

# **ANALYSIS OF INNOVATIVE PROJECT MANAGEMENT BASED ON THE CONCEPT OF SUSTAINABLE DEVELOPMENT**

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## **Abstract**

The current trend is the understanding that the management of innovative projects should be implemented on a certain ideological basis. The concept of sustainable development has become such a basis. Today, all countries of the world recognize that the world economy must be developed to meet the needs of the present without compromising the ability of future generations to meet their own needs. At the same time, researchers gradually began to say that the concept of sustainable development should be implemented at different levels: state, regional, sectoral, corporate. One of the important levels is the level of innovative projects. There was a problem of formation of the project management integrated with the concept of sustainable development.

Therefore, the aim of our study was to develop provisions for sustainable project management of innovative activities, as well as applied research on the state of sustainable project management in enterprises of Russian regions. The author's developments are based on the results of the analysis of economic statistics of 32 enterprises of Omsk and sociological research of the attitude of enterprises to the criteria of stability, their readiness for the use of "green" management of innovative projects.

**Key words:** sustainable development, "green" project management

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## **Introduction**

The study assessed the impact of innovative projects on the three components of sustainable development – social, economic and environmental aspects. For this purpose, the methodology set out in the standard on "green" sustainable project management "P5", recognized in many countries of the world, was used. The methodology involves the exposure

of expert assessments of the impact of the products of projects and processes used in the project on the economy, environment and society in the region. The problems associated with the negative impact of innovative projects on the environmental and some social parameters of the region are recorded. This is contrary to the principles of sustainable development. According to the results of the research conclusions about the prospects of sustainable green management of innovative projects are made.

The concept of sustainable development recognized by the world economic community means development that aims to achieve a combination of economic, environmental and social effects and that meets the current and future needs of the population. At the same time, it is extremely important that sustainable development be manifested at the level of innovative project activities. Therefore, in recent years, a new scientific and applied direction - sustainable or "green" project management - is emerging.

The concept of sustainability in project management is expressed in a set of principles, methods and techniques that improve the effectiveness of innovative projects: taking into account the interests of stakeholders, management of economic, social and environmental components allow to achieve an optimal balance of quality, cost and time of the project. The concept of sustainable development is particularly important for innovative projects in the creation of innovative products, services and technologies, taking into account the requirements of efficiency, sociality and environmental friendliness. Today, the development of sustainable project management is supported by the UN global compact and a specially created international organization "Global Green Project Management" (GPM Global), which operates in 145 countries. Russia is one of these countries and implements sustainable development policies through resource-saving technologies, environmental friendliness and corporate social responsibility.

Sustainable management of innovative projects is an ideology, methodology and practical tools that help to connect the implementation of projects with the strategic goals of the organization for long-term growth and success by a positive impact on economic, environmental and social indicators. This is a new direction that has received worldwide recognition thanks to cost-effective technologies of resource saving, environmental friendliness, corporate social responsibility. However, the recognition in world science and practice of the importance of sustainable project management is to a small extent supported by deep research. Especially such studies are few in Russia. Therefore, the authors of this paper put forward the development of the concept of sustainable project management on the

basis of generalization and scientific understanding of the currently available fragmentary research, practice achievements, specialized professional standards in the field of sustainable or green project management.

## **1 Relevance of the study**

The relevance of our research is due to the fact that:

Firstly, the task of implementing the concept of sustainable development and related project management in the world is proclaimed and actively supported at the highest levels. The problem of sustainable development has become the leading theme of the UN international conference on the environment in Rio de Janeiro (1992). At that conference, 179 countries had formulated a program for the twenty-first century, in which the environment, the economy and social security had to come together. A large number of official state and international documents in recent years use the concept of sustainable development as a basic ideology. Attention is being paid to sustainable development in Russia. For example, 2017 was declared the year of ecology in Russia, namely the environmental criterion is one of the main criteria of sustainability;

Secondly, sustainability in the Russian economy is still a new and unusual concept, which is actively used, but in the real activity of economic entities following the criteria of stability is poorly expressed. Therefore, it is necessary to find ways to move from declarative to actual implementation of sustainable development and appropriate project management;

Thirdly, there is a need to strengthen the policy of sustainable development and project management with serious scientific developments, which at the moment are very few, they are fragmentary, do not have consistency and taking into account the multidimensional criteria of sustainability in project management;

Fourthly, the indicated scientific researches should accumulate achievements in different and not yet agreed among themselves directions, such as the concept of sustainable development, project management, environmental management, corporate social responsibility and socially responsible business, others. It is on this conceptual basis of the integration of different fields of knowledge built our study.

## **2 Theoretical grounds of research**

Let's turn to the analysis of the existing research on the problems of sustainable project management and present the author's point of view on some issues of sustainability of project management.

The concept of "sustainable project management" was introduced by the Executive Director of the Business Council for sustainable development (BCSD) J. Hugh Faulkner (J. Hugh Faulkner) in 1994 (Grevelman, Kluiwstra, 2010). Despite the fact that this concept is already quite a long time there, nevertheless at this point the theoretical basis for the application of sustainable development models at the project level are under-represented. In the domestic literature this direction was developed in the works of V. M. Anshin, O. N. Ilyina, E. J. Pertseva, E. S. Manaikina (Anshin, 2015; Manaikina, 2015). But in Russian economic science there are not many works for sustainable project management. This is largely due to the fact that project management, as well as the issue of sustainability had not received yet sufficient distribution in Russia in comparison with Western countries. Among foreign literature the topic of sustainable development principles integration in project activities was reflected fragmentary too. The relationship of sustainable development with project management as a separate field of study came with the release works of Bernard L., Gareis R., Huemann M., Martinuzzi A., Silvius G., Labuschagne C., Taylor T. Talbot, J., Venkataraman, R. First the model of integrating the principles of sustainable development in project management was proposed in the study of C. Labuschagne and A. Brent. However, many works of foreign authors consider only the effect of individual aspects of sustainable development on project management processes. For example, current works are concerned only with environmental project management (green project management). Or, for example, the study by C. Labuschagne and A. Brent (Labuschagne, Brent, 2005) was aimed at studying the social dimension of sustainable project management concept. A significant attempt at using the concept of "sustainable development" in the daily work of project managers has taken T. Taylor. G. Silvius proposed the concept of indicators of projects sustainability. But, despite significant steps in the field of integration of sustainable development concept in project management those works do not reflect a systematic approach in this area.

Hence, today important are system studies on the complex solution of questions on the nature of sustainable project management, specific criteria and indicators for sustainable management of projects, evaluate and improve level of maturity of sustainable project management, building motivation of economic entities to implement the principles of sustainable management projects assess the impact of green project management on the performance of the organization. As an example, we will present a study on the inclusion of sustainability principles in the basic indicators of the project (Talbot, Venkataraman, 2011).

Project management professional standards increasingly reflect the idea of sustainable development. For example, the PMBOK (Project Management Body of Knowledge) standard, which is based on a process approach, develops a set of sustainability indicators and integrates them into initiation and planning processes. In this standard, environmental impact and social needs are taken into account in business analysis along with market demand and consumer preferences. The P2M standard, which is based on the value approach, identifies the project as creating the value of the final product, which is determined by social and corporate ethics, as well as sustainable growth, contributing to the care of the environment. The ICB standard, based on the competence approach, proposes to consider social responsibility and orientation to sustainable development as a part of ethical properties as behavioural competences of project managers (Gareis, Huemann, 2011).

In addition to these works and professional standards, the basis of our study was a specialized standard for green project management GPM P5, developed by the international organization "Global green project management" (GPM Global). The study also suggests a modification and addition of the methodology of the organization aimed at evaluating green project management.

### **3 Purpose and novelty of the research**

The aim of the study presented in this paper: to develop and test in practice the methodology of integrated assessment and sustainable project management, which allows to establish the level of maturity of sustainable project management, the reasons and factors for increasing this level, the value of sustainable project management, the direction of growth of motivation for the development of this management.

Novelty and new scientific idea is to develop a new methodology to assess and improve the maturity levels for sustainable project management at the enterprises of Russian regions, which takes into account the existing methodology of the international organization "Global green project management" GPM Global, but is more complexity and depth of diagnostic criteria and results of sustainability in projects of enterprises, as well as the ability to develop a program of readiness formation for sustainable project management.

In particular, at the moment there are scientific developments that are devoted to individual criteria of sustainability and their implementation in project management, for example, the criterion of environmental projects and implementation of green projects or the criterion of socially responsible business and appropriate project management. Our research

will cover the complex of all sustainability criteria and will allow studying them in more detail in the practice of project management of enterprises in the regions of Russia. In addition, most studies have been conducted in foreign countries, there are no studies on Russian enterprises with the planned methodology. The existing specialized standard for green project management GPM P5, developed by the international organization "Global Green Project Management" (GPM Global), comprehensively covers all sustainability criteria and their implementation in project management. However, this standard has a normative character and so far poorly supported by research on the implementation of the ideas of this standard in the science and practice of project management. Our study is related to research and development of the ideas of this standard. Within the framework of the new methodology, methods for assessment and formation of sustainable project management, which have no analogues in world science and practice, have been developed.

#### **4 Research methodology and methods**

The main scientific approach in the study is a systematic approach. It allows to present all criteria of sustainability in management of innovative projects of the enterprises in a complex, to reveal and to describe systematically the reasons and factors of development of sustainable project management at the enterprises of regions of Russia, to develop a system complex of the program measures directed on further implementation in Russia the sustainable development concept and sustainable project management. As a result, the study will be based on the general scientific method of system analysis. This provides novelty and distinguishes this study from those who have studied selected aspects of sustainable project management, for example, only environmental or socially responsible project management.

The methods of applied research were chosen, such as:

- survey methods: expert evaluation method and questionnaire method. These methods will help to establish expert assessments of the expression level in the enterprise criteria of sustainability, maturity of sustainable project management, ways to increase maturity; opinions of respondents about the presence of their motivational attitudes to sustainable development and sustainable project management;

- method of analysis of documents and statistics on economic, social and environmental policy of enterprises in Omsk. The method will help to establish links between the level of maturity of sustainable project management and performance indicators of

enterprises, will test scientific hypotheses about the presence of direct and indirect links between the level of maturity of sustainable project management and performance indicators.

## 5 Research results

The study is carried out in the period 2018-2019. At the moment, the first stage of the study is implemented. Let us focus on the results of this stage of the study.

We present the author's interpretation of some provisions of the concept of sustainable project management. Sustainable project management is the management in which the most important criteria for assessing the success of projects and their management are selected sustainability criteria. That is, projects should be managed according to sustainability requirements. Sustainable project management focuses on development, which combines the continuous improvement of economic and social conditions with the long-term preservation of the natural foundations of life.

At the same time, there is a fundamental difference between classical project management and sustainable project management. The difference lies in the fact that in the classic sense of the project it is always a time-limited set of works. Usually projects have relatively short horizons of their completion. A relatively short cycle of projects can be seen as a limitation to the implementation of sustainable development in project activities, as sustainable development is effective in the long term. However, the value of a sustainable project management philosophy is to understand that projects have not only short-term effects, but also long-term effects. They are in the process of implementation or after its completion in order necessarily affect the environment, economy and social sphere. Therefore, there is a period of awareness that sustainability criteria should be the key performance indicators of projects, and project management should be based on the values of sustainability.

It is possible to explain the essence of sustainable project management, reflecting its important economic and environmental aspects.

Sustainable project management is the management that:

- does not entail or impose additional costs on subsequent projects, especially projects in the long term, affecting the lives of future generations;
- provides continuous simple and/ or extended reproduction of the production potential in the future;

- ensures the highest possible slowdown in the rate of depletion of non-renewable natural resources (e.g. minerals) with the prospect of their replacement with other non-unlimited resources in the future. For example, partial replacement of oil, gas, coal with alternative energy sources - solar, wind, etc.;

- contributes to the creation of conditions under which humanity can live only on interest from natural capital (renewable natural resources), without affecting the capital itself, without wasting the capital;

- has one of the key performance indicators the minimization of waste through the introduction of low-waste, resource-saving technologies;

- assumes that pollution of environment (both total, and by types) in the long term shouldn't exceed its modern level. It is believed that the possibility of minimizing pollution to a socially and economically acceptable level ("zero" pollution) is unrealistic.

These aspects are criteria for sustainable development in the long term, which should be taken into account when initiating projects, planning, organizing, monitoring and evaluating when closing. Their accounting will help to preserve the environment for future generations and will not worsen the environmental conditions of living. The great emphasis on environmental and economic policy in the implementation of projects has led to the fact that sustainable project management and "green" project management are often considered synonymous.

Let's focus on the analysis of applied results of the first stage of our research. These results were obtained in the course of research at 32 enterprises of Omsk by methods of analysis of information about enterprises, questionnaires and in-depth interviews.

One of the objectives of the study was to clarify the relationship of project managers to the criteria of sustainability. How ready is Russia in terms of its norms, values and ideas about business ethics to move to sustainable development and sustainable project management? To answer this question, we note that in the course of the development of the concept under consideration, the concepts of "weak sustainability" and "strong sustainability" have developed. Supporters of strong sustainability take a tough, often "anti-economic" position on many issues of economic development: stabilization or reduction of the economy scale, the priority of direct regulation, strict restriction of consumption, etc. Supporters of weak sustainability prefer economic growth taking into account the environmental, "green" measurement of economic indicators, the widespread use of environmental and economic instruments (pollution fees, etc.), changes in consumer behavior, etc. Despite all the

differences in positions, both of them oppose the technogenic concept of development, which is based on the unlimited development of the free market, focusing on purely economic growth, exploitation of natural resources, belief in the endless possibilities of scientific and technological progress, maximization of consumption, and so on. Management of many projects in Russia, especially in industries, is based on the technogenic concept. Even if the subjects of management declare the importance of the principles of "green" management, however, their approaches and actions are often anti-ecological. But there are economic entities that confirm their solidarity with the concept of sustainable development and are already implementing projects that support "weak" sustainability. For Russia in the coming years the option of "weak" sustainability will be more suitable. If project management will adopt measures consistent with the idea of "weak" sustainability, it would already be a good step towards becoming a single global system for maintaining the principles of sustainable development.

Confirmation of our idea that the way of Russia is a smooth transition to "weak" sustainability is the results of sociological research conducted by the authors at 32 enterprises of one of the typical regions of Russia – Omsk.

The sampled enterprises use project management at different levels. Almost a third of the surveyed enterprises believes that they have the project management is carried out comprehensively, systematically, efficiently (28.6%). Most of the enterprises (57.1%) recognized that project management is carried out, but it is not always effective and systematic. And only 14.3% of enterprises agree that they are implementing projects, but project management is not effective.

One of the questions of the study was related to the clarification of the attitude of experts to different manifestations of the technogenic concept of development and the concept of sustainable development. The results are presented in table 1. Experts disagree with statements in support of the technogenic concept, as can be seen from the results. But most experts support "weak" sustainability. This is the path that is most appropriate for the Russian economy.

**Tab. 1. Responses to the question: "How much do you agree with the following statements?"**

Statements	Completely agree (%)	Partially agree (%)	Disagree (%)
For the preservation of the environment is necessary to reduce the	6,25	25,00	68,75

size of the economy			
Need only direct strict government regulation of environmental behavior of economic agents	0,00	12,5	87,2
Need hard limit the consumption of resources by economic entities	0,00	21,88	78,12
Necessary along with the state regulation of market methods of regulation of environmental behavior of economic agents	75,00	15,63	9,37
Required the selection and examination of projects taking into account environmental and social effects	59,38	34,37	6,25
Economic growth is more important than environmental and social effects of projects	0,00	15,63	84,37
There is no need to regulate the environmental behavior of economic agents	6,25	18,75	75,00
Exploitation of natural resources should increase	0,00	0,00	100,00

Source: author

The study assesses the impact of projects on the three components of sustainable development – social, economic and environmental aspects. To do this, we used the methodology set out in the standard for "green" sustainable project management "P5" (Personnel, Planet, Profit, Processes, Products). The author of the standard and the developer of the methodology is the international organization "Global Green Project Management" (GPM Global). The methodology involves the exposure of expert assessments of the impact of the products of projects and processes used in the project on the economy, environment and society in the region. Each of the three aspects is assessed by different categories, and the categories consist of different elements. The scale of expert assessments includes:

0 points - not relevant to projects;

1 point - minimal, projects almost affect the existing order of things;

2 points - the changes are positive, but not maximum;

3 points - the maximum positive effect will be achieved, the changes will be as positive as possible.

Experts were asked to select three of the largest and most significant projects implemented over the past year by their company, and to assess the impact of the processes used in these projects on the economy, society and the environment.

The arithmetic mean of the aspect of "Society (Personnel)" is 1.7 points.

Within this aspect, arithmetic averages were obtained by category:

- practice working with the staff and the decent work agenda (employment, the relationship between project managers and project team members, health and safety, training in organizations, managing diversity of employees and equal opportunities, the emigration of trained employees) – 2.2 points;

- society and clients (stakeholder support, law enforcement, consumer health and safety, labeling of products and services, market communications and advertising, non-interference in the privacy of consumers) - 2.2 points;

- human rights (non-discrimination, freedom of Association, child labor, forced and compulsory labor) - 1.6 points;

- ethical behavior (investment and procurement practices, bribery and corruption, competition obstruction) – 0.7 points.

The arithmetical average value of the aspect "environment (the planet)" – 0.8 points.

Arithmetic averages of the categories that make up this aspect:

- transport (purchases from local suppliers, use of digital communications, frequency of use of business trips, use of transport) - 1.2 points;

- energy (energy use, CO2 emissions, return of clean energy) - 0.4 points;

- water (water quality, water consumption, water movement) - 0.2 points;

- waste (recycling, utilisation, reuse, use of renewable energy) - 1.4 points.

The arithmetic averages of the "Economy (Profit)" aspect is 2.4 points.

Arithmetic averages of the categories that make up this aspect:

- return on investment (benefit/cost ratio, direct financial benefits, internal rate of return, external rate of return, net present value – - 2.8 points;

- business agility (flexibility in the project, increase flexibility in business) – 2.1 points;

- stimulation of the economy (impact on the local economy, indirect benefits) - 2.3 points.

Thus, the projects implemented by enterprises have a more positive impact on the economy. The impact on society is less. And we have to admit that the projects have a very small positive impact on the environment. More correctly say that this influence often has negative character.

## **Conclusion**

Summing up, it should be said that at the moment the project management is being actively implemented in Russia at all levels of government and municipal authorities, at different levels of management. However, project management is only a set of technologies and tools for project management, which has proved its effectiveness as a result of the active use of the world economic community. Project management becomes much more valuable if it is also

based on a certain ideology. The concept of sustainable development is now recognized as such an ideology throughout the world. Accordingly, there is a need to integrate sustainable development and project management.

Sustainable development and sustainable project management are designed to guide economic activities to meet current economic and social needs without jeopardizing future needs. The idea of linking the strategy of future security of any country, in particular Russia, and its transition to sustainable development is based on the fact that ensuring the security of "unsustainable development", the model of which is being implemented in Russia and in other countries of the world, in principle, impossible. The transition to sustainable development involves ensuring security in all respects.

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