cost overruns and control quality.

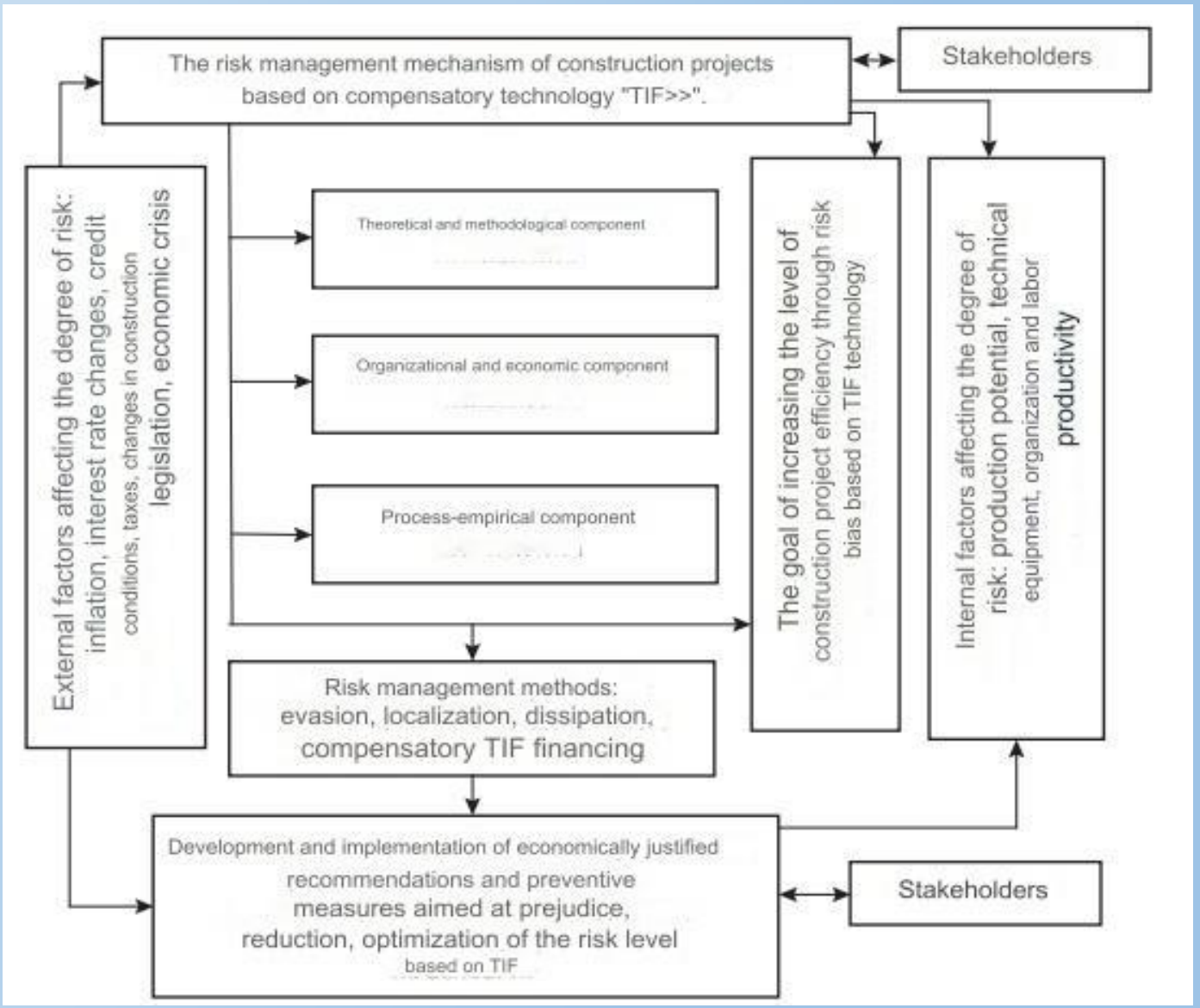
Legal and regulatory risks:

- **Legal due diligence** of the project's**compliance** with new regulatory requirements and timely updating of permits.
- **Regular interaction with regulatory authorities** to prevent delays and avoid fines.

Safety and environmental risks:

- **Implementation of a health and safety system** at the construction site, with staff training and regular inspections.
  Environmental monitoring and waste control to reduce environmental impact and ensure compliance with environmental regulations.

It should be noted that a clear foresight of the risks associated with housing construction and an understanding of their sources are necessary prerequisites for decision-making and implementation of effective measures to minimise them. The mechanism of risk management of construction projects based on TIF is a set of methods, forms, instruments and levers of financial support for the process of construction project implementation, taking into account possible risks of implementation, as well as state (municipal) regulation of these processes



Mechanism of risk management of construction projects of "KBD" LLC based on compensatory technology TaxIncrementFinancing (TIF)

In conclusion, it should be noted that the need for change in an organisation arises sooner or later, regardless of the development ideology it adheres to and the management paradigm that determines the dominant functioning of the organisation. However, the effectiveness of the organisation's functioning depends on how these changes are implemented.

Thank you for your attention