

THE ESSENCE, CONTENT AND STAGES OF DEVELOPMENT OF PROJECT MANAGEMENT

Saidiganiev Saydazim Abdumalik ugli

Student of the Higher School of Business and Entrepreneurship

The theory and practice of project management have developed rapidly in recent years and have become one of the important areas in modern management. Project management is the application of knowledge, skills, tools and techniques that meet the requirements of the project to project activities. The concept of project management has undergone a long evolution, changing under the influence of technological progress and changing business needs. The concept of project management and its development history have a centuries-old history and are constantly improving today [Project Management Institute. (2021). A Guide to the Project Management Body of Knowledge (PMBOK® Guide). 7th Edition. Project Management Institute.].

Project management is a process aimed at effectively managing resources, time, costs, and quality to achieve set goals [Kerzner, H. (2017). Project Management: A Systems Approach to Planning, Scheduling, and Controlling. 12th Edition. Wiley]. The formation of project management is associated with the need for a more systematic approach to managing limited resources. The concept of project management is based on the implementation of a specific process to achieve a specific result, which is different from processes that assume repetition (for example, operational activities).

There are mainly three approaches to project management: traditional (predictive/waterfall), flexible (agile), and hybrid (hybrid). While the traditional approach involves the implementation of a project in stages, sequentially, the flexible approach focuses on rapid adaptation to the changing requirements of the project and continuous improvement. The hybrid approach combines the best aspects of traditional and flexible methods.

Effective project management helps not only to achieve the set time, budget and quality goals, but also to meet the requirements of stakeholders. The task of the project manager is to rationally allocate resources, manage the team, minimize risks and ensure constant communication.

According to A.V. Polkovnikov and M.F. Dubovik, initially the project management methodology was developed within the framework of a systematic approach to managing complex engineering projects in the defense and aerospace industries.

Modern researchers such as I.I. Mazur, V.D. Shapiro and N.G. Olderogge have identified the following main stages in the development of the concept of project management[I.I. Mazur, V.D. Shapiro, N.G. Olderogge Project Management: Textbook. - M.: Omega-L, 2022.].

1. The origin of the concept of project management (1930-1950):

At this stage, project management was carried out informally, and approaches to project organization were based mainly on practical experience and intuitive methods. The main focus was on large infrastructure projects, which is associated with:

The development of special methods for coordinating large project engineering in the USA;

The emergence of the first network planning methods;

The formation of a systematic approach to project management.

During this period, project management was not implemented systematically and there were no generally accepted standards. Work was often carried out with little coordination, and project management was carried out in most cases under the personal control of managers.

2. The formation of the methodology (1950-1970):

During this period, project management was formed as an independent discipline. The first scientific studies and methods that allowed the systematization of project management processes emerged, which are related to:

Development of network planning methods (CPM, PERT);

Establishment of the first professional organizations for project management; Development of basic project management methods and tools.

In the 1960s and 1970s, project management methods became more systematic, especially in industries such as aerospace and construction. One of the earliest formal methodologies, the Waterfall model, emphasized a sequential, linear approach in which each phase of a project was dependent on the completion of the previous one. Although the Waterfall model was relatively less flexible, it proved effective for projects with well-defined requirements, such as infrastructure and industrial projects.

The creation of professional organizations such as the Project Management Institute (PMI) in 1969 further developed the field by formalizing a series of standards and best practices. The Project Management Institute's Project Management Body of Knowledge (PMBOK) remains the primary source for the fundamental principles that guide project managers worldwide. According to the Project Management Institute (PMI), the PMBOK serves as a comprehensive framework that covers key project management knowledge such as scope, time, cost, quality, and risk management [Project Management Institute (PMI). (2017). "A Guide to the Project Management Body of Knowledge" (PMBOK® Guide). PMI.].

Projects during this period were mainly implemented in industries such as defense, aerospace, energy, and construction. The approximate distribution by industry is given below.

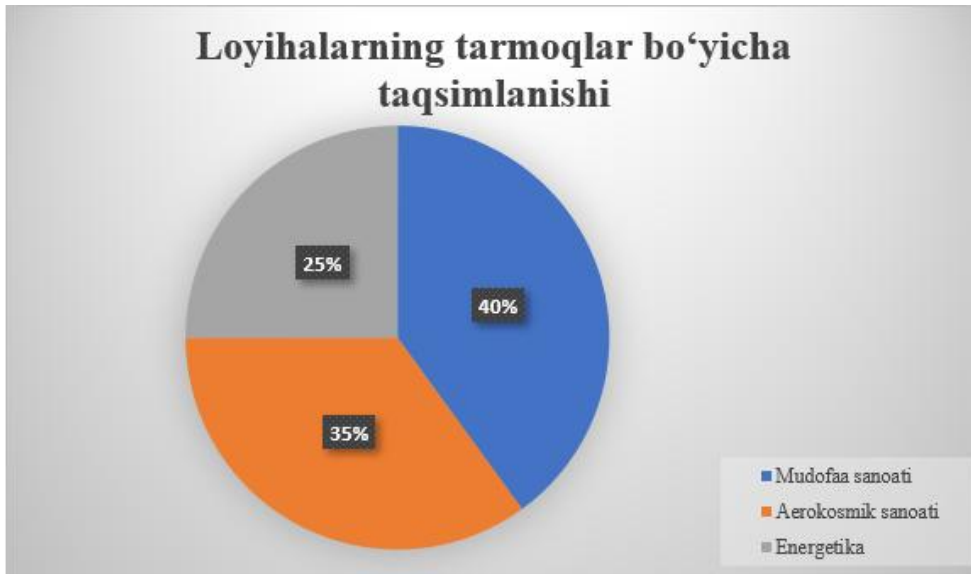


Figure 1.1. Distribution of projects by industry [Standish Group “The CHAOS Report”]

3. Development and standardization (1970-1990):

This stage represents the transition of the field of project management to formal recognition as a professional discipline. During this period, international organizations, standards and certification programs were formed, which are associated with:

- Development of comprehensive project management methodologies;
- Emergence of international and national standards;
- Development of project management software.

By the 1990s, the rapid development of technology and the growing software development sector required more flexible frameworks. Traditional linear models could not cope with the frequent changes and iterative processes that often accompany software projects. This led to the emergence of the Agile methodology, which emphasized flexibility, customer collaboration, and iterative development, as outlined in the Agile Manifesto in 2001. Scrum and Kanban, two popular Agile frameworks, prioritized responsiveness to change rather than rigid plans, emphasizing flexibility and continuous improvement. The lean principles (Lean) derived from the Toyota Production System were also incorporated into project management practices during this time. Lean and Six Sigma focused on eliminating waste, reducing variability, and maximizing value for customers. Lean project management is particularly relevant for organizations seeking to improve efficiency and streamline processes.

4. Digital Transformation (1990–present): This era is characterized by the rapid introduction of digital technologies and process automation in project management. The use of specialized software solutions and digital analytics methods allows to increase management efficiency and adapt processes to modern threats, which is associated with:
- The introduction of flexible project management methods;

The development of cloud technologies and artificial intelligence in project management;

The formation of digital project management ecosystems.

In recent years, digital transformation has led to a significant increase in project management tools and methods. Software platforms such as Asana, Trello, Jira, and Microsoft Project have simplified the way teams collaborate, manage resources, and track progress in real time. The introduction of artificial intelligence and machine learning (AI) into project management tools improves decision-making, automates routine tasks, and improves risk management through predictive analytics.

As project management plays a more strategic role in organizations, concepts such as Strategic Project Leadership (SPL) and Benefits Realization Management (BRM) have gained popularity. These approaches aim to align projects with organizational goals and ensure that projects deliver long-term value. According to Shenhar and Dvir (2016), SPL and BRM emphasize the strategic importance of project management for achieving sustainable competitive advantage, especially in industries facing digital transformation and regulatory change.

Project management has evolved significantly from informal practices to formal disciplines with standardized methodologies and advanced digital tools. Each stage of development reflects the region's ability to respond to the changing demands of industry, technology, and globalization. As the discipline continues to grow, modern project management emphasizes flexibility, sustainability, and strategic alignment, while artificial intelligence and global collaboration tools shape the future. By embracing these advances, project managers are better prepared to deliver projects that not only meet immediate objectives but also contribute to the long-term success of the organization.

References

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