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Project management as a development tool for greening of enterprises of the national economy

N Shmatko¹, Iu Bondar², V Tokareva³, N Kovalenko², O Klenin⁴ and V Kotlubai⁵

¹ National Technical University «Kharkiv Polytechnic Institute», Department of Management of Innovative Entrepreneurship and International Economic Relations, 2 Kyrpychova str., 61002 Kharkiv, Ukraine

² Flight Academy of National Aviation University, Department of Management and Economics, 1 Dobrovolsky Str., 25005 Kropyvnytskyi, Ukraine

³ Donetsk State University of Management, 58 Karpinskogo str., 87513 Mariupol, Ukraine

⁴ Priazovsky State Technical University, Universytetska 7, 87555 Mariupol, Ukraine

⁵ National University "Odesa Law Academy", Department of National Economy, Academichna st., 2, 65009 Odesa, Ukraine

E-mail: shmatko.khpi@gmail.com

Abstract. The article reveals the essence of project management, the feature of which is the implementation of multifaceted technological characteristics and subject area of design solutions. It is proved that the methods of project management allow to analyze the issues and determine the objectives of the project, justify the project and develop an appropriate set of documents; determine the necessary amounts and sources of funding; identify the structure of the project and schedule its implementation; calculate the necessary resources, estimates and project budget. The peculiarities of project management as a tool for greening the development of enterprises of the national economy in the conditions of constant complication of doing business and finding ways to improve it in the context of improving the efficiency of economic activity are studied. The project activity is covered, covering all spheres of enterprise functioning, such as production, marketing and innovation activity, social sphere. It is substantiated that the wide application of the project approach to economic development has led to the efficiency and versatility of project tools that allow the company to adapt to the business environment, reduce uncertainty and ensure sustainable development in modern business conditions.

1. Introduction

In today's society, prone to constant change, one of the conditions for significant success in the functioning of economic entities is the ability to follow the general principles of project management, which is an effective tool for implementing the essence of management.

The range of environmental factors that contribute to the emergence of problematic issues in various spheres of economic activity (socio-cultural, environmental, etc.) and require close attention is constantly expanding. In this regard, the solution of the problems is seen in the implementation of progressive management decisions [1].



The development of business entities in modern conditions is accompanied by increasing environmental impact, which requires radical changes in the practice of business management. The objective need to form conceptually new approaches to the greening of enterprise development is also due to Ukraine's integration into the world economic space, changes in our country's international obligations to protect the environment and ensure environmental safety, arising from the provisions of ratified conventions and agreements with their subsequent compliance in domestic law.

A specific feature of project management is the implementation of multifaceted technological characteristics and subject area of design solutions. At the same time, significant emphasis is placed on aspects of innovative business activity. And management capabilities, necessarily take into account the factor of lack of sufficient working capital, as well as a focus on achieving certain performance and, of course, the exclusivity of solutions, lead to the achievement of optimal scale [2].

The theoretical achievements of project management are quite significant. Project management, as change management, is a fairly developed area of management theory, the results of which are widely used in practice [3].

Along with this, as noted by VA Visyashchev [4], the need to develop a theory of project management, properly adapted to the conditions of Ukraine's transition economy, is one of the important prerequisites for more effective and systematic overcoming of transition problems in severely limited financial, material and time resources.

Each country goes its own way of «maturing» project management, but this way of origin and development of project management in different countries is in line with general trends [5-7]. A «critical» mass must be reached at each level of maturity. Only then does the amount of accumulated knowledge and experience of people pass into another quality. This law of transition of "quantity to quality" is basic in any model of maturity of project management, including in relation to this or that country.

However, it should be noted that project management in Ukraine is constantly improving and gaining new development, as evidenced by the emergence of certified specialists in project management, centers for their training and certification to international standards, active implementation of professional project management software, growing demand in labor markets for the services of specialists in the relevant specialty. All these stages will require more research.

The purpose of the study is to study the features of project management as a tool for greening the development of enterprises of the national economy in a constantly complicating business and finding ways to improve it in the context of improving the efficiency of economic activity.

2. Results and discussion

The introduction of economic mechanisms on the one hand and the operation of objective laws on the other, contribute to the emergence and development of modern tools for investment management in the domestic economy. Such a tool as project management deserves special attention.

Project management involves the creation of an effective management system aimed at achieving the results defined in the project in terms of composition and scope of work, cost, time, quality and satisfaction of stakeholders. Each program is a set of interconnected (in terms of resources, deadlines and executors) projects that ensure the achievement of a large-scale strategic goal in a particular area of socio-economic development of the system.

Methods of project management allow to analyze the issues and determine the objectives of the project, justify the project and develop an appropriate set of documents; determine the necessary amounts and sources of funding; identify the structure of the project and schedule its implementation; calculate the necessary resources, estimates and project budget; organize the work of the project manager and team; select project executors, prepare and conclude contracts; organize and ensure the implementation of the project with maximum efficiency within the established budget and deadlines.

The use of project management methods has caused a number of changes that affect various aspects of enterprises.

Among them it is necessary to note the following:

1. Organizational changes;
2. Changes related to the mechanisms of financial resources management in the enterprise;
3. Changes concerning the mechanisms of material resources management at the enterprise;
4. Changes related to the mechanisms of human resource management in the enterprise;
5. Changes related to the implementation of information support functions of enterprise management.

The methodology of project management based on the application of problem, portfolio approaches today can be an effective tool for greening and socio - economic development of enterprises due to the following advantages:

- will allow for the implementation of programs in the public sphere or at the regional level to clearly distribute the functional powers at the levels of government and ensure transparency and comprehensive control of their implementation;
- ensure the reorientation of local governments and regional authorities to non-traditional management decisions;
- provide the opportunity to form flexible project management structures. Problems and prospects for the development of the national economy of organizations and at the same time harmoniously adjust with strategic management and organizational strategy;
- provide an opportunity to conduct an integrated assessment of the socio-economic utility of the project on the only main criterion for obtaining a generalized assessment of the effectiveness of public authorities or local governments in a particular problem area;
- will give the opportunity to get the necessary end product and analyze the degree of satisfaction with it to the consumer;
- will allow to practically implement the strategy of targeted rational accumulation, distribution and use of project resources on the criterion of maximizing the final result in order to effectively manage them;
- provide feedback to the population of the region, central authorities, stakeholders, which will allow to assess the activities of public administration and local government directly by the community;
- ensure the formation of a unified methodology for the implementation of state and regional comprehensive target programs with the possibility of their rapid adaptation and adjustment in accordance with internal and external factors of change, etc.

The use of project management in international practice is a tool for implementing innovative ideas and highly effective management technology in unstable and uncertain systems that are rapidly evolving and changing. This primarily applies to tax, legislative and resource systems. Applying such a management system, we can solve complex problems of industrial, scientific and social nature.

Thus, the introduction of project management approaches in the activities of enterprises is especially important in connection with the growing demands of the competitive environment. An increasing number of companies resort to innovative approaches to project management, for which they create internal corporate management standards and seek to increase the efficiency of management processes through its constant measurement, analysis, as a consequence, their reengineering [5, 6].

With increasing competition in the markets, increasing consumer demand for quality products and services, respectively, increasing the need for organizations to make constant changes in the product line, production technologies and marketing, the importance of project management is constantly growing. Today it is applied not only to the management of projects and projects for the development of new products, but also to the introduction of information systems, business reorganization, in marketing campaigns, for the implementation of personnel development programs. Project management is an integral part of the management system of the organization, which allows to solve mainly issues of strategic development.

Project activities cover all areas of enterprise operation, such as production, marketing and innovation, social sphere. At the same time, when comparing project management with general management, it is necessary to note the following main features: the field of project management has

its own unique field of knowledge, partially intersects with neighboring areas; the field of general management contains the knowledge that every project manager should have; the field of technical management contains special knowledge in a specific field of activity, which makes the project manager a specialist in this field; auxiliary and supporting disciplines help the project manager to better perform their functions [6].

Project management is the management of activities in the organization that require constant management in conditions of severe restrictions on costs, timing and quality of work. Distinctive features of the project are uniqueness and uniqueness, the presence of certain goals, the achievement of which occurs in terms of time and resource constraints. The project approach, in contrast to functional management, has the advantages shown in table. 1.

Table 1. Advantages of project management compared to traditional.

Criterion	Traditional management	Project management
Focus on the final indicators	The process is focused on the course of events.	A process focused on achieving a specific goal.
Focus on satisfying interests	The organization in which management processes are carried out.	The customer to whom the concrete result of the project is important.
Limitation	There are no clear limits on time and resources.	There are clear limits on time and other resources, especially financial.
The main object of planning	The distribution of positions is planned.	The resources used, such as time, money, staff, are planned in detail.
Evaluation of results	Regulation of processes during their implementation is widely used.	The results are evaluated at the end of the project and / or after the completion of its key stages.
Staff involved	Staff permanently employed in the organization.	Project teams composed of staff and external contractors are available for a limited period.

Experts recommend moving to project management at the enterprise, when the manager has the need to manage several large projects simultaneously, and the effectiveness of the project to implement project management in the company will be higher than the cost of it. The sooner management realizes that the transition to project management is objectively necessary, and the method of functional management can no longer provide sound management of several projects, the sooner measures should be taken to implement project management. This will save the company money, time and improve the quality of enterprise management.

Thus, practice shows that the implementation of project management at the enterprise gives positive results, allows to structure all work processes, eliminate "blurring" of responsibility, to exercise more complete control over the performance of work by employees. By implementing a project management system, the organization's management receives a guarantee that the tasks will be clearly set before the project teams, and as a result of the project the organization will receive exactly the results that were needed. Equally important, all members of the project team, including the head of the organization who ordered the project, will clearly understand the criteria for project success, the conditions under which the project will be considered successful [10, 15].

Project management involves the implementation of a special management procedure, which consists in establishing a certain number of innovative development projects taking into account environmental conditions and selected from this list of the optimal set of projects taking into account the application of a certain indicator. This indicator is a generalized parameter of the efficiency of enterprises in the form of an index of increasing productivity.

Effective development of modern enterprises is impossible without focusing on the implementation of environmentally-oriented priorities through an appropriate policy of greening its activities.

Greening reflects the global trend in human development in the direction of intensifying efforts to protect the environment, the introduction of environmentally friendly technologies, saving resources, strengthening security. According to Article 3 of the Law of Ukraine "On Environmental Protection" the main principles of environmental protection are: priority of environmental safety requirements, mandatory compliance with environmental standards, regulations and limits on the use of natural resources in economic, managerial and other activities; guaranteeing an environmentally safe environment for human life and health; precautionary nature of measures to protect the environment; greening of material production based on the complexity of decisions on environmental protection, use and reproduction of renewable natural resources, the widespread introduction of new technologies [1].

That is why its basic principles in many countries reflect a number of documents at the state level. Greening is multidirectional and involves the use of appropriate methods, tools, technologies and more. An important task of the macro-level greening policy is the formation of motivational mechanisms for the introduction of various types of environmental innovations by economic entities.

In conditions of systemic macroeconomic instability, chronic shortage of investment resources of domestic enterprises, underdeveloped market institutions, contradictory environmental policy of the state, the motives of greening are significantly limited, its target priorities are often secondary. Despite these problems, greening is one of the areas that allows not only to increase the environmental and economic efficiency of the enterprise, to form its new image, but also to realize strategically important competitive advantages, to create conditions for the development of economic potential.

In recent years, the international community has paid increasing attention to issues such as sustainable development, global deterioration, ethics, social responsibility and the supply system. There is a growing need for business practices that ensure continuous development, which ensure the availability of appropriate processes and products that allow businesses to respond more adequately to the need to protect the environment and the demands of the societies in which they operate. One such project is Standard GPM P5, a tool that allows you to offer portfolios, programs and projects in line with a strategic organization in the field of sustainable development. The focus of the standards is to take into account the impact of project processes and results on the environment, society, financial performance of the organization and the economy.

According to the ISO 21500 Project Management Guide (ISO 21500: 2012), a project is a unique set of processes contained in coordinated and controlled actions, with start and end dates completed to achieve the project objectives. Achieving the project goal involves semi-derivation of the final results that meet certain requirements. There can be many restrictions on the project. Each project has a specific start date and end date, and is usually divided into phases.

There are several ways to perform an impact analysis on the P5 standard. The simplest ability is to create repeat risk using items as categories. My effective ability is to use a scoring system (Table 2).

Table 2. Scoring system P5.

	Result 1	Result 1	Result 1	Total
Carbohydrate emissions	+3 (significant impact)	+1 (weak impact)	-2 (moderate impact)	+2

When using the system of scoring the impact of each product and project processes, each of the elements of P5 is evaluated on a positive-neutral-negative scale: from neutral (o) to high (+ or -3), moderate (+ or-2), and weak (+ or-3). The lowest score corresponds to only a weak impact (-3, for example, is the best possible score), an example is presented in Table 1 (below). Score 1 with a score of +3 should be managed as high risk, while score 3 does not involve risks.

This method is a simplified method of hierarchy analysis - it is one of the most popular analytical methods for making complex decisions. It should be replaced that to make a complete description in specific situations to make a decision using the method of hierarchy analysis, which makes it

necessary to analyze many levels, depending on the situation. In terms of sustainable development management (Table 3), as a result of the change management process, a scheme of the scheme in the areas of sustainable development is formed, formed after performing the analysis of the impact of P5. A table is compiled that applies P5 practices (people, planet, or profit), subcategories, and elements, as well as the reasons for inclusion, the initial assessment, any legal or regulatory conflicts, and the actions proposed.

Table 3. Matrix of the project management plan at the enterprise.

Categories P5	Subcategories P5	Element P5	Rationale	Rating	Legal norms	Suggested actions
Social responsibility	Practical experience with work resources	Hire	Hiring practices do not meet the requirements of the project	+2	No	Assessment of competence / skills during the interview
Environmental protection	Transport	Procurement from suppliers	The components are transported over a distance of 8000 miles	+2	Does not meet the	Recommend to involve suppliers and perform cost / benefit analysis

Thus, the ecological and economic development of the enterprise must be realized through 5P - elements. Planet - protection of natural resources by the enterprise, care for the state of the environment and minimization of negative impact on climate change. People - the development of society, meeting the needs of consumers. The growth of environmental awareness of society is reflected directly in the behavior of consumers who demand from producers of environmentally friendly products and services. Prosperity - ensuring the economic efficiency of the enterprise, achieving commercial success and making a profit. Partnership - the organization of mutually beneficial interaction with stakeholders or stakeholders of the enterprise, as well as Product.

In the theory and practice of management developed a set of approaches to the greening of the enterprise, developed methods, mechanisms and various tools that allow you to solve specific problems of greening at different stages of its life cycle [12, 19]. One of the important tools for the implementation of greening policy in the enterprise is the use of project management [12].

Greening of enterprises by project management is associated with the restructuring of enterprise processes based on balancing environmental and production components in the system of factors of its development. This tool identifies the reserves to increase the environmental and economic efficiency of the enterprise through the analysis of its processes, assessment of vertical and horizontal communications, diagnosis of internal structural components of the organizational system from a different angle.

As already mentioned, the modern understanding of economic development of enterprises is inextricably linked with the factor of corporate social responsibility, which combines economic, environmental and social goals of society, along with the main goals of the enterprise. The implementation of production and economic activities of the enterprise under the condition of the most rational use of natural resources and reduction of costs through the payment of environmental taxes and fees, creates the preconditions for the inclusion of such a criterion as environmental friendliness. It is the criterion of environmental friendliness that combines the factors of direct impact on the environment of the region of the location of the polluting enterprise, so the system -factors requires the use of specific criteria (Fig. 1).

The criterion of efficiency is the main feature of the level of economic development of the enterprise. In fact, this criterion is characterized by the ratio of the result to the resources spent to obtain it. Resource efficiency is assessed by such generally accepted economic indicators as

profitability, revenue, profit, cost. From the ecological point of view, efficiency also includes savings that are achieved by reducing «environmental losses», the rational use of natural resources, the effective functioning of the mechanism of environmental and economic management. Thus, project management can be considered as a tool to identify and justify the permissible limits of environmental orientation of the enterprise, which would not just balance environmental and economic priorities, but through their rational integration enhances opportunities for innovative development, achieving new competitive advantages.

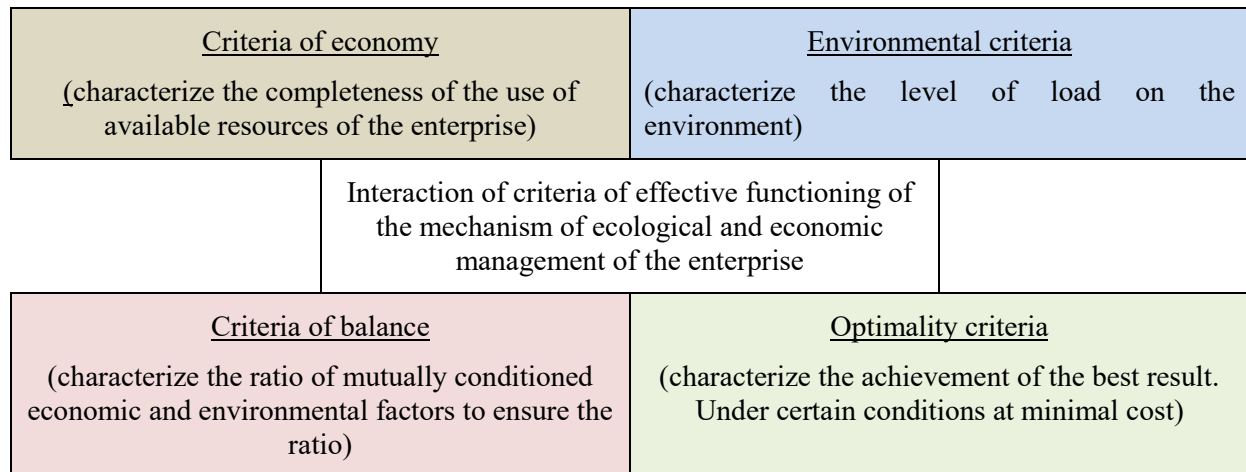


Figure 1. Interaction of criteria of project management at greening of development of the enterprises.

Project management allows us to move away from understanding the environmental orientation of the enterprise as a cost area. The implementation of project management involves to some extent a critical analysis of all subsystems of the organizational system of the enterprise. This aspect complicates the implementation of this tool in practice. Project management necessitates a comprehensive redesign of elements of production, financial, marketing, logistics, resource, personnel, information and other subsystems of the enterprise on the basis of their effective integration and focus on environmental priorities.

As one of the approaches to enterprise management, project management is a fundamental rethinking of business processes, their radical redesign to achieve significant changes in such indicators as cost, quality, level of service and efficiency. When talking about greening in project management, one should take into account the criteria of ecological and ecological-economic efficiency of production, the criteria of ecological production, analyzing them in the relationship and interdependence.

In practical terms, the implementation of projects is associated with certain difficulties. It should be borne in mind that project management reflects the conceptual basis of the process approach to enterprise management, the prerequisite for the effectiveness of which is a structured management system in the enterprise, the appropriate level of organizational culture, successful management experience in general. The company must be ready to use such technology from the organizational and managerial, production, technical and technological points of view.

Examining project management as a tool for greening the development of enterprises, we can identify the following main features:

- provides an assessment of a range of technological, economic and organizational and managerial aspects of operational activities in their unity and interdependence;
- restructuring of enterprise processes through the technology of greening should ensure the achievement of a balance of environmental and economic priorities of the enterprise, the formation of innovative development potential;

- should be considered as a tool for identifying and justifying the permissible limits of environmental orientation of the enterprise, as a tool for finding various mechanisms for balancing environmental and economic goals of the enterprise;
 - the effectiveness of project management can be assessed on the basis of criteria of environmental and economic efficiency of production, assessment of environmental and economic losses of the enterprise, environmental friendliness of products, innovation flexibility, etc. ;
 - project management can be used as a tool for system analysis and redesign of enterprise flows in order to solve a set of production and economic, technological and organizational and managerial problems of different levels;
 - project management can be an effective tool for solving both local problems of the enterprise and its environmentally-oriented restructuring in general;
 - the effectiveness of project management in the practical plane depends on many factors - the functional structure of the management system, the experience of strategic orientation of the enterprise, the level of development of organizational culture, technology, etc. ;
 - project management is an effective tool for environmental safety of industrial enterprises, especially man-made enterprises, it allows you to assess risks in terms of restructuring the operating system, diversification of production activities and more.
- Achieving the goals of environmental and economic project management can be realized only by applying the relevant strategy of environmental and economic development (Table 4).

Table 4. Strategies of ecological and economic development of enterprises.

Strategies of ecological and economic development	
Marketing strategy of ecological and economic promotion of goods on the market	
Environmental friendliness of manufactured products	Corporate social responsibility
Functional strategies of ecological and economic development	
Production strategy: - Rational use of natural raw materials; - Recycling of raw materials (overburden).	Financial strategy: - Reduction of production costs; - Reduction of environmental payments and fines; - Financing of environmental measures
Innovation strategy	- Development of innovative technologies; - Extraction and processing of resources.

The introduction of the system of ecological and economic project management at the enterprises aims to form such a management system that would meet the modern requirements of increasing production efficiency while restraining the growth of the load on the environment. Given that the goals and objectives of environmental management in domestic enterprises are formed based on the priority areas of environmental policy, legislation and other requirements, taking into account significant environmental aspects, technological, financial, operational and economic capabilities of the enterprise, to ensure continuous self-improvement of environmental management.

Thus, project management, through rethinking and restructuring the model of enterprise development, can provide a number of benefits - costs and prices, product quality and environmental friendliness, operating system flexibility, speed of adoption and implementation of innovation-oriented decisions, adaptability of the enterprise as a whole. Among the most important advantages should be noted the development of innovation potential and strengthening the adaptability of the enterprise. In the future, given the changing trends in the external environment of enterprises, these advantages will determine the strategic competitiveness. After all, the greening of the enterprise will become increasingly important in terms of realizing the strategic interests of the development of industrial enterprises, despite the cost of this policy area. Strengthening European integration processes in Ukraine will only contribute to the actualization of its priorities. In Ukraine, where due to a set of objective reasons there are no

motives for greening, there is still the development of the environmental market - environmental technologies, goods, services, knowledge and more. In addition, the structural restructuring of the economy will inevitably be accompanied by a transition from the paradigm of nature management to the paradigm of nature management, which is emphasized in [19].

Effective use of this tool in management practice requires appropriate changes in the management system of the enterprise, because environmental reengineering as a technology must be integrated into the basic management mechanism. A difficult task in this regard is the appropriate association of specialists in the field of management, production technology, ecology, information systems and the focus of their efforts on the implementation of specific tasks of greening within an organizational system with its own specifics. This aspect of the problem significantly updates the principles of systematization and scientificity in the implementation of this tool in the practice of enterprise management, because the unpreparedness of the organization for the process approach carries significant risks associated not only with additional costs but with disorganization of the organizational system.

3. Conclusions

After conducting research, we can say that the introduction and development of project management technologies occurs at all levels of the enterprise. The methodology of project-oriented management in enterprises in the country has become a widely accepted ideology for the development and implementation of commercial and other projects. Of course, all organizations and enterprises in the process of their activities implement projects, and an increasing number of them are implemented within the project approach. Thus, the successful implementation of the project depends on many factors, including the selection of a top manager, the creation of a project team, the involvement of other human resources in the project in order to its successful and most effective completion.

It should be noted that project management involves an approach to any business task as a project, a unique event with a specific purpose, time constraints, budget and staff. Project management can apply to any area of business, as well as the transition to new software and enterprise restructuring. Project management always has a clearly identified ultimate goal, which allows to develop detailed measures to achieve it, because the decomposition of project activities to the level of individual works or technological operations allows you to accurately determine the composition and amount of resources required.

The study revealed that the management of environmental and economic development of the enterprise can be defined as a comprehensive approach to enterprise development, based on the principles of greening of production and socio-ethical responsibility.

It is proved that based on the conceptual approach to the management of ecological and economic development of the enterprise the most effective organizational and economic regulators of ecological and economic activity as part of the organizational and economic mechanism of ecological and economic development is the application of strategy at the enterprise.

Thus, the widespread application of the project approach to economic development has led to the effectiveness and versatility of project tools that allow the company to adapt to the business environment, reduce uncertainty and ensure sustainable development in modern business conditions.

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