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MODEL OF GENERAL TRANSFORMATION OF PROJECT MANAGEMENT OF INDUSTRIAL ENTERPRISES IN UKRAINE

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МОДЕЛЬ ЗАГАЛЬНОЇ ТРАНСФОРМАЦІЇ ПРОЄКТНОГО МЕНЕДЖМЕНТУ ВИРОБНИЧИХ ПІДПРИЄМСТВ УКРАЇНИ

The Russian military's open attack on Ukraine served as a catalyst for the transformation of project management within industrial enterprises. This conflict brought about a range of new and complex challenges that industrial enterprises had to rapidly address, adjust their operations for, and implement novel project management methodologies. Consequently, the article is aimed at conducting a systemic investigation of the model for the comprehensive transformation of project management in Ukrainian industrial enterprises. The research results have yielded a series of significant conclusions that could impact the future development and practice of project management within industrial enterprises in the context of military conflicts. It has been demonstrated that the model of project management transformation must be flexible and tailored to the specificities of the military-economic environment. It should encompass aspects that enable the adaptation of project management to the realities of a military conflict, such as security considerations, agile project management methods, as well as contingency and corrective plans. Considering the diverse range of potential scenarios in the development of a military conflict, the transformation model should be context-adaptive and incorporate variations based on the scenario. The implementation of

contingency and corrective plans is a crucial aspect of this adaptation. The implementation of contingency and corrective plans requires careful planning and consideration of various factors, such as reserve stock, alternative suppliers, production and assortment flexibility, algorithms for responding to changes, and the testing of new adjustments. The prospects for further research in this direction could focus on developing tools that assist industrial enterprises in forecasting possible development scenarios and risks of a military conflict. These tools would aid in adapting their project management model according to the specifics revealed by the extensive information obtained. Creating such tools may involve the development of analytical models, forecasting systems, the use of artificial intelligence for analyzing large datasets, and the design of scenario-based planning instruments.

Відкритий воєнний напад Росії на Україну став каталізатором для трансформації проєктного менеджменту виробничих підприємств. Цей конфлікт призвів до ряду нових і складних викликів, на які виробничі підприємства повинні були швидко реагувати, адаптувати свою проєктну діяльність та впроваджувати нові підходи до управління проєктами. Відтак стаття спрямована на системне дослідження моделі загальної трансформації проєктного менеджменту виробничих підприємств України. За результатами дослідження сформовано ряд важливих висновків, які можуть вплинути на подальший розвиток та практику управління проєктами на виробничих підприємствах в умовах військових конфліктів. Зокрема, доведено, що модель трансформації проєктного менеджменту має бути гнучкою та адаптованою до особливостей військового економічного середовища. Вона повинна включати аспекти, які дозволяють адаптувати управління проєктами до реалій військового конфлікту, такі як безпека, гнучкі методи проєктного управління, резервні та коригувальні плани. Враховуючи різноманітність можливих сценаріїв розвитку військового конфлікту, модель трансформації повинна бути адаптованою та включати варіації залежно від сценарію. Запровадження резервних та коригувальних планів є ключовим аспектом цієї адаптації. Запровадження резервних та коригувальних планів вимагає уважного планування та врахування різноманітних факторів, таких як резервні запаси, альтернативні постачальники, гнучкість у виробництві та асортименті, алгоритми реагування на зміни та тестування нових змін. Перспективи подальших досліджень у цьому напрямку можуть спрямуватися на створення інструментів, які допомагатимуть виробничим підприємствам прогнозувати можливі сценарії розвитку та ризики військового конфлікту та адаптувати модель їх проєктного менеджменту відповідно до специфіки, яку виявляє масив отриманої інформації. Створення таких інструментів може включати розробку аналітичних моделей, систем прогнозування, використання штучного інтелекту для аналізу великих обсягів даних та розробку сценарних планувальних інструментів.

Key words: contingency plans; corrective plans; project management methods; forecasting systems.

Ключові слова: резервні плани; коригувальні плани; методи проєктного управління; системи прогнозування.

TARGET SETTING

Traditionally, the growing importance of digital technologies and the transformation of management processes into digital formats are driving evolutionary changes in the project management of Ukrainian industrial enterprises. Specifically, conventional approaches that are more linear and structured are becoming less effective in the face of rapidly changing environments. It necessitates the implementation of new project management tools and methods, including flexible methodologies that enable quicker responses to changes. This transformation, occurring in the latter half of the 20th century, is driven by reactions to market globalization and the acceleration of technological advancement. Industrial enterprises are

confronted with competition not only at the local level but also on the international stage [6]. This necessitates changes in team collaboration practices as well as the adoption of new tools for tracking and communicating with partners and clients. In the context of domestic realities, project management within industrial enterprises undergoes additional transformations, which have become particularly apparent due to significant shifts in the operating environment. Contemporary triggers for transformation have been shaped by Russia's open military attack on Ukraine, as they prompted the necessity for ongoing responsiveness of project execution systems to changes and the constant reallocation of project resources and workloads. Project managers have encountered

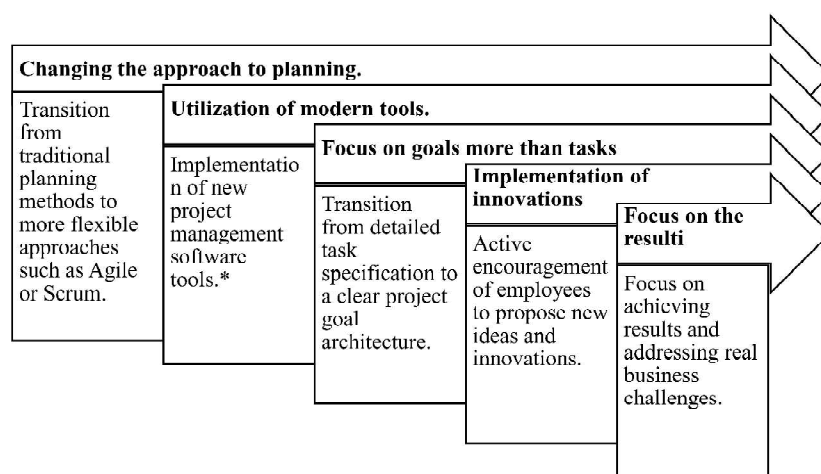


Figure 1. Indicators of the active transformation phase of the project management model within industrial enterprises

Source: formed based on [1—2; 6].

challenges in ensuring the continuity and maximum flexibility of production processes, considering new safety protocols, and adapting to changes in product demand and security requirements. Taking these factors into account, the model for the overall transformation of project management in Ukrainian industrial enterprises is quite specific and should therefore be subject to comprehensive formalization and systematic study.

ANALYSIS OF RESEARCH AND PUBLICATIONS

The issues of project management have been studied by both foreign and domestic scholars, including I. Ansoff, M. Kotler, A. Asaul, I. Mazur, S. Korostelov, N. Oldenhof, and others. Works dedicated to the topic of modern changes in project management within industrial enterprises include the research of Zh. Zhigalkevich, V. Chukhlib, M. Samsonenko, Kh. Peredalo, and others. However, the model for the general transformation of project management in industrial enterprises is still in its nascent stage. Due to Ukraine's involvement in a military conflict zone, the conceptualization of such a model diverges from established trends. The key challenge in this situation lies in the imperfect nature of the models and the lack of clarity regarding its defining key aspects, among other factors.

THE WORDING OF THE PURPOSES OF ARTICLE (PROBLEM)

The aim of the article is to investigate the model for the overall transformation of project management in Ukrainian industrial enterprises.

THE PAPER MAIN BODY WITH FULL REASONING OF ACADEMIC RESULTS

Within the limits of research, the authors noticed to the fact that the model for the overall transformation of project management in Ukrainian industrial enterprises essentially serves as a conceptual framework. This framework encompasses specific phases and key aspects that determine the fundamental methods and approaches for the implementation and

adaptation of cutting-edge planning, organization, execution, and project control practices. The primary aim is to achieve strategic objectives, enhance efficiency, and align with changes in the external environment. In particular, among the main phases of transforming such a model, the following are conventionally distinguished: the preparation phase (where management is merely preparing for change), the active transformation phase (marked by active changes in the project management model and involving the execution of plans and process alterations), and the transformation completion phase (signifying the culmination of major changes and the transition to the new state of the project management model). It is important to control the implementation progress of the active transformation phase, address emerging issues, and ensure the collaboration of all stakeholders.

To determine that the project management model within industrial enterprises has entered the transformation phase, several indicators should be considered. These indicators point to changes in approaches, methodologies, and project management practices. Specifically, among the indicators of the active transformation phase of the project management model, we have identified the following (Figure 1): a shift in planning approach, utilization of contemporary tools, emphasis on goals over tasks, innovation implementation, and a focus on outcomes.

Data from EY (Ernst & Young) as of July 2023 indicates that more than 12% of industrial enterprises were in the preparation phase for the transformation of their project management model, 57% had moved into the active transformation phase, and an additional 8.6% of these enterprises were in the transformation completion phase. It may suggest a broad scope of changes involving the application of new approaches, methodologies, and practices in project management within these enterprises [5]. It could also indicate that these enterprises have recognized the need to enhance their project management systems to adapt to the new conditions shaped by the realities of the military conflict. Active transformation can aid these enterprises in maintaining productivity,

Table 1. Systematization the industrial enterprises experience that are leaders in project management and have successfully implemented the project management transformation model

Leaders in project management	Key aspects necessary to adapt project management to the conditions of existence within a military economy and military conflicts.						
	Impact analysis	Approach to resource planning	Project reorganization.	Flexible project management methods	Implementation of contingency and corrective plans (varied formats).	Ensuring security	Communicator and coordination.
LLC «PROFIT M	+	+	+	-	+	-	+
LLC «FERRERO UKRAINE»	+	+	+	+	+	-	-
LLC «DANONE DNIPRO»	+	+	+	-	+	+	+
LLC «LASUNKA»	+	+	+	-	+	+	+
UKR LIT PROM	+	+	+	+	+	-	+
WORK GLOB	+	+	+	+	+	+	-

Note

* Project management leaders are companies or organizations that stand out for their high efficiency and success in project management. They possess the necessary skills, methodologies, and approaches that enable them to achieve their goals and objectives on time, within budget, and with a high level of quality.

Source: Formed based on data from business entities that are leaders in project management.

efficiency, and competitiveness despite the challenges associated with military conflict.

It should be noted that for domestic circumstances, the project management transformation model must be effective. The challenge lies in the fact that during the transformation, managers have no room for error, as their actions could lead to negative consequences for the business, irreversible resource losses, and more. During the transformation, managers must meticulously analyze the needs, opportunities, and risks associated with new project management approaches. They need to ensure proper planning and coordination of changes, exert effort into training personnel in new skills and methods, and monitor the implementation of changes within the workflow.

Studying the existing experience of Ukrainian enterprises that are leaders in project management and have successfully implemented the project management

transformation model, such as companies like LLC "PROFIT M, LLC "FERRERO UKRAINE", LLC "DANONE DNIPRO", LLC "LASUNKA", UKR LIT PROM, and WORK GLOB, it is evident that such a model should encompass specific key aspects [5]. These aspects are essential to adapt project management to the conditions of military economy and military conflicts (Table 1).

Furthermore, it's evident that given the quantity and diversity of possible development scenarios of an open military conflict, even though such a model is overarching, it must have variations that will be implemented depending on the context. Considering certain discrepancies identified according to the provided data, one can determine only an approximate composition of the general model through the lens of key aspects such as:

1. Impact analysis (formed through the lens of studying potential threats to material supply, decreasing demand for products, potential labor force scarcity, etc.).

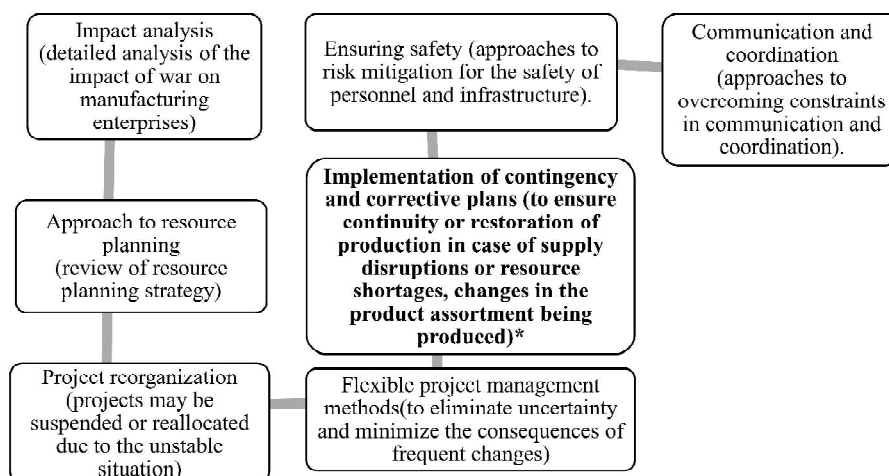


Figure 2. Composition of the general model of transformation of project management for manufacturing enterprises in Ukraine

Note

* The implementation of contingency and corrective plans is, in fact, a component that shapes the variations of the overall model of transformation of project management depending on the scenario of situation development.

Source: formed based on [2; 4].

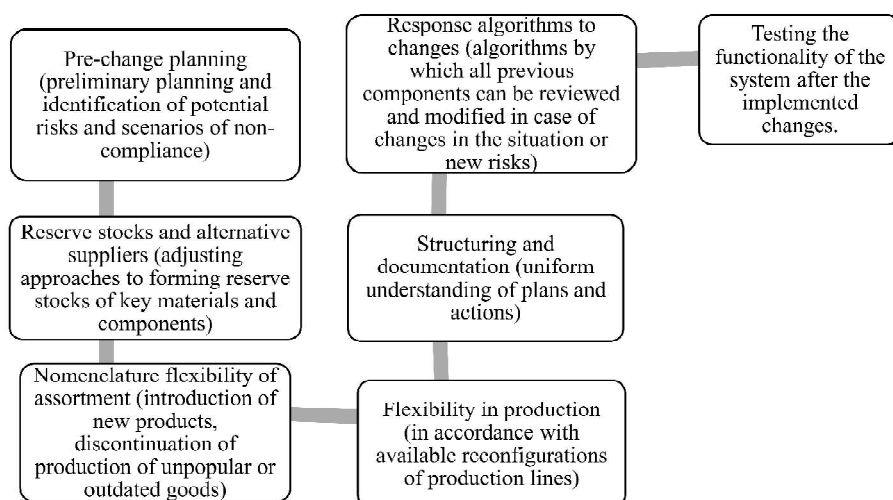


Figure 3. Composition of implementing contingency and corrective plans as a component of the transformation model of project management for Ukrainian manufacturing enterprises

Source: formed based on [2; 3; 4].

2. Approach to resource planning (formed through the lens of changing the approach to managing constrained resources, considering the possibility of supply disruptions and changes in material costs.).

3. Project reorganization (formed through the lens of changing strategic priorities and adapting the project portfolio).

4. Flexible project management methods. Formed through the lens of utilizing flexible project management methods like Agile, designed to enable quicker responses to changes and ensure high adaptability readiness).

5. Implementation of contingency and corrective plans (that should facilitate corrective measures guaranteeing continuity or restoration of production in case of supply disruptions or resource shortages, meeting changing product assortment requirements.).

6. Ensuring security. Formed through the lens of implementing security measures and emergency scenario planning if it is critically important.

7. Communication and coordination. Formed through the lens of establishing effective communication channels and procedures to manage projects in conditions of uncertainty.

In this context, the key aspect of implementing contingency and corrective plans effectively becomes an integral component that shapes variations of the overall model of project management transformation depending on the situation development scenario. Thus, an approximate composition of the general model of project management transformation for Ukrainian industrial enterprises is provided in Figure 2.

In this regard, the implementation of contingency and corrective plans indeed serves as a pivotal component that shapes variations of the overarching model of project management transformation based on the scenario of situation development, such as war or other unstable circumstances. It applies dealing with uncertainty, changes, and randomness inherent in such situations.

The variability of the project management transformation model is driven by the fact that the conditions

of war constantly alter the operational environment of Ukrainian manufacturing enterprises. These changes occur based on various factors, such as the phase of the military conflict, the scale of actions, the conflict's impact on the economy, and other influencing factors. As a result, manufacturing enterprises are modifying their management systems to be highly flexible in terms of architectural structure, tailored for various production scenarios. It is precisely the aspect of reserve and corrective plans that provides the model of a general transformation of project management for manufacturing enterprises in Ukraine with the flexibility required in case of supply disruptions or resource shortages, changes in the range of produced goods, and so on. The current stage of the Russian-Ukrainian conflict introduces certain challenges to freight transportation (due to limited assortment and suppliers, port blockades, and strain on railway infrastructure). Therefore, the aspect of reserve and corrective plans is constantly engaged by managers to ensure the continuity or restoration of production in case of supply disruptions or resource shortages. The composition of implementing reserve and corrective plans as a component of the transformation model of project management for Ukrainian industrial enterprises is presented in Figure 3.

So, the specificity of implementing contingency and corrective plans as a component of the transformation model of project management for Ukrainian manufacturing enterprises is associated with considering the following characteristics:

1. Preliminary change planning (this component necessitates a thorough assessment of which production aspects could be under threat and which resources might become limited).

2. Reserves and alternative suppliers (within this component, it's crucial to establish algorithms that will help avoid disruptions and ensure uninterrupted production).

3. Nomenclature flexibility of the assortment (within this component, it's essential to define algorithms for changing the product assortment or product nomenclature

based on changing market needs, external conditions, or strategic goals).

4. Flexibility in production (within this component, it's important to define algorithms for quickly switching to the production of other products or components that are available).

5. Structuredness and documentation (within this component, it's crucial to ensure the structured nature of reserve and corrective plans, their documentation, and accessibility to all relevant employees).

6. Algorithms for reacting to changes; testing the system's functionality based on implemented changes (within this component, it's vital to define algorithms by which reserve and corrective plans should be tested and verified in real conditions).

In case there's a need to activate reserve and corrective plans, ensuring the readiness of the enterprise for uncertain situations becomes crucial. This includes maintaining productivity and efficiency within the constraints or inconsistencies arising from wartime conditions.

CONCLUSIONS FROM THIS STUDY AND PROSPECTS FOR FURTHER EXPLORATION IN THIS AREA

The research has yielded several important conclusions that could impact the further development and practice of project management in manufacturing enterprises during times of military conflicts:

1. The model of project management transformation should be flexible and adaptable to the unique characteristics of the military-economic environment. It should encompass aspects that enable the adaptation of project management to the realities of military conflicts, such as security, flexible management methods, and reserve and corrective plans.

2. Considering the diversity of potential scenarios in a military conflict, the transformation model must be context-adaptive and incorporate variations depending on the scenario. The implementation of reserve and corrective plans is a crucial aspect of this adaptation.

3. The implementation of reserve and corrective plans requires careful planning and consideration of various factors, such as reserve inventory, alternative suppliers, manufacturing and assortment flexibility, algorithms for responding to changes, and testing of new modifications.

The prospects for further research in this direction could focus on creating tools that help manufacturing enterprises forecast potential development scenarios and risks of military conflicts, adapting their project management model according to the specificities identified from the gathered information. Developing such tools might involve designing analytical models, forecasting systems, utilizing artificial intelligence for analyzing large datasets, and creating scenario-based planning tools.

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