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Motivational tools in project teams: A scoping review of the literature (2021–2025)

Abstract

Purpose: The aim of the research was to map and categorise scientific knowledge on motivational tools used in project teams in the post-pandemic period (from 2021 onwards). By structuring the fragmented literature, the author's goal was to organise the dispersed research on post-pandemic project team motivation. Additionally, it identified the industry sectors most represented in the research area. The author uncovered gaps to guide future empirical investigations.

Design/methodology/approach: A systematic scoping review of the literature was conducted, following the Joanna Briggs Institute guidelines and the PRISMA-ScR standards. Through a search of Web of Science and Scopus, 58 peer-reviewed publications from 2021 to 2025 on motivation, project teams, and tools were identified. Using a narrative synthesis, data were organised into a three-dimensional matrix assessing impact level, motivation type, and mode of implementation.

Findings: Through the analysis of 58 selected publications, the author maps key patterns and trends in post-pandemic motivational tools. This trend from traditional controls to a focus on psychological safety, employee agency, and autonomy is facilitated by modern digital tools such as virtual reality and e-learning. The author identified five gaps: team-level research dominance, insufficiency of hybrid models combining intrinsic and extrinsic motivators, industry sector asymmetries, digitalisation barriers for physical workers, and tension arising from human-AI collaboration.

Value added and limitations: This study focuses solely on peer-reviewed publications in English from Scopus and Web of Science between 2021 and 2025. The results indicate that digital tools may act as active psychological catalysts instead of just operational interfaces. It also emphasises the need for future studies to assess the long-term motivational tools. The three-dimensional matrix provides a structured conceptual framework. It assists as a descriptive typology to help project management professionals map and understand complex motivational strategies within hybrid and remote work settings. The model offers, for organisational authorities, a conceptual guide to analyse motivational tools alongside team dynamics and technology interfaces. It also offers researchers a foundation for future empirical studies.

Keywords: *motivation, project team, motivation tools, motivation strategy, team members, post-pandemic*

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Classification: M12; M54; M10; L29

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1. Introduction

The COVID-19 pandemic, and thus the accelerated digitalisation it has driven, has fundamentally transformed the way project teams operate. The shift to remote and hybrid work, which was treated as a temporary crisis solution, has become a permanent element of organisational reality (Ribeiro et al., 2025). This introduced a new dynamic in project teams, in which employees' requirements regarding working conditions, development, and autonomy changed. Unlike permanent teams, project teams are characterised by a dynamic composition, a limited time horizon (Bernat et al., 2023; Kier et al., 2023) and the need to quickly build cooperation between specialists from different areas (Podgórska, 2022). They carry out tasks under a different work model. That is why it has become vital to identify and understand which motivational tools are most appropriate.

In this context, the organisation's authorities face challenges such as maintaining employee engagement, improving cohesion among remote teams, and ensuring efficiency in hybrid work setups (Behn & Silvius, 2025; Bernat et al., 2023; Mtsweni & Mhlana, 2025). This is an important issue, given that project teams, understood as groups of people temporarily organised around a specific goal (Behn & Silvius, 2025; Kier et al., 2023), are often geographically dispersed in the post-pandemic context (Bernat et al., 2023). Effective management of hybrid project teams requires a deep understanding how traditional and digital tools can be used together according to contemporary digital human resource management (HRM) frameworks (Bondarouk & Brewster, 2016; Strohmeier, 2020). Especially in times when traditional methods of surveillance and control have become more difficult to apply, and the boundaries between work and private life are blurred. At the same time, authorities should respond to growing market expectations for a flexible and creative approach to project delivery.

To manage these distributed teams, the swift integration of advanced digital tools has expanded access to innovative solutions that support employee engagement and facilitate seamless cross-boundary collaboration (Bernat et al., 2023). At the same time, the increasing use of artificial intelligence (AI) in project management and process automation creates both challenges and opportunities for team motivation. These parallel transformations, including post-pandemic work reorganisation and AI-driven digitalisation, have affected the potential of traditional motivational tools (Bugarčić & Slavković, 2023).

Motivation, defined as the intrinsic or extrinsic psychological state that drives an individual to take and sustain action towards a specific goal, plays a fundamental role in the effectiveness of project teams (Kumar et al., 2025; Ribeiro et al., 2025). The scientific literature on motivation in project teams is rich and shows a variety of perspectives. Motivation can be seen as a process during which people are encouraged to take actions (Borkowska, 2006). Similarly, Kumar et al. (2025) view motivation as a combination of

intrinsic impulses and extrinsic stimuli that influence how people think, act, and strive to achieve goals. Given the multitude of definitions of the term “motivation” and the design context, the study adopted two approaches, where:

- motivating people translates into the ability to achieve high performance and overcome barriers through change (PMBok, 2021) and
- motivation is understood as an inner drive that prompts people to take action (Wang & Ye, 2025).

Modern theoretical frameworks point to the need for a differentiated approach (Kozłowski & Klein, 2000; Ribeiro et al., 2025). For example, Kozłowski and Klein (2000) draw attention to the perspective of a multi-level organisation, in which maintaining the effectiveness of the local government team is important at the individual and team level. The literature on organisational behaviour, motivation, and team-level performance suggests that team accomplishments are driven by collective emergent states and team processes (Mathieu et al., 2017). Deci and Ryan’s Self-Determination Theory and Herzberg’s Two-Factor Theory highlight that employee motivation should consider both intrinsic factors (like a sense of competence, autonomy, and belonging) and extrinsic factors (such as pay, recognition, and physical working conditions) (Deci & Ryan, 2000; Herzberg et al., 1993). In the analytical framework (detailed in Section 2), these frameworks and theories are directly operationalised to three dimensions of the matrix. They serve as the foundation for categorising motivational tools.

In project teams’ work, sources of motivation include, among others, the need for security, shared values, a sense of action, and individual predispositions (Trocki et al., 2003). Several motivational tools can be used to increase team members’ involvement. Sekuła (2008) defined them as “a set of methods, procedures, rules and ways of proceeding, as well as organisational solutions that should adequately solve motivation problems”. Numerous motivational tools are discussed in the literature, including coercion, persuasion, and encouragement (Marek & Białasiewicz, 2008). There are financial and non-financial tools that, when properly selected and applied, lead individuals to behave in certain ways (Griffin, 2017). However, traditional motivational tools based on direct contact, spontaneous interactions, and physical presence in the office have proven insufficient in the current context (Behn & Silvius, 2025). That is why optimising project outcomes is essential for project management professionals now more than ever (Bugarčić & Slavković, 2023; Ribeiro et al., 2025). With the right tools, they can boost employee motivation, helping to meet business goals (Kumar et al., 2025).

Motivation in project teams is a widely analysed topic in the scientific literature. However, the secondary research has focused on different research objectives and limited contexts. For example, Tyulkubayeva et al. (2025) conducted a broad bibliometric and systematic analysis of general motivational factors from the perspective of team

members, managers, and leaders' roles, covering a 20-year historical time horizon (2004–2024). Kumar et al. (2025) focus on a classic review of abstract theories of motivation in general work environments. Other works identify factors which are used to motivate in specific industries or selected types of projects. Wang and Ye (2025) use two-variate nonparametric analysis to examine the connection between demographic characteristics and specific motivational factors of civil engineers in the construction sector. In turn, Borysov (2024) builds a regression model for work management in IT projects, and Bernat et al. (2023) explore stakeholder engagement and knowledge management in virtual teams using structural equation modelling. Knowledge about specific motivational tools in the post-pandemic reality remains extremely dispersed and unstructured (Bernat et al., 2023; Fuentes et al., 2025). This scoping review focuses on the post-pandemic era (2021–2025) to capture the real-time reorganisation of design work models and to isolate specific, operational, and actionable motivational tools deployed directly in design environments (such as VR goggles for safety planning or digital feedback loops). Instead of limiting the study to pedagogical challenges and student teams (Donelan & Kear, 2024) or focusing on very narrow methodological niches, the identified motivational tools were organised into a new, multi-level, three-dimensional matrix. This approach helps to move beyond narrow industry scopes and create a broad, adaptable framework to motivate project teams in the post-pandemic era.

The aim of this study was to map current scientific knowledge about tools used to motivate project team members in the post-pandemic era. The author sought to:

- identify and categorise the motivational tools discussed in the literature,
- identify contemporary literature trends and thematic emphases regarding the conceptual transition in research focus from traditional control toward trust and autonomy based models, and
- identify research gaps that need further investigation.

To guide this research, the review was conducted around the following research questions:

RQ1 What motivational tools have been identified in the context of project teams in different sectors in the post-pandemic era?

RQ2: What research gaps can be identified in terms of motivational tools for project teams?

The first question should allow for the organisation and categorisation of existing tools, while the second should set the direction for future research.

The review covers motivational tools used in project teams across industries and sectors, enabling you to capture diverse motivational practices in different organisational contexts. The article has seven sections. The second one discusses the methodology used

in this research. The next chapter presents results and subsequently discusses them. The theoretical implications, as well as the identified research gaps, are discussed in the fourth section. The fifth section presents practical implications for motivating project teams, along with limitations and recommendations in the sixth section. The conclusion is presented in the last section.

2. Research method

This study was conducted as a systematic scoping review of the literature, following the Joanna Briggs Institute protocol (Peters et al., 2020) and the PRISMA Extension for Scoping Reviews (PRISMA-ScR) reporting principles (Tricco et al., 2018). This was done to map the motivational tools used by project teams across various organisational and project contexts reported in the scientific literature (Arksey & O'Malley, 2005) (Figure 1).

Keywords were developed by combining three thematic blocks linked by the Boolean AND operator, which were inextricably linked to the subject of the study:

1. BLOCK 1 – Motivation.
2. BLOCK 2 – Project teams.
3. BLOCK 3 – Tools.

A broad terminological approach was used in the literature search (Murphy & Alexander, 2000), encompassing constructs such as engagement, commitment, and incentives, provided that they referred to mechanisms that stimulate employee behaviour. Adopting a narrow definition, limited to motivation in the strict sense, could exclude significant empirical research on how project teams function. Also, 'motivational tools' are treated as any active, designable intervention or practice used by project leaders (Prendeville et al., 2023), following socio-technical systems theory (Felekoglu et al., 2022). These active interventions are clearly separate from existing organisational context, intrinsic cognitive experiences (psychological states such as engagement), and performance outcomes, including only publications focusing on the active interventions themselves. In digital and hybrid settings, technologies promote organisational practices that trigger positive psychological states and team engagement (Lin et al., 2024). The classic project teams described as temporary and task-focused, in contrast to working teams which function as permanent departments. The research identifies also student project teams which are learning-focused, but show similar structural characteristic, like digital tool reliance and task interdependence. In this study, these teams are characterised by their goals and structural aspects, such as purpose, duration, budget, task interdependence, and stakeholders. Furthermore, the main aim of this analysis is to explore the motivational tools employed within project teams, without evaluating or categorising team members' skills or formal educational backgrounds.

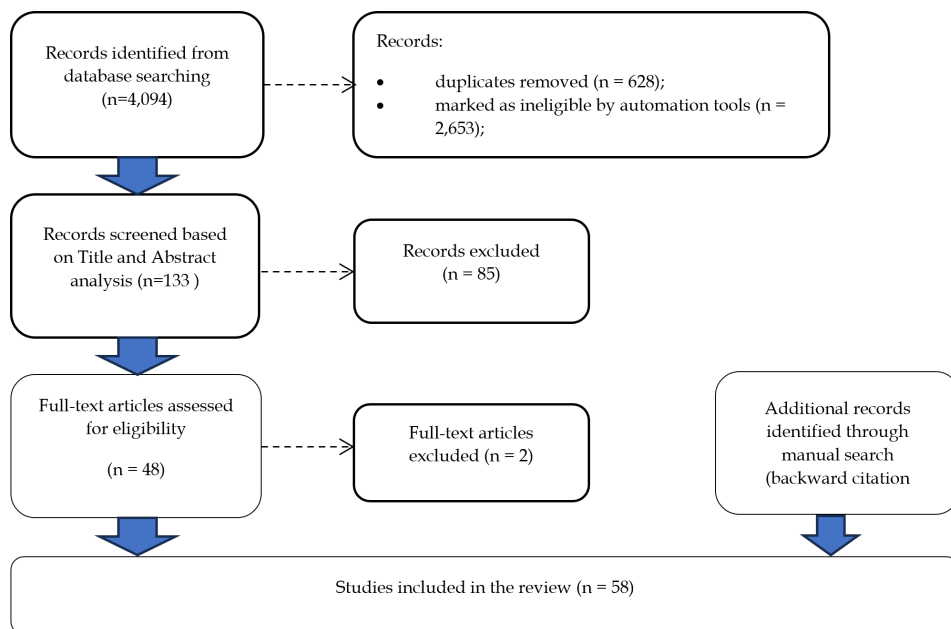


Figure 1. PRISMA-ScR Flow Diagram outlining the literature selection process

Source: own study

The combination of BLOK 1, 2, and 3 was used to search two databases: the Web of Science Core Collection (WoS) and Scopus between March 01 and May 30, 2026. Across WoS the search strings were executed using the “ALL FIELDS” parameter (TS=((“motivation” OR “performance goal” OR “engagement” OR “commitment” OR “empowerment” OR “incentive*”) AND (“project team*” OR “team work*” OR “temporary organisation*”) AND (“tool*” OR “technique*” OR “strateg*” OR “intervention*” OR “practice*” OR “system*”))), in Scopus the “Title-Abstract-Keyword” field was employed (TITLE-ABS-KEY=((“motivation” OR “performance goal” OR “engagement” OR “commitment” OR “empowerment” OR “incentive*”) AND (“project team*” OR “team work*” OR “temporary organisation*”) AND (“tool*” OR “technique*” OR “strateg*” OR “intervention*” OR “practice*” OR “system*”))). In the initial stage, a total of 4,094 records were identified (Scopus = 2,076, WoS = 2,018). The duplicate records were identified and removed using automated reference management software deduplication and manual verification. After this, 3,466 unique

items were retained. The inclusion criteria were applied with automated database filters, such as peer-reviewed English-language publications which were published between January 1, 2021 and December 31, 2025, with full-text retrieval. Two reasons determined that 2021 was used as the starting point. First, in 2021 organisations made a change from emergency and short-term crisis management toward formalised, long-term hybrid and remote work policies. Second, this year represents the rise of the first wave of peer-reviewed academic literature analysing these stabilised, post-pandemic workplace adaptations. It introduces research that investigates adaptations resulting from distinct motivational dynamics in project environments. The exclusion criteria included publications before 2021, publications in languages other than English, post-conference publications, reports, and non-peer-reviewed materials. In this review, the aim was to map the scientific literature on motivational tools in project teams, rather than practice-oriented industry reports. At this stage, a total of 813 publications were obtained, of which 494 came from WoS and 319 from Scopus. To ensure relevance to the discipline, the results were filtered to include only publications classified in the areas of Business Economics, Science Technology Other Topics, Engineering, Social Sciences, Other Topics, Operations Research Management Science, Public Administration, International Relations, Social Sciences, Business, Management and Accounting, Environmental Science, Engineering, Decision Sciences, Economics, Econometrics and Finance.

The adopted method of operation limited the number of publications to 133, excluding records related to “motivation” in the context of addiction quitting (medicine) or motivational therapy (psychology) for further research. In the next step, a two-stage qualitative selection was made. In the first stage, the abstracts were analysed in order to provide answers to important questions: (1) Is the publication for project/working teams? and (2) Does the publication discuss the tools/methods/ways of motivation? Decisions YES/NO/MAYBE were categorised. In this way, only 48 publications qualified for the second stage, with 35 YES and 13 MAYBE answers. A full-text analysis was then conducted, resulting in the rejection of two articles in which the project teams’ context was marginal, which gave 46 publications in the end.

During the manual search the backward citation-searching procedure was employed. Review of the reference lists of included articles from selected database articles (46) was done. References whose titles or abstracts present focus on motivational tools in post-pandemic project environment were subjected to the same screening, as those from databases. This operation yield 12 more publications which were included in the study. In this way, 58 publications were finally accepted for research. The complete list of all included publications is presented in Appendix 1.

The narrative synthesis method was used for data analysis (Popay et al., 2006). During the data collection a specific extraction form was used, which all components are named in Appendix 1. Furthermore, data from publications were organised into

a matrix by grouping motivational tools into three dimensions based on prior research and recommendations for developing analytical frameworks in scoping reviews (Arksey & O'Malley, 2005; Levac et al., 2010; Peters et al., 2020). To ensure high theoretical rigour, each block has been explicitly mapped to a recognised organisational and psychological framework. The first dimension, impact level (individual vs team), reflects a multi-level approach to motivational interventions in the field of HRM and organisational behaviour (Kozłowski & Klein, 2000; Mathieu et al., 2017). In this complex perspective, individual-centred tools address employee well-being and stressors, while team tools focus on collective emergent states and processes such as psychological safety, team psychological capital, and teamwork engagement. The second one, motivation type (intrinsic vs extrinsic), based on self-determination theory (Deci & Ryan, 2000) and Herzberg's Two-Factor Theory (1993), identifies intrinsic from extrinsic motivation. Also, a third category, "mixed", has been introduced for tools that combine both of these mechanisms or cannot be clearly assigned to one field. The last dimension, implementation form (digital platforms vs traditional methods), highlights the role of technology and the coexistence of analogue and digital methods (Bondarouk & Brewster, 2016; Strohmeier, 2020). Additionally to only "traditional" and "digital" interventions, a "hybrid" category has been identified for those combining both approaches. Using these dimensions enabled consistent mapping of tools and structured results in line with the review's goal. An analysis was also conducted to examine the sector in which tools were used, identifying organisational contexts and differences across work modes. These analyses deepened the interpretation within the main three-dimensional scheme.

The three-dimensional matrix serves as a conceptual framework and typology to organise literature on post-pandemic project team motivation. It acts as a diagnostic guide, helping researchers and practitioners identify, categorise, and compare motivational setups based on recognised theoretical dimensions, rather than as a prescriptive decision-making tool.

The data coding process was carried out by a single researcher based on a structured categorization sheet. To reduce the risk of interpretation error in single-person extraction, a test-retest coding procedure was used. After a three-week interval, a sample of 20% of the articles ($n=12$ papers of $N=58$) was selected using a random number generator. The coding unit was defined as each individual motivational tool mapped to the three-dimensional matrix. Intra-coder agreement was calculated as the percentage of identical classifications across all categories, achieving a consistency rate of 95%. Also, it is important to note the different units of analysis in this review. Each motivational tool was the main coding unit for qualitative mapping and taxonomic extraction. For the quantitative synthesis and percentage reporting, the individual publications ($N=58$) were used as the classification unit. This approach was used

because several publications analysed multiple non-mutually exclusive categories—specifically within the classifications of impact level and motivation type. All reported counts and percentage distributions refer to the total publication corpus (N=58), not individual tools.

3. Research results

The analysis of the chronological distribution of the collected research material (N=58) indicated relative stability in publication over 2021–2025 (Fig. 2). The highest number of publications was recorded in 2024, with 14 papers.

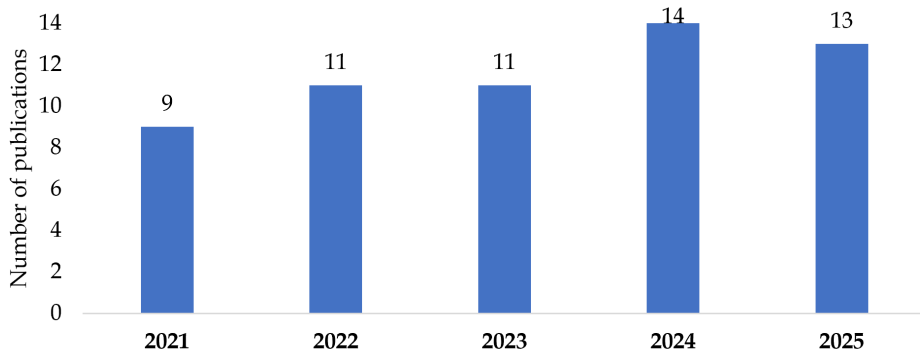


Figure 2. Classification of the studied literature by year of publication

Source: own study

The fewest publications occurred in 2021 (n=9). The average annual number of publications in the analysed five-year period was 11.6. It indicates sustained and growing academic interest in post-pandemic project team motivation, underlining the critical need to map and organise this rapidly evolving field.

The geographical focus of the included publications (N = 58) reveals a diverse global distribution. The largest concentration of analysed publications is in Europe (36.2%, n = 21) and Asia (34.5%, n = 20). Other authors adopt North America perspective (13.8%, n = 8), or global / multi-regional (8.6%, n = 5). The lowest representation has been found in South America (3.4%, n = 2), and Africa (3.4%, n = 2).

3.1. Motivational tools

Since 2021, motivational tools have been used to provide emotional support to individual project team members or aid in emotional management. The first group of tools was used to build a safety net by providing employees with support from the team, leaders, and the organisation itself, and intentionally promoting mental well-being (Donelan & Kear, 2024; Turner, 2021). They included emotional support (Flores et al., 2025), social support (Bakker, 2022), and mental well-being activities (Leung et al., 2024). In addition, tools that fostered the expression of positive emotions (encouragement, enthusiasm, or a sense of humour) were distinguished (Fortuin et al., 2021; Chen et al., 2025; Turner, 2021). On the other hand, emotion management tools were used to develop team members' skills in coping with their own emotions, including managing negative states (such as anxiety or stress), as well as hands-on training in emotion regulation strategies (Leung et al., 2024; Chen et al., 2024) (Table 1). They enabled individuals to navigate emotional states arising from the dynamics of change in the post-pandemic digital work landscape.

Table 1. **Multidimensional classification of post-pandemic motivation tools**

Dimension	Category	Key interventions & mechanisms identified in the literature	Representative mapped sources
Impact Level	Individual	Emotion regulation, mental well-being support, stressor management, psychological empowerment, and career mentoring	Leung et al., 2024; Chen et al., 2025; Bakker, 2022; Flores et al., 2025; Turner, 2021
	Team	Sense of community, establishing psychological safety, joint celebration of successes, emotional contagion, and team-boosting	Nguyen et al., 2023; Fortuin et al., 2021; Gersdorf-Van den Berg et al., 2024; Yau et al., 2025;
Motivation Type	Intrinsic	Sense of agency and purpose, curiosity-driven learning (PBL), alignment with pro-social/public mission, work passion	Torrijo et al., 2021; Khan et al., 2022; Pattanatornchai et al., 2024; Mtsweni & Mhlana, 2025
	Extrinsic	Modernised remuneration, structured promotion paths, institutional intellectual property protection (IPP), and gamified performance tracking	Wang & Ye, 2025; Yin et al., 2024; Rehman & Ishak, 2023; Fallon et al., 2022
	Mix	Green Human Resource Management, Near-Peer Teaching	Khan et al., 2022; Orsini et al., 2022

Implementa- tion	Tradi- tional	Face-to-face mentoring, in-person workshops, informal integration meetings, and direct dialogue with experts	Lindblom & Martins, 2022; Ramos et al., 2023
	Digital	Virtual Reality (VR) simulation workshops, digital storytelling (DST), online co-design interfaces, technology-driven feedback loops	Swallow & Zulu, 2024; Sachmpazidi et al., 2021; Flores et al., 2025; Jahan et al., 2025
	Hybrid	Asynchronous platforms with synchronous videoconferencing, digital knowledge bases support direct channels	Lindblom & Martins, 2022; Donelan & Kear (2024)

Source: own study based on publications identified in the review

At the level of the entire project team, researchers' attention is focused on building a sense of community (Nguyen et al., 2023), celebrating successes (Gersdorf-Van den Berg et al., 2024), and organising post-pandemic integration (Yau et al., 2025). The foundation of its potential lies in shared goals (Podgórska, 2022), regular feedback and a transparent communication architecture (Malynovská et al., 2022; Kerimbayev et al., 2023; Behn & Silvius, 2025). The use of virtual reality (VR) as an interactive platform for team problem-solving is also appreciated (Swallow & Zulu, 2024; Sachmpazidi et al., 2021; Shuro et al., 2025). Problem-Based Learning influences communication, teamwork, and the pursuit of common goals, which can lead to the development of soft skills (practical and critical thinking) at the individual and team levels (Torrijo et al., 2021). Such an environment fosters interdisciplinary collaboration and increased engagement and facilitates the overcoming of communication barriers in project teams (Torrijo et al., 2021; Swallow & Zulu, 2024). It also helps coordinate activities and mitigate decision-making disruptions (Malynovská et al., 2022; Dinis-Carvalho et al., 2023).

3.2. Level of motivation: intrinsic, extrinsic and mix

Intrinsic -factor-based tools are driven by curiosity, agency, psychological safety, passion, and meaning in work (Torrijo et al., 2021; Pattanatornchai et al., 2024; Dinis-Carvalho et al., 2023; Mtsweni & Mhlana, 2025). Also, strong intellectual property protection encourages proactive innovation and collaboration (Yin et al., 2024). Gamification breaks cognitive barriers via competition and feedback (Fallon et al., 2022). Wang and Ye (2025) note wage and promotion patterns in high-risk sectors.

Green Human Resource Management (GHRM) has been identified as a dual-acting tool (Khan et al., 2022). On one hand (as an extrinsic motivator), it integrates pro-

ecological policy with the organisation's goals, thereby building a sustainable work system. On the other hand (as intrinsic motivator), elements such as "green training" and the promotion of prosocial attitudes have a strong impact on employees, fostering a sense of higher meaning in work and building deep engagement (Khan et al., 2022; Kumar et al., 2025). Other examples are psychological capital strengthening training (Lin et al., 2024; Pargar & Kujala, 2021) or peer training (Orsini et al., 2022). The results of Orsini et al. (2022) show that Near-Peer Teaching (NPT) reinforces both types of motivation tools. The tutor gains deep knowledge and soft skills (intrinsic motivation), and the training participant can gain a safe and effective working environment (extrinsic motivation). All this can be translated into greater efficiency for the entire organisation.

3.3. Forms of implementation of motivational tools: traditional, digital and hybrid

The implementation forms include traditional, digital, and hybrid solutions. In the traditional approach, face-to-face mentoring and interpersonal relationships play a key role (Bernat et al., 2023; Lindblom & Martins, 2022; Orsini et al., 2022). Honesty, respect, and an open-minded attitude are crucial (Irfan et al., 2021). Analyses by Lindblom and Martins (2022) show that in organisations with a humanistic culture of knowledge sharing, daily informal interactions, such as team meetings, corridor discussions, and conversations during coffee and lunch breaks, are key to motivation.

In environments that rely on electronic media, stable and efficient communication platforms such as MS Teams, Zoom, and SharePoint are essential for maintaining comfort and cohesion. The quality of technical cooperation depends on system feedback loops and the reliability of data exchange channels (Behn & Silvius, 2025). The implementation of modern digital channels, such as virtual reality (VR) goggles (Swallow & Zulu, 2024), gamified tasks (Fallon et al., 2022), and digital storytelling and e-learning (Flores et al., 2025; Fuentes et al., 2025), can be viewed as motivational tools. Tools for identifying innovation leaders (Petzolt & Seckler, 2025) and platforms that support the delegation of authority (Maswadeh, 2022) have also been used to motivate.

In hybrid models, digital knowledge bases support direct channels for exchanging experiences, enabling better management of tensions in a dynamic environment (Lindblom & Martins, 2022). Also, Donelan and Kear (2024) indicate that structuring hybrid group projects requires an integrated design that combines asynchronous platforms (e.g., discussion forums, wikis, knowledge bases) with synchronous videoconferencing to maintain social bonds and cohesion.

3.4. Motivational tools in various industry sectors

Considering the sectoral context, the database covers a wide range and identifies five areas (Tab. 2). The largest group comprises the technical, engineering, and industrial sectors (n=17), which are characterised by advanced technology in fields such as construction, energy, telecommunications, and mining. Many authors highlight the high operational and safety risks inherent in these sectors (Leung et al., 2024; Rehman & Ishak, 2023; Wang & Ye, 2025). During planning, design, and site safety logistics, digital tools as Virtual Reality (VR) headsets and Building Information Modelling (BIM) digital twins are suggested as potential motivators, facilitating early interdisciplinary collaboration and hazard detection (Swallow & Zulu, 2024). Nonetheless, since the physical work on construction sites remains non-digital, the operational phase depends on traditional, hands-on motivational strategies. During on-site execution, employee engagement and performance are maintained by core traditional motivators, including physical safety measures, transparent pay systems, and supportive interpersonal relationships (Leung et al., 2024; Wang & Ye, 2025). Success in these areas largely depends on the organisation's ability to build trust, communicate transparently, and introduce changes gradually to lessen employees' perceived threats (Bugarčić & Slavković, 2023; Kier et al., 2023; Petzolt & Seckler, 2025).

Table 2. **Distribution of analysed research by organisational sector**

Sector	Number of papers (n)	Dominant Focus / Project Context
Construction / Industrial / Engineering	17	High-risk environments; overcoming barriers to Industry 4.0; balancing digital planning with physical operations
Education / Higher Education	13	Mitigating engagement drops in remote work, developing specialised staff, and Problem-Based Learning (PBL)
Public Sector & Healthcare	10	Co-creation of social value; mission-driven motivation; using digital storytelling to build shared understanding.
Software Development / IT / R&D	9	Innovation proactivity; Ability-Motivation-Opportunity (AMO) models; intellectual property protection mechanisms
Management / Business / Other	9	Team Work Engagement (TWE); stakeholder relationship management; identifying innovation promoters (SMEs)

Source: own study based on 58 publications (N=58) identified in the review

In education (n=13), research focuses on declines in engagement in remote work and on the education of highly specialised staff (Donelan & Kear, 2024; Jordan et al., 2021). Research confirms that motivation decreased significantly, resulting in reduced task commitment and diminished self-fulfilment (Irfan et al., 2021). Authors in this area focus primarily on the education of future highly specialised teams (Irfan et al., 2021; Jordan et al., 2021; Torrijo et al., 2021). Integrated motivational tools, such as active Problem-Based Learning (PBL) and collaborative near-peer coaching, effectively bridge task execution with behavioural development. On the one hand, interactive interventions directly support the acquisition of complex technical and specialist competencies (Orsini et al., 2022; Torrijo et al., 2021). On the other hand, fostering autonomy, psychological safety, and constructive feedback enhances the environment for project teams (Lin et al., 2024; Sachmpazidi et al., 2021). These supportive conditions strengthen key psychological resources for teams, such as self-efficacy, both individual and collective agency, and a proactive willingness to collaborate (Jahan et al., 2025; Lin et al., 2024).

In the public sector, including health care (n=10), motivation is based on social values, mission, and co-creation (Kier et al., 2023; Shuro et al., 2025; Siddiqui et al., 2024). In this context, it is closely linked to trust and ethics. Research often focuses on developing countries. In addition, participatory tools are advisable, such as digital platforms, storytelling or co-design. For instance, storytelling is used to convey information, build a common understanding, and bring the team together around a shared goal (Flores et al., 2025; Shuro et al., 2025). In addition, case studies, mentoring, and volunteer initiatives can strengthen personal motivation and team cohesion (Pattanatornchai et al., 2024).

In creative and IT teams (n=9). Borysov (2024) knowledge transfer, the AMO (Ability-Motivation-Opportunity) model and innovative digitally supported proactivity are important (Borysov, 2024; Chen et al., 2024; Yin et al., 2024). For research and development (R&D) employees, motivation is treated as a driving force for proactive innovation, while in the R&D environment, it refers to the willingness to undertake innovative activities. Researchers emphasise that robust intellectual property protection mechanisms are crucial here (Yin et al., 2024). Many publications emphasise the importance of extrinsic motivators, such as access to dedicated digital tools (Bernat et al., 2023), which will improve communication and teamwork. The authors emphasise that a leader's competence in communication, mediation, and relationship-building is crucial for maintaining team motivation in a high-volatility, time-pressured environment.

The project management and business sector (n=9) focuses on stakeholder relations, team engagement (TWE), and energy-empowering engagements (Hu & Simba, 2025; Gersdorf-Van den Berg et al., 2024; Fortuin et al., 2021). Hu and Simba (2025) showed that differing stakeholder expectations can hinder progress,

requiring active relationship management to sustain the pace of project delivery. In this context, motivation is reduced to the expression of specific attitudes and behaviours that shape the project team's functioning. In other words, motivation is examined from the perspective of Team Work Engagement (TWE), described as "a shared, positive, and fulfilling emergent motivational state of work-related well-being" originally named by Costa et al. (2014) and further discussed by Gersdorf-Van den Berg et al. (2024). Fortuin et al. (2021) indicated that verbal and non-verbal activities that increase energy, positive emotions, and interactions among members translate into greater motivation (team-boosting behaviours) and promote team cohesion and effectiveness.

3.5. Research gap

Analysis of scientific literature gathered through systematic scoping review revealed five key gaps. In the post-pandemic timeline, asymmetries in motivating project teams arise.

The first gap shows a dominance of publications which focus on team tools (n=41), while only nine studies (n=9) examine individual approaches. The analysis of how to tailor motivational tools, such as emotional support and stress management, to the unique needs of individual project team members are not enough described. The second issue is the limited research on models which combine extrinsic and intrinsic solutions. While intrinsic motivation is extensively discussed in the analysed literature (n=27), tools based on extrinsic factors (n=10) and integrated dual systems such as GHRM or Near-Peer Teaching are much less explored. This shows a lack of understanding on how to effectively blend hard extrinsic motivators (such as financial incentives and IP) with softer intrinsic motivators within an integrated motivational framework. The next one, industry asymmetry, highlights that most analysed publications have concentrated on the technical and engineering sectors (n=17) and education (n=13). Fields such as IT/creative (n=9) and project management as an independent research area (n=9) are less explored. This limits the ability to directly apply conclusions to industries centred on creative work or with unique stakeholder management structures. Regarding digitalisation at the operational level, analysed literature shows that while full digitisation of motivational tools and workflows is can be effective during the planning and design phases, the operational phase in the engineering and industrial sectors still faces real-world challenges. There is a notable research gap in the development and testing of hybrid motivational tools tailored for employees in physical, operational roles who cannot fully benefit from traditional digital communication platforms. The fifth gap presents the absence of human-AI collaboration within analysed data. AI was not a component of the initial search strategy, so this does not necessarily reflect a field-level absence of literature on the topic. The analysed literature does not

pay attention to human-AI collaboration and its effects. Psychological tensions are underestimated. Current frameworks do not yet provide tools to help project managers use AI efficiently, and at the same time protect human agency and intrinsic motivation among team members.

4. Discussion

The approach to motivating project teams shows an evolving trend towards multi-level and hybrid systems. As the analysed literature shows, motivation is rarely described as a one-dimensional phenomenon and is no longer merely an intervention to boost productivity.

To categorise the identified mechanisms, a matrix was used to account for three main dimensions: impact level, motivation type, and form of implementation (Tab. 3). This approach enabled a detailed understanding of the mechanisms underlying modern motivation. In the impact dimension, the collective approach dominates, with most works focusing on interventions for entire teams, while a few target individuals. This trend from individual control to systemic, team-based solutions, like a supportive environment, reflects the understanding that team engagement is more resilient to stressors than individual engagement. The analysis reveals a trend regarding the teams' work context: despite the post-pandemic focus on remote work, most research still focuses on traditional, co-located teams, particularly in construction and heavy industry. Virtual and hybrid teams, on the other hand, dominate the IT and education sectors. This distribution indicates that modern motivational challenges affect all work environments. It shows that advanced digital interventions and the need for new motivational frameworks are not exclusive to remote workers but are equally critical for traditional teams undergoing rapid technological transformation. At the same time, there is a clear trend indicating that motivation is not universal and that its tools may be adapted to a given organisational culture.

Table 3. Literature trends of project team motivation systems across key dimensions and sectors

Dimension	Literature trends in motivational systems	Organisational and industry context
Impact level (Individual vs team)	Moving from individual control to team solutions, tools for individual members focus on well-being and mental resilience; team tools focus on psychological safety and the work environment	Simple employee benefits (e.g., sports cards) are increasingly complemented by building a sense of community in teams

Motivation type (Intrinsic vs extrinsic)	A retreat from extrinsic control (e.g., online supervision) in favour of intrinsic motivation (autonomy, co-determination). Use of tools that build engagement (gamification, co-design, storytelling)	In the public/medical industry, motivation is based on social values; in technical industries, it is mainly used to reduce risk
Implementation (Traditional vs digital)	The coexistence of digital and traditional solutions. Online tools (VR, co-design platforms) are essential for communication, but traditional face-to-face contact remains crucial for building trust	Clear asymmetry: virtual/hybrid teams dominate in IT and education, while traditional (stationary) teams dominate in construction and industry

Source: own study

Tyulkubayeva et al. (2025) examine a 20-year period, while Kumar et al. (2025) focus on abstract theories of motivation in a general work environment. This research focus only on a post-pandemic period (2021-2025), where three-dimensional matrix operates Self Determination Theory (Deci & Ryan, 2000) and Herzberg's Two-Factor Theory (1992) into conceptual framework mapped to project team structures.

In response to the first research question (RQ1), the literature trends of motivational tools change focus from short-term survival tactics in an unfamiliar environment to long-term well-being and trust-based collaboration. Modern management presents a trend of moving away from simple benefits (such as sports cards) in favour of systemic and team-based solutions, i.e., a supportive work environment and a sense of community and belonging. Initially, teams had to develop the necessary digital competencies to lighten feelings of isolation. Over time, digital tools have become part of daily work. Now motivation focuses not only on achieving goals at all costs but also on preventing professional burnout. Authorities, especially in the IT and construction sectors, have recognised that motivation can be viewed as a renewable resource rather than a depleting one, since overexploitation may cause irreversible talent loss. The analysed literature reflects a growing academic interest in intrinsic and participatory motivation which have fostered through co-design and a focus on well-being. Tools such as digital storytelling, co-design platforms, and VR emerged in the literature as alternatives to online meetings to navigate the sudden focus. Moreover, the traditional "top-down" approach can be changing to a democratic model where employees actively influence the organisation, fulfil their desire to be recognised and involved in decision-making.

To answer the second research question (RQ2), five gaps were identified in the analysed literature. The first gap shows, that within analysed literature team-level tools dominate above individual ones. In the post pandemic work environment,

scholars have focused on emergent states such as team resilience and psychological safety. Fostering a supportive atmosphere in a group is important. Nevertheless, there is a lack in focusing on the needs at the individual level. This imbalance minimalise the understanding of how to manage individual project team members before their experience a loss of motivation.

Based on the analysed literature the second research gap points the absence of empirical evidence on how intrinsic and extrinsic interventions can interact and complement one another within hybrid motivation models. The review's findings show that simply digitalising processes and tools is insufficient, and mental well-being support has become important. Nevertheless, analysed researches often investigates these two areas separately. Exploring potential conflicts or synergies when combining advanced intrinsic solutions with extrinsic social support and face-to-face interactions can be helpful. Understanding this interplay may guide how to create a cohesive work environment.

The third research gap directly results from industry asymmetry in the analysed literature, highlighting the lack of contextualisation of motivational tools in sectors with low levels of digitalisation, especially at the operational level. The review highlights that interventions are mostly described in industrial and construction sector contexts. IT and creative sectors are mainly omitted. There is a lack of research on motivational tools used in sectors which may involve creative and designing challenges, so they are underrepresented. The fourth research gap can be described as a deep conceptual divide between knowledge workers and operational staff. The first group is capable of remote work, and the second one is working on-site. Although post-pandemic research focuses mainly on digital well-being interfaces and virtual collaboration platforms, these tools are useless for physical workers. This gap can be identified in the analysed literature. Digital motivational frameworks can be ineffective for physical and operational employees. Thus, there is a potential risk of perceived digital exclusion among those workers operating outside traditional office settings.

The fifth research gap represents a lag where technological adoption has far outpaced research in organisational psychology. In the analysed corpus, AI is often treated only as a functional automation tool rather than as an active participant in team dynamics. After the pandemic era, there was a quick adoption of AI tools, like predictive resource scheduling and automated reporting. Their use shows that these tools can reduce routine tasks, but at the same time they may also leave team members feeling a loss of professional control and job security. The analysis focuses on basic digital collaboration platforms, leaving an unfilled spot regarding how algorithmic automation interfaces with project team members and their needs for autonomy and competence. Consequently, the current state of the analysed literature does not fully explain how project environments can use AI-driven operational efficiency without harming project team members.

When considering the practical implications, methodological caution is necessary. As this study is a scoping review to map the post-pandemic scientific landscape, it does not evaluate the comparative effectiveness or the quality of the methods used in the primary studies. Consequently, these recommendations should be viewed as theoretical options and guidelines rather than empirically validated ‘best practices’. Practitioners need to independently evaluate and customise these options based on their organisation’s specific context, limitations, and technological capabilities.

Based on the findings (Tab. 1), organisational authorities and project managers can view motivation as a renewable resource and develop interventions that prioritise employee well-being to safeguard against burnout (Donelan & Kear, 2024). This includes standardising mental health support, regulating individual emotions, and bringing mindfulness training into project management routines, as mention Leung et al. (2024) and Turner (2021). Also, motivational strategies could be adaptable to the specific team context (Tab. 2), whether traditional, virtual, or hybrid, as each setup presents different challenges in communication and knowledge sharing (Lindblom & Martins, 2022).

Sectoral analysis (Tab. 2) shows differences between high-risk engineering and software sectors, despite both utilising remote collaboration. This sectoral disparity shows a key managerial challenge: the need to move away from a “one-size-fits-all” approach to motivational strategies (Bernat et al., 2023; Kumar et al., 2025). Organisations which operate in the engineering sector can provide their workers with physical safety support and transparent pay regulations, aligned with reducing operational stressors (Leung et al., 2024; Wang & Ye, 2025). Tools, such as digital twins or VR, could be useful for minimising anxiety during the planning phase (Swallow & Zulu, 2024). On the other side, in the IT sector, organisational authorities may take advantage of more complex, hybrid systems through gamification (Fallon et al., 2022). They could connect it with more flexible career paths and strengthen institutional protection guarantees for intellectual property (Yin et al., 2024). All of these lead to sustain long-term engagement.

Furthermore, focusing from top-down digital monitoring to participatory work redesign, such as through digital storytelling and online co-design platforms (Flores et al., 2025; Fuentes et al., 2025), directly addresses employees’ desire for agency in remote settings. Organisational authorities are promoted to search for and apply motivational approaches which can be treated as dual-acting “mixed” methods (Tab. 1). Green HRM (Khan et al., 2022) or Near-Peer Teaching (Orsini et al., 2022) bring together skill development on the individual level (intrinsic driver) with wider pro-social or organisational goals (extrinsic driver). Organisations can use digital tools to identify and authorise informal opinion leaders and innovation promoters (Petzolt & Seckler, 2025). It may increase knowledge sharing across distributed teams (Gersdorf-Van den Berg et al., 2024).

5. Conclusions

This article maps key patterns and trends in project team motivational systems within the analysed post-pandemic literature (2021-2025). The review highlights an academic trend away from traditional methods of supervision and extrinsic motivation towards models based on trust, co-design, and care for employees' mental well-being. The author's three-dimensional categorisation matrix suggests that the analysed literature on contemporary motivational tools is characterised by the prevalence of the collective approach over the individual and by the focus on intrinsic motivation, grounded in a sense of meaning and autonomy, over extrinsic gratifications. Technologies can help as catalysis to scale and break down barriers in distributed teams. Yet traditional methods remain important when organisations wish to build trust and facilitate knowledge transfer. It also shows that the choice of tools is context-dependent: in technical industries, motivation can be driven by risk reduction, whereas in the public and educational sectors, it is based on ideology and social value co-creation. Research gaps identified in the study point that further analysis can focus more on the personalized motivational tools dedicated to individual project team members. Also, the hybrid motivational framework, which combine intrinsic and extrinsic incentives, can be helpful. The analysed publications undermine creative and developing sectors. Also, no-desk-friendly tools dedicated to physical workers could be designed and the implications of AI-human collaboration can be examined, as it is essential in the modern project environment.

Despite adopting a systematic approach, this study has some limitations. First, a five-year period (2021-2025) may be insufficient to completely map the post-COVID scientific literature. Second, the search for English-language publications in the Scopus and Web of Science databases risks excluding valuable regional studies or those published in other languages. Third, the categorisation of analysed articles by their fit with the adopted definition is subjective. Analysed project teams are diverse. Bringing together student and business project teams was justified in this research, but it does not allow for the use of the results as directions for all unquestionably. Finally, given the nature of a scoping review, this study focuses on qualitative description and mapping of the literature rather than quantitatively evaluating the effectiveness of individual motivational tools. Without comparative research, it is not possible to formulate strong claims about the effectiveness of the motivational tools. Also, the screening, selection and data extraction process was conducted by a single researcher. It can be seen as a methodological limitation even if the risk was systematically managed through a rigorous, pre-defined search protocol. That is why the categorisation process itself involves a degree of subjectivity. The important limitation is the inability to conduct a cross-cultural analysis. The literature in this research did not report or analyse regional or cultural factors which influence the choice of motivational tools or change their effectiveness.

Based on the identified gaps, future research should focus on several issues. Primarily, future studies should investigate how to personalise motivational tools to individual needs instead of maintaining mainly team-level interventions. There is a strong need to design and examine a hybrid motivational framework, where hard, extrinsic motivators are implemented alongside softer intrinsic motivators. Researchers should map not only the traditional sectors, but also focus on new under-explored ones such as design sectors, startups, etc. In order to prevent digital exclusion, there is a need to design and empirically tested tools which are dedicated to non-desk workers. Furthermore, empirical research is needed to describe the influence of human-AI collaboration on the autonomy and motivation of the individual team members.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this manuscript, the author did not use any AI tools or services.

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