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APPLICATION OF PROJECTION TECHNOLOGIES IN THE PUBLIC SPHERE: BASIC CONCEPTS AND PRINCIPLES

In the context of the constant development of modern society and the increasing importance of effective resource management, this research article focuses on the problem of applying project technologies in the public sphere.

The purpose of the study. To systematise the key concepts and principles that form the basis for the implementation of project-based approaches in public administration.

The theoretical basis of the study was the work of domestic and foreign scholars, scientific research on the problems and prospects of project management in the public sphere.

The main focus is on analysing the effectiveness of project technologies and their potential for optimising management practices in various areas of public activity. The main concepts that determine the effectiveness of the project approach in solving the problems of public administration and management of public initiatives are investigated. In particular, it is noted that project technologies are becoming a key tool for achieving strategic goals, optimising resource costs, and improving performance in public administration.

In project management, it is important to consider a number of critical factors to ensure the success and effectiveness of project activities. Flexibility, which involves adapting to changing requirements and conditions, is a key aspect that allows strategies and plans to be adjusted to meet changes in the course of project implementation. A high level of communication is necessary for successful communication between all project participants, including the transfer of tasks, information exchange, and resolution of potential conflicts. Effective communication helps to create a favourable working environment and resolve problems early on. Responding quickly to potential changes and risks is important to avoid problems and minimise negative impact on the project. Project management performance is measured using metrics that include a variety of indicators. Client satisfaction, task completion rate, defect control, financial performance, and other aspects determine project success and serve as the basis for further improving management strategies.

Key words: public administration, institutional support, project, project management, education, education changes, education development.

Інна Грідюшко, Людмила Крива, Іван Кудрявський. ЗАСТОСУВАННЯ ПРОЄКТНИХ ТЕХНОЛОГІЙ В ПУБЛІЧНІЙ СФЕРІ: ОСНОВНІ КОНЦЕПЦІЇ ТА ПРИНЦИПИ

У контексті постійного розвитку сучасного суспільства та посилення важливості ефективного управління ресурсами, дана наукова стаття зосереджується на проблемі застосування проєктних технологій у публічній сфері.

Мета дослідження. Систематизувати ключові концепції та принципи, що становлять основу впровадження проєктних підходів у сфері публічного управління.

Теоретичною базою дослідження були праці вітчизняних і зарубіжних учених, наукові дослідження щодо проблематики та перспектив розвитку управління проєктами в публічній сфері.

Основний акцент робиться на аналізі ефективності використання проєктних технологій та їх потенціалу для оптимізації управлінських практик в різних сферах публічної діяльності. Досліджено основні концепції, які визначають ефективність впровадження проєктного підходу у вирішенні завдань громадської адміністрації та управління публічними ініціативами. Зокрема, зазначено, що проєктні технології стають ключовим інструментом для досягнення стратегічних цілей, оптимізації витрат ресурсів та поліпшення результативності в сфері публічного управління.

В управлінні проектами важливо враховувати ряд критичних факторів для забезпечення успішності та ефективності проектної діяльності. Гнучкість, яка передбачає адаптацію до змін у вимогах та умовах, є ключовим аспектом, що дозволяє пристосовувати стратегії та плани відповідно до змін в процесі виконання проекту. Високий рівень комунікації є необхідним для успішного спілкування між усіма учасниками проекту, що включає передачу завдань, обмін інформацією та вирішення можливих конфліктів. Ефективна комунікація сприяє створенню сприятливого робочого середовища та вирішенню проблем на ранніх етапах. Швидка реакція на потенційні зміни та ризики є важливою для уникнення проблем та мінімізації негативного впливу на проект. Вимірювання ефективності управління проектами здійснюється за допомогою метрик, які включають різноманітні показники. Рівень задоволеності клієнта, швидкість виконання завдань, контроль дефектів, фінансові показники та інші аспекти визначають успішність проекту та служать основою для подальшого вдосконалення управлінських стратегій.

Ключові слова: публічне управління, інституційне забезпечення, проєкт, управління проектами, освіта, освітні зміни, освітній розвиток.

Introduction. In recent years, the project approach has become increasingly widespread in management science and practice. The use of project technologies allows specific goals to be achieved effectively under conditions of limited resources and time. The application of this flexible toolkit in the activities of public authorities provides them with significant advantages in the implementation of strategic tasks of socio-economic development. At the same time, project management in public administration has certain specifics and peculiarities, which necessitates the adaptation of general project management principles to the public sphere.

Analysis of recent studies. Research on the issues and prospects of project management development is presented in the works of such scholars as V.B. Bezrukov, A.V. Zhutkin, B.D. Katzenbach, A.V. Olenich, G. Parker, O.G. Rudenko, D. Smith, D. Shonk, P. Scholtz, Z.Ya. Shatska, and others.

The purpose of this article is to study the conceptual foundations of applying a project approach in public administration and to define the basic principles of project management in the public sector.

Presentation of the main material. The term “project” has different definitions in scientific literature depending on the field of application. For example, in economic research, a project is considered an investment proposal with certain expectations of profit and risk. In the field of project management, a project is interpreted as a temporary unique result, product, or service created to achieve a specific goal. Some

researchers define a project as a system of goals, objectives, resources, deadlines, budgets, risks, and reporting for the implementation of an idea. There is also an interpretation of a project as a comprehensive approach to solving complex problems that combines technical, organizational, and social factors [11; 9; 14].

According to the International Project Management Association, a “project” is a set of unique, time-bound, interdisciplinary activities for the implementation of coordinated goals in accordance with established requirements and constraints [10].

The Japanese Project Management Association (P2M) interprets the definition of a project as a process with the characteristic features of unique tasks and clearly established deadlines for their completion [16].

According to ISO 10006:2017, a project is a process that is unique in its parameters for achieving a specific goal [6].

All projects have certain universal characteristics regardless of their nature or scope of implementation, namely: temporality; uniqueness; goal orientation; resource management; risks; controllability [2, p. 32] (Fig. 1).

Temporality. Any project is carried out within a specific, predetermined period, after which the project ceases to exist.

Uniqueness. Each project has a set of characteristics that make it different from all others and unlike any other project.

Goal orientation. Each project involves the achievement of a specific goal, clearly defined

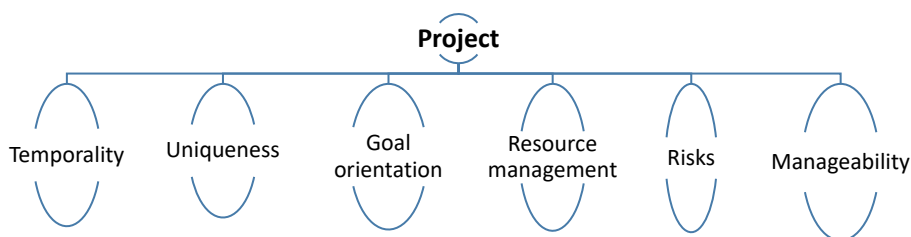


Fig. 1. Universal characteristics of the project

in terms of the subject area of the project in the form of a product, service, specific effect, etc.

Resource management. Each project requires certain resources, including human, material, technical, and financial resources. Resource management is an important component of project implementation.

Risks. During project implementation, various risks may arise related to changes in customer requirements, resource shortages, technological innovations, etc. Minimizing the impact of risks is an important part of project management.

Manageability. Every project must include management and control. Management includes planning tasks, organizing their implementation, monitoring progress and quality of work, and evaluating results. It is the ability to manage in a targeted manner that distinguishes project activities.

These common characteristics of projects may have different priorities and significance in specific projects, but they are inherent in all projects. Taking these universal characteristics into account contributes to the successful implementation of projects in accordance with the established goals, deadlines, and scope. To understand the theoretical foundations of project management, it is necessary to clarify the essence of the concept of "project management." According to the definition of the American Institute of Project Management, it is the process of implementing a set of various measures aimed at achieving the goals and objectives of the project. According to L. Dovgan, project management is the management of resources and the project team using special methods to successfully complete the project and achieve its goals. The essence lies in concentrating responsibility for the project results in the manager or group of individuals who ensure the implementation of key management functions [9; 11].

The project management process includes five consecutive phases: project initiation; project planning; project implementation; monitoring and control; project completion [11]. (Fig. 2).

At the project initiation stage, the project's goal, objectives, scope, and budget are determined. The need for project implementation is established, the problems to be solved are identified, and the requirements for the final project result are formulated.

At the project planning stage, a detailed plan for the implementation of the project is formed.

The sequence of work is determined, tasks are distributed among the project team members, and deadlines and budget are set. Methods for monitoring the progress of work are also determined, and risk management and quality assurance plans are developed.

At the project implementation stage, the project work is carried out and its implementation is monitored. Important tasks at this stage include ensuring the quality of work, meeting deadlines, and staying within the project budget.

During the monitoring and control stage, the progress of project work and compliance with deadlines and budget are constantly monitored. If deviations from the plan are identified, corrective measures are taken to prevent further problems.

In the completion phase, the project is closed and its results are evaluated. The results achieved are analyzed, the reasons for failures are identified, and positive experiences are noted for future projects.

Effective project implementation depends not only on the proper application of the project management model, but also on effective tools for implementing knowledge areas, or, in other words, project management functions at all stages of the project.

Project management includes the following functions, or, in other words, knowledge areas:

- coordinating various project management processes and activities to ensure that the project is completed on time, within budget, and in accordance with the scope of work are key aspects of the project integration management function.

- project scope management involves defining, verifying, and controlling the scope of the project to ensure that it meets customer requirements and expectations.

- project time management is aimed at defining, sequencing, and evaluating project activities, as well as developing and managing the project schedule.

- project cost management involves estimating, budgeting, and controlling project costs, including the efficient use of resources and financial resource management.

- project quality management involves defining and managing project quality objectives, identifying and resolving quality issues, and ensuring that project results meet established quality standards.

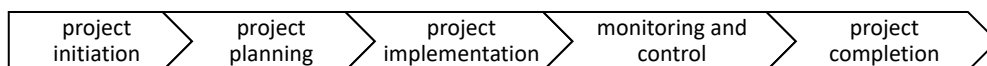


Fig. 2. Sequential phases of the project

- project human resource management focuses on managing the project team and ensuring that its members have the necessary skills, knowledge, and resources to perform their roles effectively.

- project communication management includes developing and implementing a communication plan to ensure that all stakeholders are informed about the status, progress, and potential risks of the project.

- project risk management involves identifying, analyzing, and managing potential risks that could affect the success of the project.

- project procurement management involves identifying and selecting suppliers, negotiating contract terms, and managing the procurement process to ensure that the necessary goods and services are obtained for the project.

- project stakeholder management involves identifying and managing the needs and expectations of all project stakeholders, including customers, team members, suppliers, and sponsors [11].

There are many project management tools that can facilitate workspace management and ensure effective implementation of project management functions.

In the field of time management, one of the main tools is network diagrams. The essence of network planning is to create logical diagrams of the sequence of operations for a project and to determine the duration and deadline for these operations for control purposes. The most popular example is the Gantt chart, which allows you to visually illustrate the plan and schedule of work for any project. A Gantt chart consists of segments located on a horizontal time scale that represent individual tasks or subtasks. These segments are placed vertically and indicate the start, end, and duration of each task. A Gantt chart helps to clarify the project schedule, making it more understandable and visual, and also determines which tasks need to be completed and in what time frame. This tool helps to clarify the project schedule, make it more understandable and visual, and allows you to determine which tasks need to be completed and in what time frame [8; 15].

It should be noted that for effective quality management, a document such as a quality management plan is developed first. This plan is a description of the relevant policies, procedures, and guidelines aimed at achieving the proper quality of a product or service. The project quality management process also involves the use of tools such as Ishikawa and Pareto diagrams. An Ishikawa diagram is a tool for visualizing and organizing knowledge that systematically facilitates the understanding and diagnosis of specific

problems by helping to identify key relationships between different factors. In turn, a Pareto chart displays the number of results by category or type, allowing them to be ranked by frequency of occurrence and identifying the most common problems. These tools help the project team focus on the most critical and effective actions to achieve the desired result [7; 11].

Project human resource management covers many processes related to hiring, onboarding, integrating employees into the project, and staff development, so it requires a sufficient number of the right tools. Some of the most popular tools include:

- software for managing all HR processes in a company. This software helps automate and optimize various aspects of human resource management, such as hiring, employee evaluation, personal data administration, and others;

- creating a portrait of staff competencies allows you to identify key skills and abilities of employees, contributing to an effective hiring process and placement of employees in appropriate project roles.

- developing a system of key performance indicators for project team members. These key indicators allow you to track and evaluate the achievement of employees' personal strategic goals within the project.

- Formulation of a staff motivation policy. Tools for analyzing and planning motivational strategies, including rewards, bonuses, career development, and other factors aimed at supporting and retaining talented employees [1, p. 280].

These tools facilitate effective human resource management in a project by simplifying and optimizing various aspects of personnel management.

Project cost management includes a number of processes aimed at ensuring and guaranteeing the implementation of the project within the approved budget. One such process is project budgeting, which involves developing target cost indicators necessary for project implementation. This process includes the development of a budget, the main document containing calculations of the project cost for a specific period of time with the distribution of costs by type, taking into account the scope of work and the necessary resources.

In most cases, project implementation takes place in conditions of uncertainty and risk, which creates the need to use appropriate tools to identify and assess risks, analyze and evaluate them, and develop and implement measures to mitigate these risks. One such tool is the scenario analysis method, which allows for the consideration of unpredictable events and is based on three aspects: the best (optimistic), worst (pessimistic), and expected (baseline) scenarios.

This method allows you to assess the possible consequences of different scenarios and make informed decisions to reduce the impact of uncertainty and risk on the project.

Another important tool is the creation of a risk register, which details all relevant information about risks, including the event, cause, impact, probability, responses, owners, and status. This document is used at all stages of the project to make informed decisions and allows all project participants to be aware of potential risks. Creating a risk register promotes systematic risk management, analysis of possible consequences, and development of risk response strategies. It helps to avoid unforeseen problems and ensures effective resolution of situations that may arise during project implementation [11; 13].

Project communication is a key element of successful project implementation. To ensure effective communication in project management, it is important to consider various aspects, such as creating effective feedback channels, ensuring prompt communication with team members, organizing meetings and conferences for planning and monitoring work, and using online tools for training and supporting collaboration.

These elements play an important role in ensuring mutual understanding between project participants, facilitating rapid response to changes, and promoting effective interactions within the team. Communication management is an integral part of project management strategy.

When choosing tools to ensure effective communication, it is important to consider different time zones and communication characteristics in geographically distributed teams. Some tools may be more convenient for interaction in conditions of large geographical dispersion of team members. For example, the use of virtual meetings, video conferencing, and online collaboration platforms can facilitate communication in geographically distributed teams by enabling real-time communication despite physical distance. Also, tools for information sharing and cloud-based collaboration can promote effective communication and joint problem solving. It is important to ensure that the selected tools are appropriate for the specifics of the project and the needs of the team, taking into account geographical features and time differences [12].

Managing stakeholder relationships is a key function for successful project implementation. The following tools can be used to effectively interact with project stakeholders:

A. Mendlow's model, based on a "power/interest" matrix, is an effective tool for analyzing and classifying stakeholders according to their influ-

ence and interests. This matrix allows stakeholders to be divided into categories depending on how important and active they are in the context of the project or organization. This model helps the project team to better understand stakeholder dynamics and determine strategies for interacting with each group.

Gardner's model, which uses a "power/dynamism" matrix, considers the dynamics of power shifts among stakeholders. This matrix allows you to determine how a stakeholder's influence changes over time and takes into account their level of activity or dynamism. This model allows the project team to adapt to changes in stakeholder influence and dynamics, which can be critical to the successful implementation of a project in changing conditions.

The responsibility matrix, also known as the RACI matrix, is a project management tool that defines the roles and responsibilities of different team members for specific tasks or elements of the project. The responsibility matrix allows each role to be clearly defined for each task or project element, helping to avoid misunderstandings and improve communication within the team [3, p. 45].

These tools help not only to interact effectively with stakeholders, but also to take into account their needs and contributions to the project implementation process.

With regard to procurement management, it is important to note that the tools used for this purpose include a procurement management plan – a document that describes in detail the procurement management processes, from the development of documentation to the conclusion of a contract. It is also important to define supplier performance indicators, which are used to monitor and evaluate supplier performance throughout the procurement process and may cover aspects such as timely delivery, quality of goods or services, and fulfillment of contract terms [11].

Studying project scope management promotes the optimal use of time and resources and helps to successfully implement a project despite changes in requirements or conditions of uncertainty. To manage this function, a project charter is used – a document that defines the goals, objectives, and scope of the project, as well as a project scope management plan that defines the content of the project and the hierarchical structure of the work. A key element is the work breakdown structure, which involves breaking down the project into components (tasks, works, objectives) with the necessary detail to facilitate project planning and tracking [4, p. 183].

Since integration management in a project includes the processes necessary to ensure the

coordination of the various stages of project management, the work breakdown structure tool can also be mentioned in the context of integration. In addition, for effective management of all aspects of project management, it is recommended to use project management software that provides the ability to create work schedules, timetables, task lists, track progress and task completion, manage resources, and other necessary functions.

Conclusions and prospects for further research in this area. Thus, the application of project technologies in the public sphere is a strategically important element for successful project management and implementation. Given the dynamics of the modern administrative environment, further research and development of innovative approaches to management will be critical for achieving positive transformations in the public sector.

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