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MODERN IT PROJECT MANAGEMENT PLATFORMS: FUNCTIONAL AND COMPARATIVE ANALYSIS, PRACTICAL SIGNIFICANCE AND EVALUATION OF IMPLEMENTATION RESULTS

In today's environment of digital transformation of organisations, effective IT project management is a key factor in ensuring competitiveness and sustainable development. The growing complexity of IT systems, the spread of flexible software development methodologies, and the transition to distributed and remote teams necessitate the use of specialised digital project management platforms. Such platforms integrate the processes of planning, performance monitoring, communication, resource management, and analysis of project results.

The purpose of the article is to conduct a functional and comparative analysis of modern IT project management platforms in terms of their compliance with the needs of IT teams of various sizes and project complexity levels, as well as to demonstrate their practical significance and implement them in the activities of a specific international IT company. The study uses methods of analysis and generalisation of scientific publications, comparative analysis of software products, and systematisation of the functional characteristics of digital project management tools.

The article analyses the most common IT project management platforms, including Jira, Trello, ClickUp, and Microsoft Project. Their main functionalities are identified, such as support for flexible methodologies (Agile, Scrum, Kanban), project planning and visualisation, task and resource management, analytics, integration with other IT systems and DevOps tools. A comparative assessment of the platforms is carried out according to key criteria: level of functionality, flexibility of settings, ease of use, scalability, and team collaboration capabilities. The practical significance of implementation is illustrated by the example of the international IT company European Regional Agency LLC.

The results of the study show that there is no universal solution for all types of IT projects, and the choice of platform should be based on the specifics of the project, the size of the team, the methodology used, and the requirements for integration with the corporate IT infrastructure. The practical significance of the results obtained lies in the possibility of using them as an analytical basis for the informed selection and implementation of IT project management platforms in the activities of IT organisations and project teams.

Keywords: information technology, IT projects, iterative approach, hybrid models.

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СУЧАСНІ ПЛАТФОРМИ УПРАВЛІННЯ ІТ-ПРОЄКТАМИ: ФУНКЦІОНАЛЬНИЙ ТА ПОРІВНЯЛЬНИЙ АНАЛІЗ, ПРАКТИЧНЕ ЗНАЧЕННЯ Й ОЦІНКА РЕЗУЛЬТАТІВ ВПРОВАДЖЕННЯ

У сучасних умовах цифрової трансформації організацій ефективно управління ІТ-проєктами є ключовим чинником забезпечення конкурентоспроможності та стійкого розвитку. Зростання складності ІТ-систем, поширення гнучких методологій розроблення програмного забезпечення, а також перехід до розподілених і віддалених команд зумовлюють необхідність використання спеціалізованих цифрових платформ управління проєктами. Такі платформи забезпечують інтеграцію процесів планування, контролю виконання, комунікації, управління ресурсами та аналізу результатів проєктної діяльності.

Метою статті є проведення функціонального та порівняльного аналізу сучасних платформ управління ІТ-проєктами з позицій їхньої відповідності потребам ІТ-команд різного масштабу та рівня складності проєктів, а також показати їх практичне значення та впровадити в діяльність конкретної міжнародної ІТ-компанії. У дослідженні застосовано методи аналізу та узагальнення наукових публікацій, порівняльного аналізу програмних продуктів, а також систематизації функціональних характеристик цифрових інструментів управління проєктами.

У статті проаналізовано найбільш поширені платформи управління ІТ-проєктами, зокрема Jira, Trello, ClickUp та Microsoft Project. Визначено їх основні функціональні можливості, такі як підтримка гнучких методологій (Agile, Scrum, Kanban), планування та візуалізація проєктів, управління завданнями та ресурсами, аналітика, інтеграція з іншими ІТ-системами та інструментами DevOps. Проведено порівняльну оцінку платформ за ключовими критеріями: рівень функціональності, гнучкість налаштувань, зручність використання, масштабованість і можливості командної взаємодії. Практичне значення впровадження проілюстровано на прикладі міжнародної ІТ-компанії ТОВ «Європейська Регіональна Агенція».

Результати дослідження свідчать, що універсального рішення для всіх типів ІТ-проєктів не існує, а вибір платформи має ґрунтуватися на специфіці проєкту, розмірі команди, застосовуваний методології та вимогах до інтеграції з корпоративною ІТ-інфраструктурою. Практичне значення отриманих результатів полягає у можливості використання їх як аналітичної основи для обґрунтованого вибору та впровадження платформ управління ІТ-проєктами в діяльності ІТ-організацій та проєктних команд.

Ключові слова: інформаційні технології, ІТ-проєкти, ітеративний підхід, гібридні моделі.

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STATEMENT OF THE PROBLEM IN GENERAL TERMS AND ITS RELATIONSHIP TO IMPORTANT SCIENTIFIC OR PRACTICAL TASKS

The current stage of information technology development is characterised by a rapid increase in the complexity of IT projects, expanded functional requirements for software products, shorter development life cycles, and an increased role for interdisciplinary teamwork. In the context of the digital transformation of business processes and the spread of flexible project management methodologies, the use of specialised digital IT project management platforms that provide planning, control, coordination and analysis of project activities is becoming particularly important. At the same time, in practice, there is a problem with the informed selection and effective use of IT project management platforms. A significant number of solutions available on the market (Jira, Trello, ClickUp, Microsoft Project, etc.) differ in terms of functionality, methodology support, level of integration with other IT systems, and complexity of implementation. Organisations often choose a platform intuitively or based on the popularity of the product, which can lead to the tool not meeting the actual needs of the project, reduced team productivity, increased management risks, and resource costs [1,2].

From a scientific point of view, the problem lies in the insufficient systematisation of criteria for comparative analysis of modern IT project management platforms and the lack of a universal approach to assessing their effectiveness in different contexts of use. Most existing studies focus either on individual tools or on general aspects of project management, without paying sufficient attention to a comprehensive functional comparison of platforms, taking into account modern technological and organisational challenges.

The practical aspect of the problem is related to the need to improve the effectiveness of IT project management, reduce the risks of missed deadlines, budget overruns, and lower quality of the final product. The choice of an adequate project management platform directly affects the transparency of processes, the level of communication within the team, the ability to make management decisions quickly, and the control of task execution.

Thus, this problem is directly related to important scientific and practical tasks, in particular: the development of theoretical approaches to the analysis and classification of digital IT project management tools; the formation of methodological recommendations for the selection of project management platforms in accordance with the specifics of IT projects and organisational conditions; improving the effectiveness and manageability of IT projects in the modern digital environment. In this context, conducting a functional and comparative analysis of modern IT project management platforms is a relevant scientific and practical task, the solution of which will contribute to the improvement of project management processes in the IT industry.

ANALYSIS OF MODERN PLATFORMS FOR IT PROJECT MANAGEMENT

Modern project management platforms can be divided into three categories:

1) Agile and Kanban support tools – focused on flexible task management with visual boards (e.g., Trello, Jira);

2) universal integrated platforms – support a wide range of functions, including portfolio management, analytics and integrations (e.g. ClickUp, Microsoft Project);

3) specialised solutions – focused on specific types of processes or industries.

The main platforms are: Jira, Trello, ClickUp, and Microsoft Project/Planner. Let's describe their functional capabilities.

Jira. Strengths: support for Scrum, Kanban, powerful backlog management, integrations with CI/CD and DevOps tools. Limitations: more complex interface, steeper learning curve for beginners compared to basic task trackers. Supports scalable processes for large IT teams [3].

Trello. Strengths: simple board structure, intuitive interface, flexibility for small teams. Limitations: limited basic feature set without paid plugins or extensions, less suitable for complex projects. Innovation: integration with email and AI functionality for task management [4].

ClickUp. Strengths: wide range of features (dashboards, custom fields, task dependencies, integrated documents). Limitations: may be overly complex for small teams that don't need all the features. Recognised as one of the most flexible universal solutions [5].

Microsoft Project / Planner. Strengths: powerful scheduling and dependency tools (Gantt), integration with Microsoft 365. Limitations: more traditional tools with a high cost for full functionality, but strong in a corporate environment [1,5].

We will present the comparative functional analysis in the form of a table.

Platform	Agile / Scrum	Gantt / Plans	Dashboard / Analytics	Collaboration	Integration
Jira	+++	++	++	+++	+++
Trello	++	+	+	++	++
ClickUp	+++	++	+++	+++	+++
Microsoft Project	+	+++	++	++	+++

Ratings are conditional: + – basic, ++ – average, +++ – extended functionality

The analysis of modern IT project management platforms shows their key role in ensuring effective organisation of project activities in the context of increasing complexity of IT systems and dynamic development requirements. Modern digital tools differ significantly in terms of functionality, flexibility, support for management methodologies, and integration capabilities, which necessitates a conscious and contextually informed choice of platform. Analysis shows that platforms focused on flexible methodologies provide a high level of adaptability to changing requirements and promote effective team interaction, while comprehensive enterprise solutions provide advanced planning, resource management, and project performance monitoring capabilities. At the same time, universal platforms that combine elements of flexible and classic approaches demonstrate potential for use in hybrid IT project management models.

Thus, the results of the analysis confirm that no single platform is a universal solution for all types of IT projects, and the effectiveness of their use largely depends on the alignment of functional capabilities with specific organisational needs, project scale, and the chosen management methodology. This justifies further research aimed at developing methodological recommendations for adapting and combining IT project management platforms in order to improve the effectiveness of project activities.

EXAMPLES OF USING MODERN IT PROJECT MANAGEMENT PLATFORMS

Effective implementation of modern IT project management platforms requires a systematic approach that combines organisational, technical, and methodological aspects. Practice shows that the success of such platforms depends not only on their functional capabilities, but also on the correct integration into existing business processes and the level of staff readiness for change.

1 Implementation of Jira in medium and large IT teams. The scope of application is software development, DevOps projects and support for complex products. Practical implementation: setting up Scrum or Kanban boards in accordance with the team's methodology; forming a product backlog with detailed tasks (epic → story → task); automating workflows to control task statuses; integrating with GitHub/GitLab to track code changes; connecting CI/CD tools to control deployment stages. The results of implementation are increased transparency in task execution; reduced risk of sprint delays; improved quality control and communication between developers and managers [6].

2 Using Trello in small teams and start-ups. The scope of application includes start-up projects, educational IT projects, and short-term initiatives. Practical implementation: creating Kanban boards to visualise task completion stages; using checklists and deadlines to monitor progress; engaging team members in real-time collaboration; using plugins (Power-Ups) for basic analytics and integration with cloud services. The results of implementation are rapid implementation without complex staff training; increased team engagement; convenient task management with limited resources [1].

3 Implementation of ClickUp as a universal platform. The scope of application is multidisciplinary IT projects, teams with mixed methodologies. Practical implementation: use of different views (lists, boards, Gantt charts); creation of custom fields to track specific project parameters; use of integrated documents for centralised storage of technical documentation; creation of dashboards for KPI monitoring. The results of implementation include centralised project management in a single digital environment; reduced information fragmentation; flexible configuration to meet the needs of a specific organization [5].

4 Using Microsoft Project/Planner in a corporate environment. Scope of application: large corporate IT projects, government and financial institutions. Practical implementation: detailed project planning using Gantt charts; resource and calendar management; integration with Microsoft Teams and SharePoint for communication and document sharing; centralised project portfolio control. The results of implementation include increased accuracy in scheduling and resource planning; effective management of task dependencies; compliance with corporate management standards. Many organisations use a hybrid approach, where Jira is used for operational development management, Microsoft Project for strategic planning, and Trello or ClickUp for auxiliary and cross-functional tasks. The results are increased management flexibility, optimal distribution of functions between tools, and reduced management risks. The key stages of platform implementation are analysis of the organisation's needs and the type of IT projects; selection of a platform in accordance with the management methodology; pilot implementation on a separate team; staff training and development of internal regulations; evaluation of the effectiveness and scalability of the solution [5,6,7].

Thus, the practical significance of implementing modern IT project management platforms lies primarily in improving the manageability of project activities by centralising planning, task control and resource monitoring.

Thanks to the use of a unified digital environment, project managers receive up-to-date information on the status of work in real time, which allows them to identify deviations from the plan in a timely manner and make informed management decisions quickly. The use of such platforms also ensures the transparency of project processes, as all stages of task execution, status changes, responsible persons, and deadlines are recorded in the system and are available to project participants according to their roles. This reduces the likelihood of information loss, duplication of work, and subjective interpretation of task results, which is especially important for distributed IT teams. Improved communication and teamwork play a special role, as modern platforms integrate tools for messaging, commenting on tasks, collaborating on documentation, and tracking changes. This promotes coordination between team members, increases the level of responsibility and engagement of project participants, and reduces the number of errors associated with insufficient or untimely communication. Together, these factors contribute to reducing the time required to implement IT projects and lowering management and operational risks, including the risks of missing deadlines, exceeding budgets, and reducing the quality of the final product.

IMPLEMENTATION OF MODERN IT PROJECT MANAGEMENT PLATFORMS: PRACTICAL SIGNIFICANCE AND EVALUATION OF RESULTS

The practical significance of implementing modern IT project management platforms can be illustrated by the example of the international IT company European Regional Agency LLC, which, in the process of scaling its operations, encountered problems with coordinating the work of numerous cross-functional teams, synchronising product development and ensuring transparency of management decisions. To solve these problems, the company implemented the Jira platform as a basic IT project management tool in combination with the flexible Agile and Scrum methodologies [8,9].

As a result of implementing Jira, European Regional Agency LLC was able to centralise task management, unify approaches to sprint planning, and ensure transparency of work status for managers at various levels. The platform made it possible to track task progress in real time, identify bottlenecks in development processes, and respond quickly to changes in product requirements. The integration of Jira with version control tools and the CI/CD environment facilitated closer collaboration between teams of developers, testers, and DevOps specialists.

The practical results of the implementation were reflected in a reduction in the time required to implement functional updates, increased predictability of project completion dates, and a reduction in the number of communication errors between teams. In addition, the company's management received a tool for analytical assessment of project activity effectiveness, which allowed them to make more informed management decisions regarding task prioritisation and resource allocation.

Thus, the experience of European Regional Agency LLC demonstrates that the implementation of modern IT project management platforms has tangible practical significance, as it contributes to improving the manageability of complex IT projects, enhancing team interaction, and achieving the organisation's strategic goals in a dynamic digital environment.

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

Summarising the results of the study, it can be stated that modern IT project management platforms are a key tool for ensuring the effectiveness of project activities in the context of digital transformation and the growing complexity of IT solutions. Functional and comparative analysis has shown that such platforms not only automate basic management processes, but also significantly affect the quality of planning, coordination of teamwork, transparency of task execution, and timeliness of management decisions. The study found that the diversity of modern platforms means that there is no universal solution suitable for all types of IT projects. The effectiveness of a particular platform is largely determined by the scale of the project, the organisational structure, the management methodology used, and the maturity of project processes within the organisation. Flexible platforms demonstrate a high level of adaptability to change and are suitable for dynamic environments, while comprehensive enterprise solutions provide tighter control over resources and deadlines in large projects. Practical examples of implementation confirm that the use of modern IT project management platforms contributes to improving the manageability of project activities, reducing communication barriers and shortening project implementation times while simultaneously reducing management risks. This allows such platforms to be considered not only as auxiliary tools, but as a strategic component of the IT project management system.

Further scientific research should be focused on an in-depth analysis of the impact of built-in and integrated AI functions of modern IT project management platforms on the efficiency of management processes. In particular, it is promising to study the possibilities of using artificial intelligence for automated risk forecasting, task completion time estimation, resource allocation optimisation, and management decision support. Such research will allow for a quantitative assessment of the extent to which AI tools contribute to improving planning accuracy, reducing the workload on project managers, and improving the overall performance of IT projects.

Special attention should be paid to a comparative analysis of the effectiveness of IT project management platforms in different domain contexts, particularly in the context of start-ups and large corporate IT teams.

Differences in organisational structure, level of process formalisation, project scale, and available resources can significantly affect the feasibility of using certain platforms. Research in this area will contribute to the development of practical recommendations for selecting and configuring project management tools, taking into account the specifics of the organisation and its stage of development.

In addition, a promising area of research is the adaptation of project management systems to project portfolio management (PPM) tasks. With the growing number of parallel IT initiatives, the issue of integrating the operational management of individual projects with strategic portfolio management is becoming increasingly relevant. This involves prioritising projects, balancing resources and assessing their contribution to the achievement of the organisation's strategic goals. The results of such research can form the basis for improving methodological approaches to the use of modern project management platforms at the portfolio management level.

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