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HUMAN FACTORS AND ORGANIZATIONAL CHANGE MANAGEMENT IN PROJECT MANAGEMENT

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Abstract

This article presents an analytical review of scientific research that has defined the problems of project management and organizational change management in the period 2022-2023. The main focus is on issues directly related to the human factor, leadership, organizational readiness for change, staff resistance, communications, project manager competencies, change management, project management, and success criteria for transformation projects.

The methodological basis of the study is an analytical review of the most authoritative and influential scientific publications published before 2023 and widely used in the research of project and change management. It is shown how the scientific discussion has gradually shifted from the traditional understanding of project success as compliance with deadlines, budgets, and performance requirements to a multidimensional concept that includes stakeholder satisfaction, benefit realization, organizational results, acceptance of change, and the formation of future organizational capabilities [5; 8]. It has been established that the human factor in modern literature is considered not as a secondary addition to technical and process management, but as one of the mechanisms for shaping project success [2; 3; 6].

Research into the relationship between leadership, communication, employee engagement, organizational readiness, and resistance to change has acquired particular significance [2; 4; 9; 10]. Based on the analysis, five of the most relevant research areas were identified: integration of change management and project management; human factors and leadership; organizational readiness; resistance to change and employee behavior; and a multidimensional understanding of project success and benefit realization. A conclusion was

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drawn regarding the need for an integrated socio-technical model of project management, in which the human factor acts both as a condition for effective change management and as an independent factor in project success.

The scientific novelty of this study lies in its systematization and integration of scientific approaches to the role of human factors and organizational change in project management. Previous studies examined leadership, communication, organizational readiness, change resistance, and benefits management primarily as independent factors of project success. This study substantiates their interrelationships and proposes a conceptual chain: "human factors - organizational readiness - change management effectiveness - project outcome acceptance - project success." This allows us to view the human factor not as an auxiliary component, but as a system-forming component in achieving sustainable project value and clarifies the relationship between project management and change management in the context of organizational change.

Keywords: Project management, project management, organizational change management, human factors, leadership, organizational readiness, resistance to change, communications, project success, benefit realization, transformation projects.

Introduction

In the early 2020s, project management found itself in a situation where its scientific and practical agendas were significantly shifting. While traditional project management theory focused primarily on planning the scope of work, deadlines, costs, quality, and risks, the development of complex organizational projects has increased attention to strategic value, stakeholders, organizational context, and the human aspects of project implementation [1; 5; 8].

Currently A project is increasingly becoming not only an end result in itself, but also a tool for implementing strategic changes within an organization. As a result, the implementation of an information system, the transition to a new business model, the digitalization of processes, organizational restructuring, or the introduction of new technologies require not only the technical implementation of the project but also changes in employee behavior,

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management practices, competencies, and organizational culture [3; 6; 8]. This is why one of the central issues of project management has become the question of how human and organizational factors are transformed into real project results [2; 3; 6].

This issue is directly related to several research areas. The first is related to the definition of the very concept of project success [5]. The second is related to the critical factors of project success [1; 6]. The third is related to the role of the project manager and leadership [3]. The fourth is related to the management of organizational change and employee resistance [2; 9]. The fifth is related to organizational readiness for change [4]. The sixth is related to the management of benefits and strategic value of the project [8].

The problem is that these areas have long developed relatively independently. Project success studies have analyzed the criteria for achieving results; organizational change studies have analyzed employee resistance, readiness, and behavior; leadership studies have analyzed managerial styles; and governance studies have analyzed control mechanisms and benefit realization. However, a transformation project integrates all of these processes into a single system [1; 3; 4; 8].

Evolution of ideas about project success factors. One of the most enduring areas of project management is the study of critical success factors. Fortune and White systematized scientific understanding of critical success factors and proposed a systemic view of their interrelationships [1]. Their approach is fundamental because it demonstrates the limitations of analysis based solely on listing individual factors. A project is a complex system in which factors interact with one another. For example, having qualified employees alone does not guarantee success if there is no management support, effective communications or an appropriate organizational structure [1; 6]. This idea is particularly relevant for transformational projects, where the outcome depends not on a single decision, but on the alignment of technology, processes, organizational structure, and human behavior [1; 3; 6].

Belout and Gauvreau's study is fundamental to the development of a modern understanding of the human factor. The authors demonstrated the importance of

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human resource management in project-oriented organizations and emphasized the specific characteristics of temporary project teams [6]. Thus, even before the advent of modern digital transformation research, a theoretical basis had been established for the conclusion that personnel cannot be viewed as a neutral project resource [6]. This position has acquired new significance for academic discussion. While the human factor was previously often viewed as one of many critical success factors, in the context of transformation projects, the question of its mechanism of influence arises. The shift from a simple enumeration of factors to the study of mechanisms is one of the key features of the current academic agenda.

Transforming the Concept of "Project Success." The second fundamental question is defining what exactly constitutes project success. Ika demonstrated that the concept of project success is ambiguous and depends on the selected criteria and stakeholder perspectives [5]. In the scientific literature, an understanding has gradually emerged that project success cannot be fully described solely through traditional indicators of time, cost, and compliance with initial requirements [5]. This transition is especially important for transformational projects. A project may be completed on time and within budget, but still fail to deliver strategic impact. For example, the implementation of a new information system may formally meet the initial requirements, but if employees continue to use old tools, users are dissatisfied, productivity does not improve, and the expected organizational benefits are not realized, it is difficult to talk about the complete success of the project [5; 8]. Therefore, by 2022–2023, the transition **from project delivery to the project value creation** [8]. Musawir et al., based on an international study of 333 projects, showed that effective project governance improves project success both directly and through improved benefits management [8]. The authors emphasize the need to link project results with organizational strategy. Thus, project success is considered as the result of a more complex process, including not only the creation of a product or service, but also the achievement of organizational goals [5; 8].

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Leadership as a central human factor in project management. The third area that has gained particular relevance is the role of leadership. Müller and Turner examined the relationship between project manager style, project type, and project success [3]. The findings suggest that leadership effectiveness must be considered within the context of a specific project context [3]. This position fundamentally changes the traditional view of project manager competence.

Project manager competencies cannot be reduced to the ability to plan deadlines, budgets, and resources. For complex transformational projects, the ability to develop a shared vision, emotional intelligence, communication skills, conflict management, trust building, and the ability to ensure employee engagement are particularly important [3; 9]. Thus, leadership becomes not an additional characteristic of the project manager, but one of the mechanisms for transforming organizational resources into project results [3].

For transformation projects, this is especially important, since the manager must simultaneously perform two functions.

The first is **project management** , which is related to the management of deadlines, resources, risks, requirements and results.

The second is **change leadership** , which is associated with changing the behavior of people and the organizational context [3; 7]. It is the distinction between these functions that allows us to better understand the problem of integrating project management and change management.

Project management and change management: convergence two disciplines

One of the most pressing issues is the integration of project management and change management. Traditionally, project management and change management have been viewed as interrelated but relatively independent fields. However, a transformational project is virtually impossible to implement without changing human behavior, organizational processes, and management practices [7; 9].

Project management primarily answers the question: **how to create and implement a planned result?** Change management answers the question: **how to ensure that this result is accepted and consolidated by the organization**

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and its employees? In a transformation project, these questions are virtually inseparable.

Dempsey et al. in a 2022 systematic review showed that the most significant factors for change management success include communication, setting a vision and communicating the change, early active employee involvement, and top management support [9]. The authors also identified resistance to change and the perception of change as a short-term initiative among the factors for failure [9]. These results allow us to draw an important conclusion: change management cannot be reduced to communication support for a project. If change management is introduced only after the technical solution has been developed, the organization faces already established resistance. Therefore, it appears more effective to integrate change management into a project from the earliest stage: **strategic goal → stakeholder analysis → readiness diagnostics → change design → communication → participation → training → implementation → adoption → consolidation of results.** It is this sequence that allows us to link the human factor with the project outcome [7; 9; 10].

Organizational readiness as an interim mechanism. The fourth important area concerns organizational readiness. Weiner formulated one of the most influential theories of organizational readiness for change [4]. According to this concept, organizational readiness is a collective state reflecting the belief of organizational participants in the need for change and the organization's ability to implement it [4]. Weiner's work was published in *Implementation Science* and has received a significant number of scientific citations, confirming its fundamental importance for the study of organizational change.

An organization may possess financial resources, technology, and qualified specialists, yet be unprepared for change. Reasons for this include a lack of trust in management, a misunderstanding of project goals, a sense of threat from employees, a lack of necessary competencies, negative previous experience with change, and a lack of employee participation in decision-making [2; 4; 9]. Consequently, organizational readiness may act as an intermediary between human factors characteristics and project outcomes. Within the framework of the research model, this suggests the following sequence: **human factors →**

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organizational readiness → change management effectiveness → project success.

Moreover, organizational readiness can be viewed as an independent mediator or as one component of a more general human factors construct. This issue has become particularly pressing due to the acceleration of organizational and technological change. The faster the rate of change, the less time an organization has for gradual staff adaptation. Therefore, it is appropriate to consider readiness for change not only as a one-time condition prior to project launch, but also as a dynamic organizational capability [4].

Resistance to Change: From Negative Reactions to Challenging Behavior. The fifth important area of research is resistance to change. Oreg, in a widely cited study, showed that resistance to organizational change is a multidimensional construct [2]. In a study of employees, it was shown that employee attitudes toward large-scale change are associated with both individual characteristics and the organizational context [2]. This provision is of fundamental importance for project management. Resistance cannot be seen solely as a lack of employee loyalty. It can be a rational response to uncertainty. An employee may resist a project because he or she does not understand its goals, does not see personal benefit, fears losing a job, does not have the necessary competencies, does not trust management, or has negative previous experience with change [2; 9]. Therefore, the project manager's task is not simply to "eliminate resistance," but to understand its causes and transform the negative reaction into a source of information for project management.

Communication and employee engagement. The results of Dempsey et al. suggest that communication is one of the most consistent factors in successful change management [9]. In a systematic review, communication, vision and change message development, early active employee engagement, and top management support emerged as the most frequently identified success factors [9]. However, the importance of communication lies not only in the transmission of information.

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Communication performs at least four functions:

1. reduces uncertainty;
2. forms an understanding of the goals of change;
3. creates trust;
4. provides feedback [9; 10].

Therefore, one-way communication, in which management merely informs employees of decisions made, has a limited effect. For transformational projects, **two-way communication is more significant** . Employees should be able to ask questions, express concerns, report problems, suggest improvements, and participate in testing new solutions [9; 10]. Thus, employee participation becomes a mechanism not only for psychological support of the project but also for improving the quality of project decisions.

Benefits management and project strategic value. Another important shift in the scientific agenda is the transition from deliverables management to benefits management. Musawir et al., based on data from 333 projects, showed the positive impact of effective project governance and benefit management on project success [8]. The authors paid special attention to the need to ensure the project's alignment with organizational strategy [8]. This approach is especially important for transformation projects. Traditional logic might look like this: **resources → work → project result.** A more modern logic: **strategic goal → project → product/solution → use → organizational effect → strategic benefit** [8].

Between project completion and benefit realization lies a critical process: **adoption** . If the new system isn't used, the new process isn't followed, or the new organizational model isn't accepted by employees, benefits don't materialize. Consequently, the human factor is directly linked to benefits realization. The following chain can be imagined: **human factor → change acceptance → use of results → benefits realization → strategic impact.** This allows for the integration of research on human behavior and project management [2; 4; 8].

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Project management methodologies and project context. The question of whether a single project management methodology can be equally effective in different organizational contexts deserves special attention. Joslin and Müller examined the relationship between project methodologies and project success, taking into account different project environments and governance [7]. The work demonstrates the need to consider the context of application of a project methodology, and not only its formal content [7]. This has direct implications for the human factor. The same methodology may be perceived differently by employees in different organizations.

For example, the agile approach assumes a high level of collaboration, autonomy, feedback, and participation. If the organizational culture is based on rigid hierarchy and low trust, formal implementation of agile tools does not guarantee appropriate behavior.

Therefore: **methodology → does not guarantee the result; methodology + organizational context + human factor → determine the probability of success.**

Evidence-based change management how new stage development . An important contribution to the scientific discussion was concept of evidence-based change management by Rousseau and ten Have [10]. The authors define Evidence-Based Change Management as a scientifically based practice for managing planned organizational change. The approach is based on the use of four sources of evidence: scientific data, organizational data, stakeholder input, and practical experience [10]. This approach is of fundamental importance for project management.

In practice, change management decisions are often based on the experiences of individual managers, common models, or corporate templates. However, the same practice can yield different results in different organizations. Therefore, an evidence-based approach suggests:

diagnostics → data collection → analysis → management decision → implementation → result evaluation → adjustment [10].

This cycle fits well with project logic. Moreover, it allows us to move from the general statement "people matter" to measurable indicators:

– level of employee readiness;

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– level of trust in management; – degree of understanding of project goals; – level of involvement; – intensity of resistance; – level of use of the new system; – user satisfaction; – actual achievement of organizational benefits [2; 4; 8; 10]. The measurability of the human factor is one of the promising areas for further research.

What does a "successful project" mean? The most significant conceptual transformation lies in the move from a narrow understanding of success to a multidimensional approach [5; 8]. For a transformation project, it is advisable to distinguish at least four dimensions:

project efficiency - deadlines, budget, requirements;
user effect - satisfaction and use;
organizational effect - improvement of processes and business results;
long-term effect - sustainability of changes and development of organizational capabilities [5; 8].

It is this last dimension that is particularly important for transformation projects.

Table 1. Key areas of research on human factors and organizational changes in project management.

Current direction	The main problem of research	Key factors	Importance for project success
Human factor	Underestimating the role of personnel in project implementation	Competence, motivation, interaction, employee participation	Determines the organization's ability to implement project solutions
Project leadership	Inconsistency between the leadership style and the nature of the project and the organizational context	Leadership style, adaptability, teamwork	Increases team effectiveness and the likelihood of achieving project goals
Organizational readiness for change	Insufficient readiness of employees and the organization to implement the project results	Willingness, self-confidence, collective commitment	Creates conditions for the successful adoption and implementation of changes

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Resistance to change	The emergence of negative reactions of staff to design changes	Personal attitudes, context, perception of change, behavioral responses	May slow down or block the implementation of project results
Communication and employee participation	Insufficient information involvement stakeholders	Communication, early and involvement, shared of understanding of goals and changes	Reduces resistance and promotes acceptance of change
Change management	The gap between the completion of a project and the actual implementation of its results	Change planning, staff involvement, management support	Provides a transition from the result created by the project to its practical use
Project Benefit Management	Focus solely on deadlines, budget, and meeting requirements	Benefits, value, strategic outcomes, stakeholders	Allows you to evaluate a project based on the organizational value it creates
Project management and organizational context	Universal management methods do not always provide the same results.	Methodology, project type, implementation environment, management	The choice of approach should be consistent with the specifics of the project and its environment.
Evidence-based change management	Lack of evidence-based basis for management decisions	Scientific data, organizational information, stakeholder opinion, practitioner experience	Improves decision validity and change management adaptability
A systematic approach to project success	A fragmented examination of individual success factors	Interaction of technical, organizational and human factors	Allows us to consider the project as an integral social and organizational system

Note: compiled by the author based on an analysis of sources [1–10].

A generalized conceptual model. Based on the literature review, an integrated model can be proposed.

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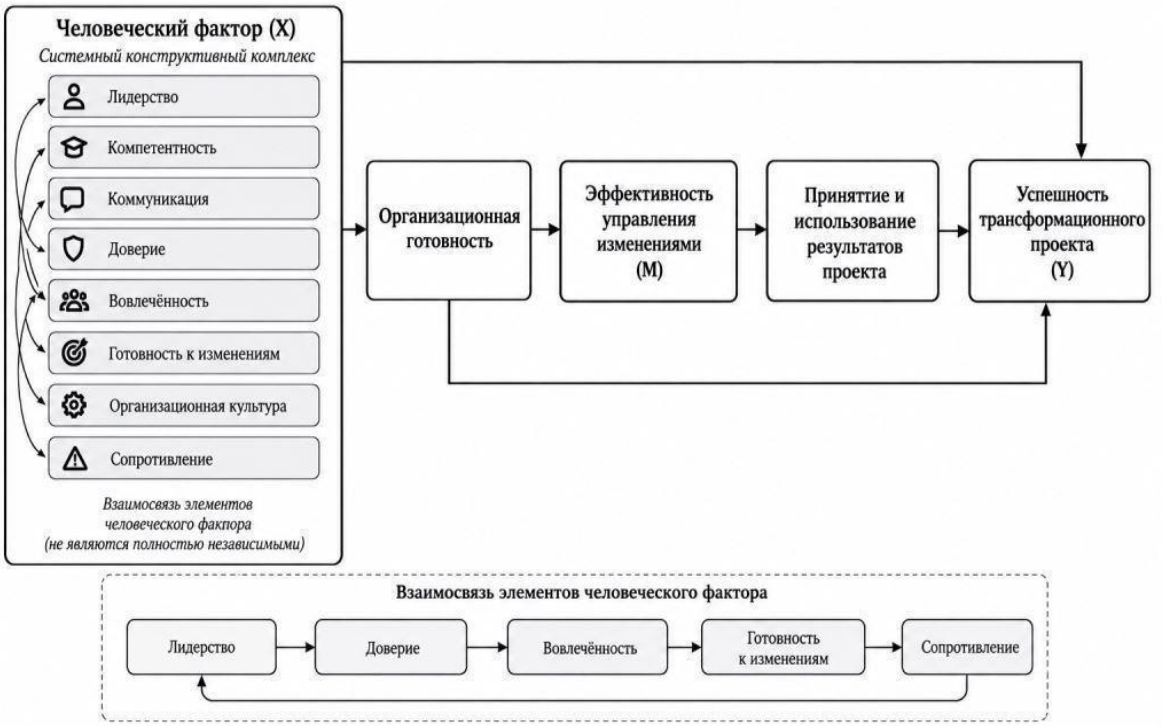

Figure 1. Generalized conceptual model of the influence of the human factor on the success of a transformation project.

Note: These characteristics are not completely independent. For example, the quality of leadership can influence trust, trust can influence willingness, willingness can influence participation, and participation can influence resistance [2; 3; 4; 9]. Therefore, the human factor should be considered not as a simple sum of individual variables, but as a **systemic constructive complex** .

Conclusion

This analytical review demonstrates that the scientific field of project management has significantly expanded compared to the traditional understanding of project management. The first fundamental shift is associated with the transition from managing the project product to managing the value created by the project [5; 8]. The second is the transition from considering the human factor as one of the many critical success factors to the study of its mechanisms of influence [1; 3; 6]. The third is with the increasing importance

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of leadership, communication and employee participation [3; 9]. The fourth is the recognition of organizational readiness as an independent mechanism for successful change [4]. The fifth is the transition from understanding resistance as an exclusively negative reaction to its analysis as a complex individual-organizational phenomenon [2; 9]. Sixth - with project integration management and change management [7; 9]. The seventh is the transition to evidence-based change management [10].

Analysis shows that the most sustainable success factors are communication, top management support, employee involvement, leadership, organizational readiness, and the organization's ability to realize project benefits [3; 4; 8; 9]. While early studies primarily asked, **"What factors ensure project success?"** the modern research agenda poses a more complex question: **"How are human and organizational factors transformed into project outcomes?"** This transition opens the possibility of developing an integrated conceptual model in which the human factor serves as an independent variable, change management effectiveness as a mediating mechanism, and the success of a transformation project as a multidimensional dependent variable [2; 4; 8; 9; 10]. In such a model, project success cannot be explained solely by the quality of planning, technological solutions, or budget adherence. Technology creates the potential for change, but it is people who determine the degree of its adoption, use, and integration into organizational practice [2; 3; 6]. Therefore, for transformation projects, the most promising seems to be the transition from the model **"technology → project → result"** to the model: **people + processes + technology → change management → adoption → use → organizational benefits → sustainable project result** [7; 8; 9; 10].

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