DOI: 10.32347/2412-9933.2026.65.14-21
UDC 005.32

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Article history:
Received: 20.01.2026
Accepted: 15.02.2026
Published: 26.03.2026

PROJECT MANAGEMENT MODELS FOR GAMIFICATION IMPLEMENTATION IN IT ENTERPRISE OPERATIONS

Abstract. *The purpose of this paper is to propose a new set of project management models for implementing gamification in internal digital projects of IT enterprises, relying on project management standards (PMBOK, ISO 10006) and modern agile approaches. The article substantiates the necessity of integrating gamification elements, describes the implementation methodology considering the phases of the project life cycle (initiation, planning, implementation, monitoring and control, completion) and the specifics of Agile methodologies, develops a system of criteria for evaluating implementation effectiveness, and summarizes potential barriers and risks of integration. Results. A comprehensive model for integrating gamification was developed, aligned with the classical project management phases according to PMBOK and ISO 10006. The methodology provides for performing specific tasks at each phase – from initiation (where gamification goals are formed, stakeholders engaged, and basic mechanics defined) to completion (where results are evaluated and achievements consolidated). Practical recommendations are proposed for implementing gamification activities at each stage. Conclusions. Integrating gamification into internal digital projects can become a powerful tool for improving the effectiveness of IT enterprises, provided a methodological approach is followed. The proposed methodology covers the full cycle from substantiating the need to evaluating success, enabling systematic and predictable implementation. The practical value of the results lies in the fact that enterprises can use the provided recommendations and templates to develop their own gamification programs adapted to the specifics of their culture and goals. The scientific novelty lies in a comprehensive combination of project management principles (PMBOK, ISO 10006) with gamification concepts and Agile methodologies, which previously had been studied fragmentarily. The results obtained in this paper create a basis for further applied research, including experimental implementation of the developed approach in specific enterprises.*

Keywords: gamification; digital transformation; digitalization, project management; PMBOK

Introduction

Modern IT enterprises increasingly implement internal digital systems (project management systems, task trackers, etc.) to improve the efficiency of teamwork. However, one of the key problems remains a low level of user engagement with these systems: according to research, about 70% of employees feel disengaged from the work process [1]. In conditions where most employees are disengaged, companies risk losing productivity and facing resistance to the adoption of new digital tools. To overcome this problem, it is proposed to use gamification.

Internal enterprise information systems (for example, Jira, Trello, Confluence, service desk systems, etc.) are an integral component of organizations' digital infrastructure. They are intended to optimize collaboration, track project progress, and accumulate knowledge. However, employees often perceive routine work with these systems as burdensome and non-prioritized, which leads to digital inertia and failure to use the tools' full potential. Gamification is an effective approach to solving this problem, since it can "remove digital friction, help employees acquire new skills, and stimulate creativity–all thanks to game elements" [2]. In other words, play as a form of activity satisfies basic psychological needs for competition, achievement, cooperation, and recognition, and a properly designed gamified system can transfer these factors into the work domain.

Analysis of the latest research and publication

Gamification comes as an extension of the psychological self-determination theory [3], which puts emphasis on realizing person's intrinsic motivations for better results in life.

According to Uzule [4], the main barriers for enterprise digitalization include organizational, technological, strategic, and "soft", i.e., human-related barriers: lack of qualification, resistance to change in working environment etc. Another paper by Gun [5] concludes that absence of transformational leadership and low self-evaluation of employees' digital competencies lower the effectiveness of digital transformation even with availability of all technical tools and funds.

At the same time, gamification is often used to soften the "human factor" by increasing engagement with the implemented tools, thus increasing employees' tolerance to change. A case study by Marques [6] describes implementing gamification of Scrum using Jira addons and testing it with a team of developers. The results show an increase in motivation without an expected increase in Scrum metrics. The author describes that, upon consultations with the team, the main problems were the implementation of game mechanics: unmatched difficulty and lack of proper challenges. The test was later expanded on the other teams including the new functionality and has shown better results. This shows that gamification often requires an iterative approach as well as a periodic change in game mechanics to keep it "fresh" and thus keeping the motivating factor.

Another case study by Patra [7] describes a case of a digital transformation for medical equipment manufacturer. The main barrier was described as stakeholder engagement. To ease the users into the new tools, both the ideation and training processes were gamified, showing a large boost of participation. The author concludes that gamification – when thoughtfully integrated into project phases – can meaningfully propel digital transformation efforts by building engagement, promoting behavioral change, and reinforcing adoption metrics.

Purpose

In this paper we'd like to propose a new project management model for implementing gamification in internal digital projects of IT enterprises, relying on project management standards (PMBOK, ISO 10006) and modern agile approaches. The point is to create an environment for successful implementation of gamification in the enterprise while not disrupting the general project flow.

Project lifecycle model definition

The methodological approach to integrating gamification is based on including the design and implementation activities of gamification elements at all stages of the project life cycle. This ensures that gamification is not something separate or accidental, but is organically embedded in the project product. To structure the methodology, five classical PMBOK phases are used: initiation, planning, execution, monitoring and control, completion; supplemented with recommendations on using Agile approaches in software development.

PMBOK describes 5 main project management lifecycle phases: initialization, planning, execution, monitoring, closing [8]. According to this, a traditional project lifecycle model can be described as a set:

$$L = \{I, P, E, M, C\}, \quad (1)$$

where L – project lifecycle, I – initialization phase, P – planning phase, E – execution phase, M – monitoring phase, C – closing phase. By implementing activities related to gamification in the project management lifecycle, a new model was created, which may be described as another set:

$$L_G = \{I_G, P_G, E_G, M_G, C_G\}, \quad (2)$$

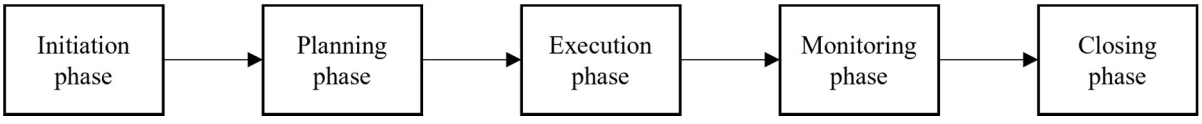
where each element of the set corresponds to the element in the formula (1), with addition of activities related to gamification. Visual presentation of this model is provided on picture 1.

Table 1 provides general breakdown of gamification activities in the project lifecycle. Detailed explanations of each project phase are provided in the next sections.

Initiation phase

The initiation phase lays the foundation for a successful project, so at this stage it is important to assess the feasibility of gamification and secure the support of management and key stakeholders. First comes the analysis of needs: are there problems with engagement, motivation, or communication that gamification could solve? If so, the vision of the gamified system is formed – a concept of how game elements will be integrated into the future product or process. This vision should be reflected in the Project Charter or another foundational document. During project launch, special attention should be paid to stakeholder engagement and building a shared understanding of goals.

At the initiation stage, it is important to define the target audience of gamification–who exactly will be the system users and participants of game activities. Different participant types may require different approaches.



Picture 1 – Project management lifecycle

Table 1 – ***Integration of Gamification Activities into Project Lifecycle Phases***

Project Phase	Key Management Objectives	Gamification Activities	Tools / Artifacts	Expected Outcomes	Risks
Initiation	Define project scope, stakeholders	Define gamification goals, identify player types, link to KPIs	Project Charter, Stakeholder Register	Stakeholder buy-in, strategic alignment	Skepticism, unclear objectives
Planning	Develop detailed project plan	Design mechanics, scoring system, integration plan	Gamification Design Document, Risk Register	Structured implementation plan	Poor mechanic balance
Execution	Implement and deliver product	Launch mechanics, configure tools, communicate rules	Jira plugins, dashboards	Increased engagement	Over-competition
Monitoring	Track performance	KPI tracking, surveys, iterative adjustments	Sprint retrospectives, reports	Sustainable motivation	Gaming the system
Closing	Finalize and evaluate	KPI comparison, award ceremony, lessons learned	Final report, survey results	Institutional knowledge	Loss of novelty

For example, developers may be motivated by competition in productivity, whereas analysts may be motivated by collective recognition for data quality. Considering player typology (for example, typology based on their motivations) [9] is critical for further mechanics' design.

One of the key outcomes of initiation is the justification of gamification to management and project sponsors. It is necessary to clearly link game elements to business goals: to show how exactly gamification will help, for instance, increase productivity by X%, reduce new employee onboarding time, or improve process compliance. As experts note, gamification should be implemented not "for the sake of play," but to solve specific business problems [10]. Thus, already at the project start, the right motivation and expectations are formed: gamification is a tool for achieving measurable results, not just entertainment.

Another aspect is identifying initial risks and constraints. If there is skepticism among stakeholders regarding gamification (e.g., fears that it is "not serious" or will take time away from core work), these risks should be recorded and countermeasures anticipated. The project communication strategy should, at an early stage, explain the purpose of gamification, its benefits for everyone, and mitigate possible concerns. Already during initiation, it is advisable to involve key representatives of future users in discussing the concept. Involving the team in co-designing the gamification system (through workshops, rule discussions, etc.) at early stages helps reveal hidden risks and increases acceptance. This approach aligns with ISO 10006, which emphasizes the importance of planning project quality from the very beginning and considering the interests of all stakeholders [11].

Therefore, during the initiation phase, preparatory work for future gamification is carried out: a vision is formed, goals and success metrics are defined, the audience and a preliminary set of game mechanics are outlined, support from sponsors and stakeholders is secured. These steps create a basis for detailed planning of gamification at the next stage.

Planning phase

The planning phase involves developing a detailed plan for implementing gamification within the project. At this stage, the concept developed during initiation is transformed into a concrete design of the gamification system, a work plan, and resources. It is important that gamification planning occurs synchronously with the overall project plan, not in isolation. Therefore, the project manager and team should integrate actions for developing game mechanics into subplans such as scope management, communications management, risk management, etc.

The main steps in this phase include:

Design of the gamification system. Specific game mechanics and elements to be applied are defined. These may include, for example, points, achievement badges, leaderboards for top performers, levels (user experience ranks), as well as team competitions or cooperative goals. The choice of mechanics should be based on project goals and user motivational profiles identified earlier. For example, if one goal is to increase collective interaction, mechanics that encourage teamwork (shared quests, rewards for all team members for successful project completion, etc.) should be included rather than only individual rivalry. As a result, a document (or section of the project plan) should be created that describes game mechanics: a list of points, awarding rules, conditions for receiving badges, ranking calculation algorithms, status update frequency, reward catalogs, etc.

Integration into infrastructure. It is planned how gamification will be technically implemented in existing digital systems. There are several possibilities: using ready-made plugins or applications or developing a custom module. In the first case, the plan includes selecting and configuring a tool; in the second, a software development cycle for gamification. Effort and timing must be assessed: does the development of gamification

functionality fit the project schedule? If the team works under Agile, relevant user stories should be included in the sprint backlog. If the project is using a traditional project lifecycle model, a stage for developing gamified components is added to the overall project plan.

Planning engagement and communications. Gamification is effective only when users actively participate. Therefore, the project communications plan should include measures to stimulate engagement: mailings announcing the start of competitions; visual scoreboards in the office or corporate portal; regular announcements of interim results (who is leading, how many points the team has earned, etc.). It is critical not to make participation compulsory, since forced participation can demotivate employees and nullify the initiative. Therefore, communications should inspire voluntary participation by emphasizing benefits (learning, fun process, recognition), not punishment. For example, the plan may include an introductory seminar or even a small demo game to familiarize everyone with the mechanics and encourage participation.

Planning metrics and monitoring. At the planning stage, it is determined how the team will track gamification effectiveness during execution.The project management plan includes key performance indicators (KPIs) for gamification, target values, and data collection methods. For example, if the goal is to increase the use of a knowledge management system, a KPI might be "number of articles created in the system per month," and a gamification mechanism is introduced – points for creating pages. The monitoring plan should describe who analyzes these metrics and how often, and how decisions about adjustments are made.

Gamification risk management. At the planning stage, potential risks of gamification implementation should be analyzed. These may include: the risk that the game will captivate participants too much and they will spend excessive time on non-core activities; the risk of unhealthy competition and conflicts; the risk of cheating (for example, manipulating the system to gain points); as well as technical risks (plugin failures, loss of point data, etc.). For each risk, response measures are developed. For example, if there are concerns about excessive competition, public visibility of rankings may be limited or emphasis may be shifted to team results rather than individual results [12]. If it is worrying that the same "champions" will keep winning, the plan should include rotation of contests or seasonality (resetting points each quarter) so that others also have a chance to win and everyone stays interested. The gamification system must be designed with these issues in mind – effectively, in the planning stage we define rules that minimize negative effects.

It is important to emphasize that planning is an iterative process: gamification details may be refined over time. However, the overall vision and the main elements should be defined in advance so the whole team understands how gamification is embedded in the project.

Thus, the outcome of the planning phase is a clear gamification implementation plan that includes mechanics design, technological integration, work schedule, communication and risk management measures. This plan is approved by management just like other project aspects and, once approved, becomes guidance for action in the execution phase.

Execution phase

The execution (implementation) phase is central both for the project itself and for gamification. At this stage, all planned game mechanisms are launched, technical implementation is carried out, and user engagement in gamified processes is actively managed.

The primary task is technical implementation of gamification elements. If a ready-made toolkit is selected (plugins for Jira, etc.), it is configured at this stage: the required point-awarding rules are created and integrated into existing workflows (for example, configuring that when a task moves to "Done" a point is automatically added to the assignee). If a custom solution is being developed, the development team implements the appropriate module and tests it. It is advisable to involve UX/UI specialists to design the interface of game elements so that they are intuitive and attractive. During execution, the focus must constantly remain on ensuring that gamification truly motivates, rather than merely "cosmetically" decorating the system.

After technical settings are completed, gamification is officially launched. This can be tied to a significant project moment (for example, the start of a new sprint or completion of an MVP development phase). The start should be broadly announced: via corporate chat or email, or at a general team meeting. Participants are explained the rules of the game and the mechanisms are demonstrated (a short training or guide can be provided). At this stage, it is very important to create an initial engagement impulse – first excitement and curiosity. Often a vivid element helps: for example, an unexpected quest or a light challenge on the first day that almost everyone can complete and immediately receive their first points or badges. This provides a sense of achievement from the outset and encourages continued participation.

During project execution, gamification should function continuously but flexibly. The team monitors engagement: who participates actively, who does not, and which game elements work best. If low activity or unexpected reactions are observed, the design should be adapted. This model provides a feedback mechanism and rapid changes (discussed in more detail in the next section on monitoring). Thus, execution and monitoring in practice go in parallel and are closely intertwined, especially under Agile.

An Agile approach in implementing gamification means that the introduction of game elements is iterative, with regular feedback collection and improvements. This is much more effective than attempting to design the entire game perfectly once at the beginning and then strictly following the plan. Therefore, it is advisable to break gamification implementation into short cycles: for example, iteration 1 – launch basic points and badges and collect feedback; iteration 2 – add leaderboards and team tasks and evaluate the effect; iteration 3 – adjust point balance or challenge difficulty, etc. This approach helps maintain interest: participants see game development and new elements, preventing saturation or boredom.

During execution, it is critical to ensure that gamification does not contradict the core workflow but supports it. The project team should not spend unjustifiably much time only on "playing" – maintaining balance is the responsibility of the project manager/team leader. For example, if it is noticed that developers start taking only tasks with higher points and ignore others, it is a signal to immediately adjust the point system or emphasize priorities. Gamification should be a gentle motivator, not a rigid regulator. Ideally, after some time participation in the gamified process becomes natural and self-sustaining – people play with pleasure because it makes work more interesting.

Thus, the execution phase is the action phase for gamification. Technical solutions are implemented, game mechanics are launched, and real user interaction with the system takes place. Success depends on how well everything was planned and prepared, as well as on the flexibility and speed of response to feedback. With proper execution, gamification becomes an organic part of everyday project work, subtly contributing to achieving its goals.

Monitoring phase

The monitoring phase includes continuous tracking of project progress and taking corrective actions when deviations occur. With regard to gamification, this phase is extremely important to ensure that game elements truly have a positive effect and do not lead to undesirable consequences.

Gamification monitoring is performed using the KPIs defined in the plan and qualitative feedback. The project management team should regularly (for example, weekly or at the end of each sprint) analyze engagement metrics: how many users actively participate in gamification, how their productivity changed, whether the number of completed tasks increased, etc. Project results are also tracked relative to goals associated with gamification: are the indicators we expected to improve actually improving (for example, response speed to requests, data quality, deadline compliance)? If progress exists, it confirms the effectiveness of the approach. If not, analysis is required to identify the cause.

In addition to numbers, it is important to listen to the participants' voice. For this purpose, regular surveys or focus groups may be included in the monitoring plan. In practice, it is convenient to combine this with existing Agile rituals: for example, during sprint retrospectives, allocate time to discuss how gamification helps or hinders the team. Such qualitative feedback allows problems to be identified that are not visible in statistics. For example, participants may report that a certain mechanic demotivates them: "a constant ranking creates unwanted stress and competition and interferes with team collaboration." This signals the need to revise this mechanic – perhaps making the ranking anonymous or shifting the focus to team points. Another example: if a part of employees ignores the game entirely, it is worth finding out why – lack of time, uninteresting rules, or lack of manager support.

When deviations or problems are detected, the team should apply corrective actions. The model for integrating gamification presumes flexibility: game rules can and should be changed if necessary for project success. Of course, abrupt changes should be made cautiously so as not to create a sense of injustice ("we tried hard to earn these points, and you changed the rules"). It is better to plan possible adjustments in advance. In this way, control becomes a shared effort: participants see that their opinions are considered, and they trust the system more.

From the project management perspective, monitoring gamification effectiveness should be included in the overall project control process. In internal meetings of the project manager with the sponsor or steering committee, it is desirable to report the impact of gamification: whether it contributes to KPIs, whether there are any incidents. This increases transparency and seriousness of the approach. When management sees real numbers (e.g., "since game implementation, sprint plan completion improved from 80% to 95%"), trust in the method increases. Table 2 provides a hypothetical example of such analysis, done on a monthly basis.

Table 2 – ***Example of KPI analysis***

KPI	Baseline	After gamification	Change (%)	Interpretation
Workers using the system daily	60%	85%	+15%	Higher level of innovation acceptane
Average engagemet rate	4.2	5.6	+33%	Increased motivation
Tasks completed	142	118	-17%	Lower cooperation due to increased competition
Work interactions (code review, work notes, etc.)	257	141	-46%	

It is also worth mentioning another aspect of control – adherence to principles of fairness and equality in gamification. It is very important that the system is fair; otherwise, it will destroy motivation. Therefore, during control it should be tracked whether situations arise where someone is systematically disadvantaged. For example, if part of the team works on tasks that are not "valued" by the game (e.g., supporting legacy systems that are hard to digitize into points), these people will constantly be at the bottom of the leaderboard even though they work no less. These risks demotivating them. In such a case, a solution might be special bonus points from a manager for invisible but important contributions, or adjusting the scoring algorithm to consider such activities.

To summarize, the monitoring and control process for gamification can be compared to managing the game process itself: like a game master, one should observe players and adjust the game flow so that everyone remains engaged and satisfied and goals are achieved. Through regular data analysis and feedback involvement, the project team can maintain an optimal motivation balance, resolve problems in time, and ensure sustainable efficiency gains from gamification. This continuous control guarantees that the final project results are improved rather than put at risk, and that the experience gained can be scaled and repeated in future initiatives.

Closing phase

At the closing phase, all work is formally finished, the product is handed over to the customer (if there is an external customer) or the created system transitions into operation. For the gamification direction, this stage is also very important, as it allows summarizing the effectiveness of implemented game elements, consolidating achievements, and drawing conclusions for the future.

One of the first steps is final evaluation of indicators. Actual KPI values related to gamification are compared with initial goals and baseline levels. If the project lasted a long time, it is worth looking at dynamics: how key metrics changed from the start of gamification to completion. For example, one can analyze how the percentage of completed sprint tasks grew, whether user activity remained consistently high, and whether business outcomes improved (service speed, customer satisfaction, etc.). If gamification worked well, significant improvements should be observed compared to the beginning.

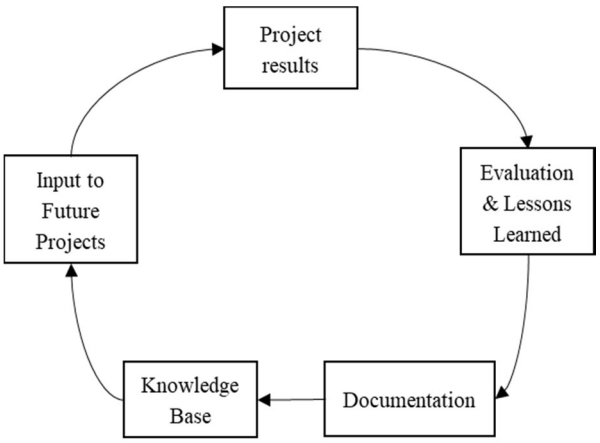
Along with metrics, a final survey of participants about their impressions of the gamification program is conducted. It is important to learn how they subjectively assessed the game's impact on their motivation and work atmosphere, and whether they would like to participate again. Most participants usually note positives – higher job satisfaction, additional interest in completing even routine tasks, better team cohesion. However, critical feedback may also occur and should be documented. For example, someone may note that after initial enthusiasm the game lost novelty and became less stimulating – valuable information indicating that more variety could be added. Another may have felt too much pressure from competition – meaning that in the future the balance of cooperative and competitive elements should be better tuned.

Formal closure of the gamification program may be accompanied by ceremonial events. Many companies practice a final ceremony: winners are announced (most points, special achievements) and receive awards – certificates, symbolic prizes, or even material bonuses or gifts if planned. Such closure puts a logical endpoint to the game and provides a sense of completeness and recognition. At the same time, it is important to emphasize that everyone wins if the project achieves its goals. Therefore, often not only individuals are awarded but also the entire team – for example, by announcing a winning team or organizing a joint celebration of the successful project (thus emphasizing the collective nature of achievement).

From the documentation perspective, the final project report should reflect the impact of gamification on results. This may be a separate section or appendix describing which game elements were implemented, what indicators were obtained, and what lessons were learned. It is especially useful to note which mechanics were most effective. It may turn out, for example, that the badge system worked great and caused excitement, while team competitions did not "take off" as well. Such conclusions allow future projects to focus on what works and avoid what did not meet expectations.

It is equally important to record barriers and risks encountered and how they were overcome (or not). This information contributes to a corporate project management knowledge base. For example, if there was a risk of cheating (someone tried to inflate points), describe how it was detected and prevented (technical control, warnings, etc.). If some employees initially resisted participation but later joined – what persuasion methods worked. Documenting such aspects will help colleagues implement gamification more easily in the future, armed with experience. Resulting loop of continuous improvement is shown on picture 2.

After project completion, if the created system (e.g., a corporate portal or task tracker with gamification) will continue to be used on an ongoing basis, it should be handed over to the responsible unit for support. That is, determine who will administer the gamification system, update content (new badges, new challenges), and monitor operability. Most often, HR takes on this role (as part of an employee engagement program). It is important that project outcomes do not disappear after closure but continue to bring benefits.



Picture 2 – Continuous improvement loop

Finally, completion is a time for reflection. The project team should honestly answer: did gamification achieve its goals? If not, why – perhaps the issue was not the idea itself but implementation (poor design, insufficient management support, etc.). As Gartner wrote in its forecast, 80% of gamification projects failed mainly due to poor design (Gartner UK Ltd., 2012). Therefore, if the result did not meet expectations, it is necessary to analyze the game system design: was it really tied to people's motivation and business goals, or was it too superficial? Conversely, if success is evident, it is an opportunity to recognize not only the team but also the approach – demonstrating its value to the organization and recommending wider use. As a conclusion, the completed project can serve as an internal "showcase" to promote gamification: based on it, it is easy to prepare presentations for top management, case studies to train other project managers, articles in the internal corporate network, etc.

Thus, at the project completion stage the methodological approach focuses on evaluating effectiveness and collecting knowledge. Gamification integrated into the project is assessed in terms of achieving goals, participant satisfaction, and lessons for the future. This allows not only summarizing a specific project but also enriching organizational competence in the area of project management with gamification.

Conclusions

The conducted research substantiates the feasibility and methodological necessity of integrating gamification into internal digital projects of IT enterprises through a structured project management approach. Unlike fragmented implementations where gamification is introduced as an auxiliary initiative, the proposed model embeds gamification activities systematically within all phases of the project life cycle in accordance with PMBOK and ISO 10006 standards, supplemented by Agile principles.

The study demonstrates that effective gamification requires early strategic alignment with business objectives during the initiation phase, detailed mechanic and infrastructure design during planning, iterative and feedback-driven implementation during execution, continuous KPI-based evaluation during monitoring, and structured knowledge consolidation during closing. Such integration transforms gamification from a decorative engagement tool into a managed project component with measurable performance outcomes.

The proposed lifecycle-based integration model ensures that gamification elements are:

– strategically justified and linked to enterprise goals;

– operationally embedded in project documentation and workflows;

– technically supported by digital infrastructure;

– continuously evaluated using quantitative and qualitative indicators;

– institutionally documented for organizational learning and scalability.

The scientific novelty of this research lies in the comprehensive synthesis of project management standards (PMBOK, ISO 10006), Agile methodology principles, and gamification theory into a unified lifecycle model. While previous studies have examined gamification effectiveness or digital transformation barriers separately, this work formalizes their integration within a project governance framework.

The findings confirm that gamification can act as a catalyst for employee engagement, digital tool adoption, and behavioral change when embedded in a disciplined project management structure. However, its effectiveness depends on iterative refinement, fairness of mechanics, stakeholder involvement, and alignment with organizational culture.

Future research directions include empirical validation of the proposed model through experimental implementation in specific IT enterprises, quantitative measurement of long-term productivity effects, and refinement of adaptive gamification mechanisms using data-driven approaches.

Conflict of Interest. The author confirms that there are no financial, personal, or other interests that could be considered a potential conflict of interest regarding the publication of this article.

Funding. This research was conducted without external financial support.

Data Availability. All data is available in digital or graphical form within the main text of the manuscript.

Use of Artificial Intelligence. The author confirms that no artificial intelligence tools were used in the creation of this work.

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МОДЕЛІ УПРАВЛІННЯ ПРОЄКТАМИ ВПРОВАДЖЕННЯ ГЕЙМІФІКАЦІЇ В ДІЯЛЬНІСТЬ ІТ-ПІДПРИЄМСТВ

Анотація. *Запропоновано новий набір моделей управління проєктами для впровадження гейміфікації у внутрішні цифрові проєкти ІТ-підприємств на основі стандартів управління проєктами (PMBOK, ISO 10006) та сучасних гнучких підходів. Обґрунтовано необхідність інтеграції елементів гейміфікації; описано методологію впровадження з урахуванням фаз життєвого циклу проєкту (ініціація, планування, реалізація, моніторинг і контроль, завершення) та специфіки Agile-методологій; розроблено систему критеріїв оцінювання ефективності впровадження, а також узагальнено потенційні бар'єри й ризики інтеграції. Розроблено комплексну модель інтеграції гейміфікації, узгоджену з класичними фазами управління проєктами відповідно до PMBOK та ISO 10006. Методологія передбачає виконання конкретних завдань на кожній фазі – від ініціації (де формуються цілі гейміфікації, залучаються стейкхолдери та визначаються базові механіки) до завершення (де оцінюються результати й закріплюються досягнення). Запропоновано практичні рекомендації щодо впровадження гейміфікаційних активностей на кожному етапі. Впровадження гейміфікації у внутрішні цифрові проєкти може стати потужним інструментом підвищення ефективності ІТ-підприємств за умови дотримання методичного підходу. Запропоновано модель, що охоплює повний цикл – від обґрунтування потреби до оцінювання успішності, що забезпечує системне та прогнозоване впровадження. Практична цінність отриманих результатів полягає в тому, що підприємства можуть використовувати наведені рекомендації та шаблони для розроблення власних програм гейміфікації, адаптованих до специфіки їхньої культури та цілей. Наукова новизна полягає у комплексному поєднанні принципів управління проєктами (PMBOK, ISO 10006) з концепціями гейміфікації та Agile-методологіями, які раніше досліджувалися фрагментарно. Отримано результати, що створюють підґрунтя для подальших прикладних досліджень, зокрема експериментального впровадження розробленого підходу на конкретних підприємствах.*

Ключові слова: гейміфікація; цифрова трансформація; діджиталізація; управління проєктами; PMBOK

Link to publication

APA Ivanov, I. (2026). Project management models for gamification implementation in IT enterprise operations. *Management of Development of Complex Systems*, 65, 14–21, dx.doi.org\10.32347/2412-9933.2026.65.14-21.

ДСТУ Іванов І. І. Моделі управління проєктами впровадження гейміфікації в діяльність ІТ-підприємств. *Управління розвитком складних систем.* Київ, 2026. № 65. С. 14 – 21, dx.doi.org\10.32347/2412-9933.2026.65.14-21.