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AI's Dual Impact on Project Managers' Well-Being

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Because when projects succeed, society benefits

Contents

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1. Executive summary

1.1 Project overview

This study explores the complex and evolving role of artificial intelligence (AI) in project management, focusing specifically on its psychological and professional impact on project managers. As AI tools are increasingly integrated into project workflows, handling tasks such as scheduling, risk assessment and reporting, project managers face a shifting landscape that offers both enhanced productivity and emerging challenges to their well-being.

Drawing on the job demands-resources (JD-R) model, this research investigates the dual impact of AI by analysing two competing mechanisms: self-efficacy (a manager's confidence in their ability to adapt and succeed) and job insecurity (fears regarding role displacement). The study draws on a quantitative survey of 181 project managers across various industries, complemented by qualitative insights that capture the 'voices from the profession' regarding their lived experiences with AI adoption.

1.2 Key findings

The research reveals that AI is neither inherently good nor bad for well-being; rather, it exerts a simultaneous dual effect:

- **The 'empowerment' pathway**: On the positive side, AI usage significantly enhances self-efficacy. Project managers who actively engage with AI tools view them as professional resources that automate mundane tasks, contributing to greater job satisfaction and engagement. Qualitative data suggests that 'upskilling' is the turning point where anxiety transforms into confidence.
- **The 'insecurity' pathway**: Conversely, AI adoption is linked to increased job insecurity, particularly among managers who perceive the technology as a threat to their roles. This insecurity contributes to elevated stress and diminished well-being, confirming AI's role as a potential job demand or stressor.
- **The critical moderator – psychological safety**: The study identified a crucial 'safety valve'. In organisational climates characterised by high psychological safety – where open dialogue is encouraged and experimentation is supported – the negative effects of job insecurity are significantly mitigated. Simultaneously, the positive boost to self-efficacy is amplified in these supportive environments.

1.3 Recommendations

To successfully navigate this transition, organisations should adopt a human-centred approach to AI implementation:

- **Foster psychological safety**: Create an environment where project managers feel safe to express uncertainties and experiment with new tools without fear of judgement.
- **Invest in targeted upskilling**: Move beyond basic technical training to comprehensive digital upskilling. This boosts self-efficacy, enabling managers to reframe AI as an asset rather than a competitor.
- **Communicate the 'augmentation' narrative**: Leadership must clearly articulate that AI is intended to augment human skills – specifically leadership and strategy – rather than replace the project manager entirely.
- **Implement ethical governance**: Develop transparent AI frameworks that ensure fairness and accountability. When project managers trust the integrity of the tools they use, anxiety decreases.
- **Cultivate a growth mindset**: Encourage continuous learning to help project managers adapt to an AI-enhanced environment, positioning them to thrive rather than merely survive.

2. Introduction

2.1 Background and significance

AI is rapidly reshaping project management practices across industries (Li et al., 2026). Organisations are increasingly adopting AI tools for tasks such as scheduling, risk analysis and reporting, aiming to boost efficiency and decision-making. Gartner predicted that by 2030 up to 80% of project management work could be handled by AI (Nieto-Rodriguez and Vargas, 2023). This prospect has generated both optimism and concern. On one hand, AI may augment project managers' capabilities by automating routine duties and providing data-driven insights (Garner, 2024). On the other, it raises fears about job displacement, and adds new pressures that could affect project managers' mental health and career well-being (Soomro et al., 2026).

The net effect on project managers is accordingly complex – AI presents a *dual impact* on their well-being, bringing opportunities (such as enhanced self-efficacy and productivity) as well as challenges (such as technostress and job insecurity). Emerging evidence underscores this tension. For example, an International Labour Organization report (2023) suggests AI will mostly *complement* human roles and affect the quality of jobs more than quantity (Gmyrek et al., 2023). At the same time, a UK government study estimated that 10–30% of jobs could be highly automatable in the next two decades (though with a broadly neutral net employment effect due to new jobs being created) (Department for Education, 2023). For project managers, this tension manifests as efforts to embrace AI's benefits while coping with potential threats to their roles and well-being.

This research investigates how AI adoption in project management simultaneously empowers and pressures project managers, and how this balance impacts their overall well-being. We focus on two mediating factors – self-efficacy (confidence in one's ability to meet work challenges) and job insecurity (fear of job loss) – through which AI's effects may be channelled. We also examine whether a psychologically safe work climate can moderate or buffer the negative impacts. By empirically analysing these dynamics, the study aims to contribute to both theory and practice: theoretically by deepening understanding of AI's dual impact on project managers' well-being, and practically by guiding organisations in implementing AI in ways that support project managers' welfare. The remainder of this report reviews relevant literature, details the methodology, presents findings and implications, and concludes with recommendations and directions for future research.

The significance of this research rests on several considerations:

- **Technological disruption**: AI's potential to automate complex tasks traditionally performed by project managers raises questions about the changing nature of project management roles (Bankins et al., 2024). Understanding these changes is important for preparing the project management workforce.
- **Psychological impact**: The introduction of AI in project management has dual effects on project managers' psychological states. On one hand, it enhances self-efficacy by providing powerful tools and insights (Liu et al., 2024). On the other, it introduces job insecurity due to the fear of AI substitution (Siaw and Ali, 2025). This duality warrants closer empirical examination.
- **Organisational climate**: The role of organisational factors, particularly the presence of a psychologically safe climate, in mediating the impact of AI adoption on employee well-being is an underexplored area. This research aims to fill this gap, providing insights for organisations seeking to foster supportive environments during technological transitions.
- **Industry relevance**: With the project management field rapidly evolving, insights from this research are relevant for organisations seeking to balance technological advancement with employee well-being. It addresses a pressing need identified in prior industry reports (Cheung et al., 2020; Wang and Stewart, 2022).

2.2 Objectives of the research

This research pursues several interrelated objectives. First, it investigates the dual impacts of AI adoption in project management on project managers' well-being, with a specific focus on self-efficacy and job insecurity as mediating mechanisms. Second, it examines whether a psychologically safe organisational climate moderates the relationship between AI adoption and well-being outcomes. In doing so, the study seeks to develop a comprehensive framework that captures the interplay between AI adoption, job demands, job resources and project managers' well-being – extending the application of the JD-R model to the context of technological change in project-based work. Finally, the research aims to translate these theoretical insights into evidence-based recommendations for organisations on how to implement AI in project management while safeguarding and enhancing well-being.

2.3 Scope and limitations

This research focuses on project managers working in organisations that have adopted, or are in the process of adopting, AI technologies for project management purposes. To ensure breadth of perspective, the study draws on respondents across various industries and countries, from small-to-medium-sized enterprises (SMEs) to large corporations, and encompasses a range of AI applications including task automation, decision-support systems and predictive analytics.

Several limitations should be acknowledged. The research adopts a cross-sectional design, providing a snapshot of current conditions rather than longitudinal evidence on how AI's impact evolves over time. Although the study aims for a diverse sample, cultural and geographical factors may limit the generalisability of findings beyond the contexts represented. The rapidly evolving nature of AI technology also means that the specific tools studied may become outdated, though the underlying theoretical principles are expected to remain relevant. Finally, the study relies on self-reported measures of well-being, which may be subject to response biases.

3. Literature review

3.1 Definition and importance of addressed topic

3.1.1 AI in project management

AI has become an important driver of change in project management, with capabilities ranging from predictive analytics to natural language processing (Li et al., 2026). AI-driven software can automate many traditional project management tasks – for example, scheduling, resource allocation, status reporting and risk identification. Research has found that this automation can significantly improve efficiency and accuracy in projects; AI tools can enhance decision-making and problem solving in projects, especially for complex ones dealing with large datasets (Dacre and Kockum, 2022). By offloading routine work to machines, AI allows project managers to focus more on strategic and leadership activities instead of tedious administrative tasks. Indeed, Wang and Stewart (2022) note that AI is already capable of handling functions like project cost calculations, schedule updates and risk tracking – areas where algorithmic processing excels – freeing managers to concentrate on human-centric aspects of projects. Field studies underscore AI's potential to increase project success rates; for instance, Dacre and Kockum (2022) report a positive correlation between project complexity and the perceived usefulness of AI – in highly complex projects, AI helps reduce 'unknowns' and uncertainties, thereby mitigating risks.

While AI can take over many technical tasks, it does not render the project manager role obsolete. Human expertise remains critical in areas requiring emotional intelligence, judgement and leadership. Successful project management relies on soft skills – communication, team motivation, stakeholder management, ethical decision-making – which current AI cannot replicate. Scholars have argued that AI should be understood as a collaborative tool rather than a replacement for human expertise. In practice, AI systems often act as decision-support tools, providing recommendations or data insights that a project manager must interpret and approve. For example, an AI might flag schedule delays or cost overruns, but a human project manager still needs to negotiate solutions with stakeholders and adjust plans with contextual judgement. Thus, AI augments rather than replaces the project manager's role (Nieto-Rodriguez and Vargas, 2023). Research suggests that project managers who effectively use AI may become more valuable – they can deliver projects faster and more efficiently by combining AI-driven analytics with uniquely human leadership capabilities. However, this optimistic scenario depends on project managers upskilling to work effectively with AI, and on organisations clarifying how human-AI collaboration will function.

Despite the promise of augmentation, the narrative of AI potentially 'taking over' raises understandable anxiety among project professionals. Media headlines often ask "Will AI replace project managers?" and cite the Gartner prediction that 80% of project management tasks might be automated by 2030, which initially caused alarm in the field (Nieto-Rodriguez and Vargas, 2023). Project managers, like many knowledge workers, are concerned about job displacement or erosion of their roles. It's worth noting that authoritative analyses tend to paint a more nuanced picture: the consensus among economists is that entire project management jobs are unlikely to be fully automated in the foreseeable future; rather, certain tasks within the role will be automated (especially data-intensive or repetitive tasks), whereas responsibilities requiring human judgement will remain in the human domain (Nieto-Rodriguez and Vargas, 2023). The UK Department for Education (2023) concludes that about 10–30% of jobs' activities are highly automatable, but new roles will also emerge, and overall employment may remain stable.

3.1.2 Project managers' well-being

Project management has long been known as a high-pressure occupation. Project managers juggle strict deadlines, budget constraints, stakeholder expectations and unforeseen changes, often in a frenetic and dynamic work environment. This demanding context can take a toll on mental health and overall well-being. Prior APM-sponsored research on project professionals' wellness (Cheung et al., 2020) found that the nature of project-based work — characterised by long hours, uncertainty and high accountability — takes a measurable toll on project professionals' mental health and overall well-being. In fact, that study revealed that project professionals scored worse than the general working population on multiple well-being indicators, including work-life balance, job security perceptions and psychological health. Common stressors include excessive workload, role ambiguity and organisational change, all of which are prevalent in project settings. Without proper support, these stressors can lead to fatigue, anxiety and diminished job satisfaction among project managers. Accordingly, industry bodies such as APM and the Project Management Institute (PMI) have increased their focus on mental health initiatives, resilience training and well-being support programmes for project teams.

The introduction of AI into the workplace presents a double-edged sword for well-being. On one side, AI tools can alleviate certain stresses – for example, by taking over tedious tracking tasks, AI may reduce project managers' administrative burden and free up time, potentially improving work-life balance. Some managers report feeling less overwhelmed when AI assistants handle routine communications or data analysis, allowing them to focus on more meaningful work (Wadhwa et al., 2025). Moreover, success in using new technology can boost a manager's self-efficacy, i.e. confidence in mastering challenges; if a project manager skilfully employs AI to deliver a project, it can enhance their professional esteem and job satisfaction. This aligns with the concept of AI efficacy or digital empowerment, which has been linked to positive well-being outcomes such as higher engagement and productivity (Chuang et al., 2025). On the other side, AI can also be a source of technostress – stress caused by constantly evolving technologies. Project managers may feel pressure to continuously learn and adapt to complex AI systems, leading to frustration or fatigue. There is also the psychological strain stemming from job insecurity: the more capable AI becomes, the more some individuals worry that their role might diminish or even disappear. Academic research supports this dual impact. For instance, the aforementioned recent study by Chuang et al. (2025) found that AI efficacy (feeling competent with AI) had a significant positive effect on employees' productivity and job satisfaction, whereas AI technostress had a significant negative effect – increasing exhaustion and work-family conflict, and lowering job satisfaction. These effects occurred simultaneously, demonstrating how AI can uplift and impair well-being at the same time. In the context of project management, we expect a similar balancing act: effective AI use may increase project managers' sense of accomplishment and control (a boon for well-being), even as fears of 'AI taking over' or difficulties with new tools create new stressors.

While general employee well-being under AI is being studied, there is comparatively little research specifically on project managers' well-being in the AI era. Cheung et al. (2020) studied project professionals' well-being prior to widespread AI adoption, and Wang and Stewart (2022) examined project managers' perceptions of AI in their work, but the intersection of these topics – how AI impacts the well-being of project managers – remains underexplored. This research addresses that gap by focusing on project managers as a distinct group, for whom the stakes of AI adoption may be particularly high. Project managers stand at the crossroads of people and technology – they must lead teams (people side) and manage tools or processes (technical side). AI integration touches both of these dimensions: it changes their tools and processes, and it can change team dynamics and roles. The well-being implications may thus be multifaceted. By investigating the mediators of self-efficacy and job insecurity, we aim to unravel how exactly AI's impacts translate into positive or negative well-being outcomes for project managers. Additionally, we consider the role of the work environment (organisational climate) in shaping these outcomes, which is discussed next.

3.1.3 Ethical AI and organisational climate

The rise of AI in project management brings not only technical and personal challenges, but also ethical considerations that can indirectly affect well-being. If AI tools are implemented without regard for ethics, project managers may face dilemmas or lose trust in the technology, adding to stress. Key ethical issues in AI for project management include:

- **Transparency**: AI algorithms should be explainable. Project managers need to understand how an AI tool arrives at recommendations or decisions. A lack of transparency can lead to poor decision-making and mistrust. An opaque AI system might, for example, prioritise certain projects or resources for unknown reasons, leaving the manager struggling to justify decisions to stakeholders and unsure whether biases lurk in the recommendations. This uncertainty can be stressful and undermine the manager's confidence in using AI insights.
- **Bias and fairness**: AI systems trained on historical project data can inadvertently carry forward biases. There is a risk of AI recommendations that discriminate or unfairly favour certain individuals or groups (for example, always assigning critical tasks to the same employees because past data showed them as high performers). If unchecked, such biases not only create ethical and legal issues but also erode team morale and the project manager's sense of justice at work. Project managers then have to spend additional effort monitoring AI outputs for fairness, which adds to cognitive load.
- **Data privacy and security**: Project management AI tools rely on large volumes of data (project plans, employee performance metrics, etc). Ensuring this data is handled in compliance with privacy regulations (such as GDPR) and protected from breaches is paramount. Managers carry responsibility for safeguarding sensitive information. Data security incidents or failure to handle data ethically can cause significant stress for project leaders, who may feel accountable for the fallout. They must ensure proper consent and data governance when using AI, which adds another layer of diligence to their role.
- **Human autonomy and accountability**: Ethical guidelines often emphasise keeping a 'human-in-the-loop' for important decisions. Project managers should avoid over-reliance on AI to the point of becoming mere figureheads. Maintaining human oversight means project managers stay empowered to override or question AI outputs. This is crucial for ethical accountability – if an AI-driven decision leads to a negative outcome, the project manager still bears responsibility. Clear guidelines help delineate accountability between the human manager and AI tool. Without clarity, managers might feel anxiety about who is answerable if AI advice goes wrong.

Industry organisations are actively addressing these issues. For example, the British Standards Institution (2023) and the UK Cabinet Office (2023) have published guidelines on the responsible use of AI in business, underlining the importance of ethical AI usage balanced with security and privacy measures. PMI also advocates for aligning AI deployment with its Code of Ethics (values of honesty, responsibility, fairness and respect). In practice, adhering to ethical AI principles can improve project managers' well-being by building trust in AI systems and reducing moral stress. When project managers trust that their AI tools are fair, transparent and secure, they are more likely to use them confidently and reap the benefits, rather than feeling anxious or conflicted. A psychologically safe climate in the organisation – where managers feel free to voice concerns about AI, where ethics are prioritised, and where support is provided for navigating new technology – will further ease the transition. In such an environment, project managers can approach AI as a positive challenge rather than a threat.

3.1.4 Digital upskilling for project managers

To thrive alongside AI, project managers must acquire new digital competencies. Digital upskilling has become a critical theme in both research and industry roadmaps for project management (Dacre and Kockum, 2022). As AI tools are introduced, project managers need training on how to interpret AI outputs, integrate them into decision processes and manage hybrid human-AI workflows. Without adequate skills, managers may either underutilise AI (missing out on potential benefits) or misuse it (leading to errors or frustration). APM's report *Artificial Intelligence in Project Management* recommends that organisations invest in AI training programmes for project professionals, emphasising that improving AI literacy is key to future competitiveness (Dacre and Kockum, 2022). The report found that AI usage in projects is currently relatively low, implying a steep learning curve ahead, though early adopters may gain career advantages as the technology matures. Similarly, a global survey by McKinsey noted that companies adopting AI successfully tend to place greater emphasis on workforce development – two-thirds of early AI adopters have a strategic plan for talent and skill development in place (Christensen et al., 2024).

For project managers, the upskilling agenda typically includes training in data analytics, familiarity with the basics of machine learning, understanding how to configure and query AI-driven project management software, and developing complementary soft skills such as data-driven storytelling. Continuous learning is essential, as AI technologies evolve quickly. Importantly, upskilling is not only about technical know-how but also about mindset. Organisations should encourage a culture of curiosity and continuous improvement, so that project managers view AI as an opportunity to grow their role rather than a threat. Research suggests that the way upskilling is implemented can influence its success. Christensen et al. (2024) argue for a human-centred approach to upskilling – acknowledging that some employees initially experience AI-related training as a threat to their established professional identity, which can trigger resistance or fear. By leading with empathy – clearly communicating the purpose of AI training, providing reassurance that the human role remains vital, and involving project managers in the change process – organisations can transform that initial fear into enthusiasm and a 'learning mindset'. In practical terms, human-centred upskilling might involve mentoring programmes, hands-on workshops with safe spaces to fail, and highlighting success stories of project managers who have used new AI skills to achieve better outcomes.

Digital upskilling is closely tied to the well-being discussion. If project managers are given the tools and training to use AI effectively, their self-efficacy is likely to increase – they feel more competent and in control of their work in a digital environment. This can improve job satisfaction and reduce stress, as managers are less likely to feel 'left behind' by technology. On the flip side, a lack of support for upskilling can exacerbate technostress: managers unprepared for AI might feel overwhelmed, anxious about their performance or worried about being replaced by more tech-savvy peers. APM's findings recommended creating an 'open learning environment' for AI, where project professionals are encouraged to experiment and learn to use AI tools together without judgement. Such an environment fosters psychological safety, allowing individuals to admit difficulties and seek help – crucial factors in mitigating stress. Moreover, continuous upskilling ensures that the project manager's role evolves with the technology: as AI takes over certain tasks, the project manager's skill set shifts to areas that add new value (like interpreting AI insights or focusing on stakeholder engagement), thus keeping their role relevant and meaningful.

3.2 Key themes, models or frameworks

The impact of AI on project managers' well-being can be understood through several established theoretical frameworks. Each offers a distinct analytical lens, yet together they form a complementary foundation for examining the complex interplay between technology adoption, job characteristics, individual psychology and organisational climate. This section outlines the four frameworks that underpin the study's conceptual model.

3.2.1 Job demands-resources model

The job demands-resources (JD-R) model, introduced by Demerouti et al. (2001), is a widely applied framework for understanding how job characteristics influence employee well-being and performance. The model distinguishes between two categories of work-related factors. Job demands are aspects of work that require sustained physical, cognitive or emotional effort and are associated with physiological and psychological costs such as stress and burnout. Job resources, by contrast, are aspects of work that facilitate goal attainment, buffer the negative effects of demands, and stimulate personal growth and development.

A central proposition of the JD-R model is that well-being outcomes depend on the balance between demands and resources. When demands consistently exceed resources, employees are at risk of strain and disengagement; when resources are adequate or abundant, employees tend to experience higher motivation, satisfaction and performance. The model's strength lies in its flexibility — unlike earlier frameworks that prescribed fixed sets of job characteristics, the JD-R model accommodates any demand or resource relevant to a given occupational context, making it particularly suitable for studying emerging phenomena such as AI adoption.

In the context of AI in project management, the model provides a structured way to categorise AI's dual effects. On the demand side, AI adoption may require project managers to acquire new technical skills, adapt to evolving role expectations, navigate the uncertainty of algorithm-driven decisions, and manage the psychological burden of potential role displacement. On the resource side, AI can enhance decision-making through data-driven insights, automate routine and time-consuming tasks, improve the accuracy of project forecasts, and free managers to focus on higher-value strategic and interpersonal activities. The JD-R model thus provides the overarching theoretical architecture for this study, framing AI as a factor that simultaneously introduces new demands and new resources – the balance of which shapes project managers' well-being.

3.2.2 Technology acceptance model

Davis's (1989) technology acceptance model (TAM) complements the JD-R framework by addressing the antecedents of technology adoption behaviour. TAM posits that an individual's intention to use a technology is determined primarily by two beliefs: perceived usefulness (the extent to which a person believes the technology will enhance their performance) and perceived ease of use (the extent to which a person believes using the technology will be free of effort). These beliefs, in turn, are shaped by external factors including organisational support, system design, and prior experience with similar technologies.

In the context of AI adoption in project management, TAM helps explain why attitudes and adoption rates vary across individuals and organisations. A project manager who perceives an AI scheduling tool as genuinely useful and straightforward to operate is more likely to adopt it willingly, integrate it into their workflows, and ultimately benefit from it. Conversely, if the tool is perceived as cumbersome or of limited practical value, resistance and frustration may follow – potentially contributing to technostress rather than alleviating workload. TAM thus highlights the importance of implementation design: AI tools that are intuitive, well-integrated into existing workflows, and clearly aligned with project managers' professional goals are more likely to be adopted successfully. Understanding these adoption dynamics is relevant to this study because the extent to which project managers accept and engage with AI tools is likely to mediate the relationship between AI availability and its downstream effects on self-efficacy, job insecurity and well-being.

3.2.3 Self-efficacy theory

Bandura's (1977) self-efficacy theory addresses the psychological mechanisms through which individuals assess their capacity to perform tasks and cope with challenges. Self-efficacy refers to an individual's belief in their ability to execute the behaviours required to achieve specific outcomes. It is not a fixed trait but a dynamic construct shaped by four principal sources: mastery experiences (past successes), vicarious experiences (observing others succeed), verbal persuasion (encouragement from others), and physiological states (e.g. the absence of anxiety during task performance).

Self-efficacy is particularly relevant to contexts of technological change, where employees must recalibrate their sense of competence in the face of new tools and shifting role expectations. In the case of AI adoption, project managers may experience self-efficacy in divergent ways. Those who successfully learn to use AI tools and observe tangible improvements in their project outcomes are likely to experience enhanced self-efficacy – a virtuous cycle in which competence breeds confidence, which in turn motivates further engagement with the technology. Conversely, project managers who struggle with AI tools, or who perceive their traditional skills as becoming obsolete, may experience diminished self-efficacy, leading to avoidance behaviours, increased anxiety and reduced job satisfaction. Bandura's framework thus provides a theoretical basis for understanding one of this study's key mediating variables: the pathway through which AI usage may enhance project managers' professional confidence and, by extension, their well-being.

3.2.4 Psychological safety

Edmondson's (1999) concept of psychological safety refers to a shared belief among team or organisational members that the environment is safe for interpersonal risk-taking. In psychologically safe climates, individuals feel comfortable admitting mistakes, asking questions, voicing concerns and experimenting with new approaches without fear of embarrassment, blame or punitive consequences. Originally developed in the context of learning behaviour in work teams, the construct has since been applied to a wide range of organisational phenomena, including innovation adoption, knowledge sharing, and responses to change (Edmondson and Bransby, 2023).

Psychological safety is directly relevant to AI adoption in project management for several reasons. First, engaging with unfamiliar AI tools inherently involves a degree of interpersonal risk – a project manager who admits to not understanding an algorithm's output, or who makes an error while experimenting with a new system, needs assurance that such vulnerability will not be held against them. Second, the anxieties associated with AI-driven role change – fears about job displacement, concerns about being outpaced by younger, more digitally fluent colleagues – are more likely to be expressed and addressed in psychologically safe environments. In climates lacking psychological safety, these anxieties may remain unvoiced and unmanaged, compounding their negative effects on well-being. Third, psychological safety fosters a learning orientation, which is critical during periods of technological transition: organisations that normalise experimentation and treat setbacks as opportunities for growth are better positioned to support their project managers through the adoption process. This study therefore positions psychological safety as a moderating variable, hypothesising that it can buffer the negative effects of AI-induced job insecurity while amplifying the positive effects of AI on self-efficacy.

3.2.5 Integrating the frameworks

Together, these four frameworks provide a comprehensive theoretical basis for this study. The JD-R model supplies the overarching structure, framing AI as a source of both demands and resources. TAM addresses the conditions under which project managers are likely to accept and engage with AI tools – a necessary precondition for either pathway to operate. Self-efficacy theory explains the positive mediating mechanism through which AI engagement can enhance professional confidence and well-being. Psychological safety theory explains the contextual conditions under which negative effects (particularly job insecurity) are mitigated and positive effects (particularly self-efficacy) are amplified. By integrating these perspectives, the study moves beyond a simple 'AI is good or bad' framing towards a more nuanced understanding of the mechanisms and boundary conditions that determine whether AI adoption supports or undermines project managers' well-being.

3.3 Trends and industry practices

3.3.1 Increasing AI adoption in project management

The adoption of AI technologies in project management is no longer a future trend – it has become a defining feature of modern project management practices. According to a report published by the Project Management Institute (2019), 81% of project professionals have reported that AI is influencing their organisations in meaningful ways. This trend reflects growing organisational interest in improving operational efficiency and project outcomes through AI. AI's key applications in project management include predictive analytics for risk management, where sophisticated algorithms assess historical data to forecast project risks and recommend proactive actions.

Automated scheduling and resource allocation, powered by machine learning, are transforming how project timelines and resources are managed, leading to optimised project performance. Additionally, natural language processing (NLP) is being applied to documentation and reporting through automated report generation, while AI-driven chatbots support stakeholder communication with real-time updates. As AI technologies continue to evolve, their ability to drive more accurate and timely project outcomes will become increasingly central to project management practice.

3.3.2 Growing emphasis on digital skills

In tandem with the rising influence of AI, there is a growing recognition of the need for project managers to upskill in digital competencies. An APM report (2021) highlights a critical industry trend: the modern project manager must be proficient in data analysis, digital tools and AI technologies. The ability to interpret complex datasets, utilise advanced project management software and understand the intricacies of AI systems is becoming a prerequisite for success in project management. Organisations are investing in training programmes to ensure that project managers not only are familiar with these tools but can also leverage them to drive performance and innovation. AI literacy is particularly important, as project managers must be able to understand the capabilities and limitations of AI technologies to effectively integrate them into their workflows. This growing emphasis on digital skills reflects a broader trend in the industry, where the ability to harness technology is now seen as critical to maintaining competitive advantage in an increasingly data-driven world.

3.3.3 Well-being initiatives in project management

As project management becomes more complex and demanding, the well-being of project managers is receiving increasing attention. The intense pressures associated with leading large-scale, high-stakes projects can lead to burnout, decreased productivity and attrition if not properly addressed. Recognising this, organisations are implementing a variety of well-being initiatives aimed at supporting project managers. These initiatives include well-being programmes tailored specifically for project management professionals, offering resources to help manage stress, build resilience and maintain a healthy work-life balance.

In addition, many organisations are now integrating well-being metrics into project success criteria, acknowledging that the well-being of the project manager and their team is just as important as meeting time, budget and scope objectives. Flexible work arrangements, such as remote work options and flexible scheduling, are becoming more common, allowing project managers to manage their responsibilities in a way that promotes balance and reduces stress. This growing focus on well-being represents a fundamental shift in how project success is defined, placing equal importance on the health of project professionals and the outcomes of their projects.

4. Hypotheses development

The preceding literature review established that AI adoption in project management carries both empowering and threatening implications for practitioners. To examine these dynamics empirically, this section develops a set of testable hypotheses grounded in the JD-R model (Demerouti et al., 2001; Bakker and Demerouti, 2007). The JD-R framework classifies job characteristics into two broad categories: job demands, which require sustained effort and are associated with strain (e.g. workload, role ambiguity, job insecurity), and job resources, which support goal attainment, buffer the effects of demands, and promote growth (e.g. self-efficacy, learning opportunities, technological support). Applied to the present context, AI adoption can be conceptualised as simultaneously generating new demands and new resources for project managers, with downstream consequences for their well-being. The hypotheses below formalise this dual-pathway logic and introduce psychological safety as a boundary condition.

4.1 AI usage and project managers' well-being: A dual effect

AI tools are increasingly embedded in project management, offering efficiency gains through predictive analytics, automated scheduling and real-time reporting (Bankins et al., 2024). When project managers engage effectively with these tools, the resulting improvements in decision quality and task efficiency can enhance their confidence in managing complex projects – that is, their self-efficacy (Liu et al., 2024). At the same time, AI's growing capacity to perform tasks traditionally associated with human expertise introduces concerns about role erosion and professional displacement, particularly among knowledge workers (Wu et al., 2024). These concerns constitute a form of job insecurity that functions as a psychological demand.

Importantly, these two effects are not mutually exclusive. A project manager may simultaneously feel more capable because of AI-assisted insights and more anxious about the long-term implications of automation for their role. This duality is consistent with the JD-R model's core proposition that the same organisational change can introduce both demands and resources. Accordingly, we hypothesise:

H1a: AI usage in project management is positively associated with project managers' self-efficacy.

H1b: AI usage in project management is positively associated with project managers' job insecurity.

4.2 Mediating role of self-efficacy and job insecurity

If AI usage influences both self-efficacy and job insecurity (H1a and H1b), a natural question follows: do these psychological states, in turn, shape project managers' well-being? The JD-R model predicts that they should – resources such as self-efficacy are associated with positive outcomes (engagement, satisfaction), while demands such as job insecurity are associated with negative outcomes (stress, burnout). We therefore propose that self-efficacy and job insecurity function as parallel mediators through which AI exerts its effects on well-being.

4.2.1 Self-efficacy as a job resource

Self-efficacy – an individual's belief in their capacity to execute tasks and manage challenges successfully – is a well-established predictor of occupational well-being (Bandura, 1997). Employees with higher self-efficacy tend to approach demanding situations as challenges to be mastered rather than threats to be avoided, and they recover more quickly from setbacks. In the JD-R framework, self-efficacy operates as a personal resource that enhances engagement and buffers against strain.

AI can strengthen project managers' self-efficacy in several ways. By providing accurate forecasts, automating error-prone calculations, and surfacing data-driven insights, AI tools give managers a greater sense of control over project outcomes (Liu et al., 2024; El-Sabaa, 2001). Each successful experience with AI – a more accurate risk assessment, a faster reporting cycle, a better-informed stakeholder presentation – constitutes what Bandura (1997) terms a mastery experience, which is the most potent source of self-efficacy. Over time, these cumulative successes are expected to translate into enhanced job satisfaction and reduced stress. We therefore hypothesise:

> H2a: Self-efficacy positively mediates the relationship between AI usage and project managers' well-being, such that greater AI integration enhances self-efficacy, leading to higher job satisfaction and lower stress.

4.2.2 Job insecurity as a job demand

Conversely, AI's capacity to automate intellectual tasks – including analysis, scheduling and even elements of decision-making – can heighten project managers' perceptions of job insecurity (Zirar et al., 2023; Tang et al., 2022). This dynamic reflects what might be termed an automation paradox: the very efficiency gains that make AI attractive to organisations simultaneously signal to individual workers that their contribution may be diminishing. Within the JD-R framework, job insecurity functions as a hindrance demand – a stressor that drains psychological resources without offering compensating developmental benefits.

Empirical research supports the link between AI-related job insecurity and negative well-being outcomes. Employees who perceive AI as a threat to their role tend to report higher levels of emotional exhaustion, lower organisational commitment, and diminished overall well-being (Wu et al., 2024). Project managers may be particularly susceptible to these effects, given that their roles span leadership, coordination and decision-making – domains where AI's expanding capabilities are most visible. We therefore hypothesise:

> H2b: Job insecurity negatively mediates the relationship between AI usage and project managers' well-being, such that greater AI integration increases perceptions of job insecurity, leading to lower job satisfaction and higher stress.

4.3 Moderating role of a psychologically safe climate

The hypothesised mediation pathways (H2a and H2b) describe general tendencies, but the strength of these effects is unlikely to be uniform across all organisational contexts. Drawing on Edmondson's (1999) concept of psychological safety and its subsequent theoretical development (Edmondson and Lei, 2014), we propose that the organisational climate in which AI adoption occurs represents a critical boundary condition.

4.3.1 Buffering the negative pathway

Psychological safety – the shared belief that a work environment is safe for interpersonal risk-taking – is particularly relevant to the job insecurity pathway. In psychologically safe climates, project managers can voice concerns about AI-driven role changes, ask for help with unfamiliar tools, and discuss uncertainties openly without fear of negative consequences (Wang and Stewart, 2022). This openness enables concerns to be acknowledged and addressed, rather than suppressed and amplified. Furthermore, psychologically safe environments tend to support transparent communication about the purpose of AI adoption, which can reduce the ambiguity that fuels insecurity (Niederman, 2021). We therefore hypothesise:

> H3a: A psychologically safe climate moderates the relationship between AI usage and job insecurity, such that project managers in psychologically safe environments experience less job insecurity from AI integration.

4.3.2 Amplifying the positive pathway

Psychological safety also has implications for the self-efficacy pathway. When project managers feel supported in their efforts to learn and experiment with AI tools – knowing that mistakes will be treated as learning opportunities rather than failures – they are more likely to engage actively with the technology, persist through initial difficulties, and ultimately develop competence and confidence. This process is consistent with Bandura's (1997) observation that environments fostering vicarious learning and verbal encouragement enhance self-efficacy development. We therefore hypothesise:

> H3b: A psychologically safe climate moderates the relationship between AI usage and self-efficacy, strengthening the positive effects of AI on self-efficacy and, in turn, improving project managers' well-being.

4.4 The integrated moderated mediation model

Bringing together the preceding hypotheses, this study proposes a moderated mediation model (see Figure 1). AI usage influences project managers' well-being through two parallel pathways: a positive pathway via self-efficacy (the *empowerment* mechanism) and a negative pathway via job insecurity (the *threat* mechanism). A psychologically safe climate moderates both pathways – dampening the threat mechanism and amplifying the empowerment mechanism. Two final hypotheses capture these conditional indirect effects:

H4a: The positive indirect effect of AI usage on project manager's well-being via self-efficacy is stronger in a psychologically safe climate.

H4b: The negative indirect effect of AI usage on project manager's well-being via job insecurity is weaker in a psychologically safe climate.

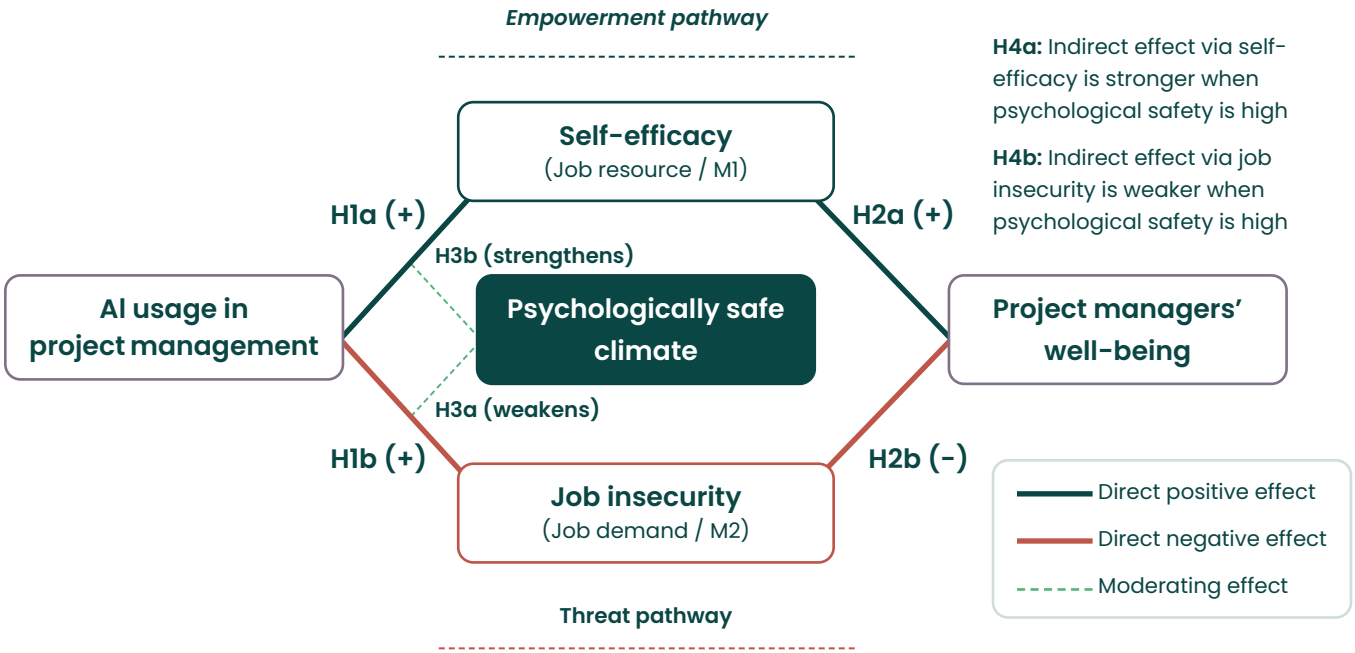

Figure 1. Theoretical framework

5. Methodology

5.1 Research design

We adopted a quantitative survey research design to empirically examine AI's dual impact on project managers. A cross-sectional survey was conducted, targeting practising project managers as respondents. The population of interest was defined as professionals who lead projects and have some exposure to AI tools or systems in their project management work.

To capture a broad perspective, we did not restrict the sample to a single industry; project managers from IT, construction, finance, consulting and other sectors were invited to participate. The survey was administered online via professional networks (such as APM and PMI chapter communities, or LinkedIn groups for project managers). We used a purposive sampling approach: invitations were sent to individuals known to be working in project management roles, and referrals were encouraged (a 'snowball' element) to reach others who fitted the criteria.

In total, N = 181 project managers completed the survey (after data cleaning). Participants represented a mix of geographies (primarily UK and China) and a range of experience levels (mean of 3.5 years of project management experience, with a mix of junior project managers and senior programme managers). Approximately 60% of the sample reported that their organisation was currently using some form of AI or advanced software in project processes, while 40% indicated minimal or no AI use yet – ensuring variability in AI exposure.

5.2 Measurements

The survey instrument included established psychometric scales and self-developed items, organised into five main sections:

AI usage in project management: We measured the degree of AI adoption and exposure in the respondents' project work. This included self-reported use of tools such as AI-driven scheduling assistants, predictive analytics features in project software, chatbots for status updates, or any machine learning applications in their project workflows. We asked respondents to rate statements like "My projects utilise AI tools to assist in project management tasks" on a five-point Likert scale (1 = Not at all, 5 = To a great extent). For analysis, we created an index of AI usage intensity. We also captured qualitative examples of AI tools in use to contextualise the responses.

Self-efficacy: Project management self-efficacy was assessed using a validated scale adapted to the AI context. We combined items from the general self-efficacy scale with custom items reflecting confidence in using AI. For example, items included "I am confident in my ability to leverage new technologies (like AI) to manage project challenges" and "When faced with a complex project decision, I believe I can effectively use analytical tools to make the right call". Responses were on a five-point agreement scale. The scale showed good reliability in our sample (Cronbach's α = 0.89). Higher scores indicate greater self-efficacy.

Job insecurity: We measured job insecurity using a subset of items from established job insecurity scales, tailored to the context of AI. Items included statements such as "I worry that advances in AI could replace the role of project managers in my organisation" and "The growing use of AI makes me uncertain about my future employment as a project manager". Respondents indicated agreement on a five-point scale. This scale had α = 0.85. A higher score represents greater perceived insecurity about one's job continuity or role importance.

Psychologically safe climate: To assess the moderating context, we included items to gauge the team or organisational climate regarding psychological safety – especially around technology adoption. We adapted Edmondson's (1999) team psychological safety scale to refer to AI implementation. Sample item: "In my team, one can admit not understanding an AI tool and ask for help without fear of negative consequences." Another: "Management has created an environment where we can discuss concerns about AI openly." This construct was important to test whether a supportive climate buffers negative effects. The scale reliability was α = 0.90. Higher scores indicate a more psychologically safe and supportive climate.

Well-being outcomes: We operationalised project manager well-being as a multifaceted outcome. Rather than a single question, we captured two primary indicators: (a) job satisfaction – measured by a standard three-item scale (for example, "I am satisfied with my job as a project manager, considering everything") which reflects overall contentment and positive affect at work; and (b) work stress level – measured by self-reported stress and exhaustion (for example, "Lately, I feel burned out by my work demands"). We also asked about work-life balance perception as a supplementary item. For analysis, we combined these into an index (after reverse-coding stress, so that higher values mean better well-being). This well-being index had acceptable reliability (α = 0.81). A higher score corresponds to higher well-being (higher satisfaction, lower stress).

Additionally, the survey collected demographic and background information (age, gender, industry, years of experience, organisational size) to use as control variables where relevant. We also asked respondents to indicate whether they had received any formal training in AI or data analytics, as this could influence both their self-efficacy and their attitudes.

5.3 Data analysis

After data collection, responses were imported into Stata and cross-checked for quality. We removed incomplete responses and those with obvious straight lining. The final dataset (N = 181) was then analysed using a combination of descriptive and inferential statistics. Our analysis strategy was driven by the hypothesised mediation and moderation model.

We computed descriptive statistics for all variables and examined correlations. This provided initial insights; for example, we checked whether AI usage correlated positively with self-efficacy and/or job insecurity, and how these related to well-being. We also tested the reliability (Cronbach's α) of each multi-item scale as noted above. All scales were within acceptable ranges, indicating we could create composite scores.

To test whether self-efficacy and job insecurity mediate the relationship between AI usage and well-being, we employed a multiple mediation model. Using regression-based mediation analysis approach and Sobel tests (additionally, we used bootstrapped confidence intervals for indirect effects), we entered AI usage as the independent variable (X), the two mediators (M1 = self-efficacy, M2 = job insecurity) and well-being as the dependent variable (Y). We controlled for relevant demographics (experience, industry, etc.) where necessary. The model was specified such that AI usage could affect both mediators, and both mediators could in turn affect well-being. We examined the direct effect of AI usage on well-being and indirect effects through each mediator. This allowed us to see the 'dual pathways': a positive pathway (via self-efficacy) and a negative pathway (via insecurity).

We then tested the moderating effect of a psychological safe climate on the link between job insecurity and well-being. The rationale was that a supportive climate might weaken the negative impact of insecurity on a person's well-being. We used hierarchical linear regression for this: we added the interaction term between 'job insecurity' and 'psychological safety climate' (after centring the variables to mitigate multicollinearity). Well-being was the outcome. A significant interaction would suggest moderation. We probed any significant interaction by plotting the simple slopes for 'high safety climate' versus 'low safety climate' groups to interpret the buffering effect.

For robustness, we also constructed a structural equation model (SEM) encompassing the above relations (using AMOS structural equation modelling software). This allowed us to test all relationships simultaneously and get model fit statistics. The SEM included the following paths: AI → self-efficacy, AI → job insecurity, self-efficacy → well-being, job insecurity → well-being. The interaction between job insecurity and psychological safety climate on well-being was handled via a moderated regression approach, given SEM limitations in modelling interactions directly. As an alternative approach, we ran a two-group SEM split by high versus low climate; results were consistent. The SEM results were consistent with the regression findings.

5.4 Ethical considerations

The study adhered to established ethical research practices. Prior to data collection, the research design and instruments were reviewed and approved by the University Research Ethics Committee (see Appendix). Informed consent was obtained from all participants: the survey's first page clearly explained the study's purpose and what participation entailed, and stated that responses would be kept confidential and used solely for research. Participants had to voluntarily agree before proceeding. They were informed of their right to withdraw at any time without penalty (though no identifying information was collected, so withdrawal was possible up until forms were submitted). We assured anonymity – no names, company identifiers or personal details were recorded that could trace responses back to individuals. Instead, each respondent was assigned a code. Data was stored securely on an encrypted drive accessible only to the research team.

Given that the topic involves one's job and potentially sensitive perceptions (such as fear of job loss), we took steps to ensure psychological safety for participants in the survey itself. Questions were phrased in a neutral, non-judgemental way (for instance, normalising the experience: "Many people are uncertain about the impact of AI on their jobs. To what extent do you agree that…?"). We also provided a debrief at the end of the survey, including resources on managing workplace stress and a point of contact in case they had questions or concerns about the study. Participants were not deceived in any way; all information was transparent.

In analysing and reporting data, we aggregated results so no individual could be identified. For example, when quoting a comment from an open-ended response, we ensured it couldn't be tied to a specific person or company. All references to specific organisations (if mentioned by respondents) were removed from quotes.

Finally, we considered bias and fairness in our research process. We strived for a diverse sample to avoid biasing the results towards one demographic group. While participation was voluntary, our recruitment sought balance in gender and industry representation. During analysis, we checked for any systematic differences (for example, whether responses differed by gender or age) to account for potential confounds. The survey itself was tested in a pilot with a small group of project managers to ensure the questions were clear, unbiased and respectful. These safeguards were designed to protect participants and maintain research integrity.

6. Analysis and findings

6.1 Research findings

6.1.1 Quantitative findings

The findings confirm that AI's impact on project managers' well-being is dual-faceted. Specifically, AI has both positive and negative consequences for project managers, building confidence while simultaneously introducing new anxieties. On the positive side, AI has the potential to automate routine tasks and provide decision support, which can enhance project managers' performance and job satisfaction. Our findings that AI usage is positively associated with self-efficacy and productivity support this interpretation. On the negative side, AI's encroachment on traditionally human tasks can spark feelings of insecurity and stress. Some project managers expressed concern about their evolving role. When unaddressed, such concerns correlate with lower well-being and could potentially hinder performance (for example, through decreased engagement or an increased likelihood of leaving their role).

The evidence indicates that the adoption of AI in project management can empower project managers even as it poses a threat. On one hand, higher AI usage is associated with greater self-efficacy among project managers. This suggests that when managers learn to use AI tools and embrace them, they often feel more competent and effective in their roles. This aligns with prior observations that AI can act as a job resource – providing information, analysis and automation that help managers perform better (consistent with the JD-R model as applied by Chuang et al. (2025)). Many respondents in our survey reported that AI tools (such as automated reporting systems or prediction models) enabled them to deliver projects faster or with improved outcomes, thereby boosting their confidence and job satisfaction. These positive effects echo the findings of Dacre and Kockum (2022), who noted that project professionals see AI as a means to enhance project success and gain a competitive edge if it is used smartly. AI can thus serve as a performance enhancer and a source of professional growth. Some participants even described AI as a 'partner' or 'assistant' that expanded their capabilities – a sentiment that resonates with the emerging view of AI as augmenting human roles rather than replacing them (Garner, 2024).

On the other hand, our results also showed that AI usage correlates with heightened job insecurity for some project managers. This indicates an underlying anxiety: as more AI is introduced, certain individuals interpret it as a sign that their own role could be diminished. This finding is in line with broader workforce surveys where a significant share of professionals fear technology-induced redundancy. It also dovetails with Wang and Stewart's (2022) research, which documented project managers' concerns that AI might encroach on key parts of their job, even if it can't handle everything. The feeling of technological threat can erode well-being, leading to stress and distraction. We found that those who felt insecure about their jobs due to AI reported lesser well-being (less satisfaction, more stress). This negative pathway reflects AI functioning as a job demand or stressor, consistent with the concept of AI technostress (Chuang et al., 2025). Interestingly, a number of respondents' comments hinted at generational differences (although this is not measured quantitatively in our study): younger project managers tended to express more excitement and less fear about AI, whereas some older, more veteran project managers voiced deeper apprehension about 'keeping up' – suggesting that past experience with technology or one's career stage might colour the balance between empowerment and threat. Future research could explore these individual differences in more depth.

6.1.2 Qualitative insights

To complement the quantitative analysis, this study incorporated feedback from open-ended survey responses. These narratives provide a rich, contextual layer to the statistical data, revealing the 'human' side of the job demands-resources equation. While the numbers show *that* AI impacts well-being, the voices of project managers reveal *how* and *why* these impacts occur.

a. The paradox of efficiency and existential dread: AI as a job demand

A recurring theme in the qualitative data was the tension between operational efficiency and professional anxiety. Participants frequently described AI as a 'double-edged sword'. While they welcomed the reduction in administrative drudgery – such as automated scheduling and data entry – this very capability often triggered a sense of obsolescence.

One respondent captured this tension between daily utility and long-term security:

> "AI helps me crunch numbers quickly, but sometimes I lie awake at night wondering if I'll be needed in five years."

This narrative supports the quantitative finding that AI increases job insecurity. For these professionals, the AI tool is not merely a piece of software; it is viewed as a 'competitor' that might eventually encroach on the core value proposition of the project manager. The anxiety expressed here is not about the difficulty of using the tool, but about the *consequences* of the tool's proficiency.

b. The 'turning point' of upskilling: AI as a job resource

The qualitative evidence strongly suggests that self-efficacy is the primary antidote to AI-induced anxiety. A distinct narrative arc emerged where fear was associated with the unknown, while confidence was associated with hands-on experience.

Respondents who had undergone training or certification described a psychological shift. Once the 'black box' of AI was opened, it demystified the technology, transforming it from a threat into an asset. As one participant shared:

> "Once I got certified in using our AI scheduling software, I stopped worrying about it and started using it to shine in my role."

This finding has practical implications: training serves not only a technical function but also a psychological one, restoring a sense of control and agency.

c. The human-centred counter-narrative

A further theme concerned the re-evaluation of 'human' skills. Rather than seeing AI as a total replacement, many respondents adopted a view of 'augmentation', where AI handles data processing while the human manager handles the socio-political complexities of projects.

Participants emphasised that while AI can generate a Gantt chart or a status report, it lacks the emotional intelligence required for leadership. One respondent highlighted that it takes a human manager to "empathise with a team member facing burnout" or to negotiate sensitive stakeholder conflicts. This perspective reframes the AI narrative from 'replacement' to 'evolution', as one respondent put it:

> "AI isn't replacing project managers – it's making project management more human."

This suggests that technostress is not uniform across the workforce. For experienced managers, the introduction of AI may feel like a devaluation of their accumulated traditional experience, whereas for newer entrants it is simply the baseline of modern work.

6.2 Implications for project management

For individual project managers, our findings highlight the importance of proactive adaptation. Those who actively build their AI-related skills and integrate AI into their toolkit are likely to experience an uptick in self-efficacy and possibly job enjoyment. Essentially, leaning into AI adoption (learning, experimenting, finding ways it can help in one's context) can make the job more rewarding. This is a powerful message: rather than shying away from AI, project managers might consider embracing it as part of professional development. Doing so not only improves effectiveness but also provides a psychological buffer – competence with AI may replace fear with a sense of control. As one respondent reflected, "Learning the new tools turned a feeling of being threatened into a feeling of being equipped — once you understand AI, it stops feeling like a competitor." This anecdote exemplifies how digital upskilling can convert anxiety into confidence. It reinforces calls by industry groups for project managers to expand their skill set to include data literacy and AI familiarity (PMI, 2019; Christensen et al., 2024).

However, project managers should also be mindful of maintaining their unique human skills. The survey results and related literature (e.g. Nieto-Rodriguez and Vargas, 2023) remind us that soft skills – communication, leadership, critical thinking – remain crucial. Project managers should continue to cultivate these, as they are the aspects of the role that AI cannot replicate and that truly add value in an AI-enhanced environment. For example, while an AI tool might generate a project status report, it takes the project manager's human touch to present that report persuasively to an executive sponsor or to empathise with a team member facing burnout. Our findings suggest that those project managers who viewed AI as a collaborator were able to refocus more on such human-centric activities, which in some cases improved their sense of job meaning and well-being.

It's also important for project managers to acknowledge and address technostress in themselves. If a manager notices feelings of frustration or fatigue when dealing with new technology, it may help if they seek support – whether through peer discussions, training or simply setting aside time to gradually learn the tool. Many professional communities are now sharing AI best practices; participating in these can reduce the learning curve and stress. Moreover, project managers can play an active role in ethical usage – for instance, by checking AI outputs for fairness or errors – which can transform them into stewards of AI implementation and give a sense of purpose and agency, rather than them feeling like passive victims of a top-down AI roll-out.

7. Discussion

7.1 Contributions and key takeaways

These dual impacts, however, are not inevitable; they can be managed. A key takeaway is that context and approach matter greatly in determining whether the effects of AI are ultimately net-positive or net-negative for project managers. When organisations implement AI thoughtfully – pairing technological change with human-centric change management – the scales tip towards positive outcomes. A culture of continuous learning, open communication and psychological safety acts as a safety net that catches project managers from falling into the pit of technostress. Meanwhile, project managers who proactively upskill and maintain a growth mindset tend to navigate the transition more effectively.

From a practical perspective, organisations are encouraged to embrace AI in project management in tandem with supporting their people. This includes providing clear messaging that AI is there to assist, not replace, and offering training avenues so project managers feel equipped for the new era. Research indicates that organisations investing in workforce development achieve greater success with AI initiatives – our study reinforces that at the micro level: better trained and supported project managers experience AI as a help, not a harm. Ethically, companies should also be vigilant – fair and transparent AI systems are not just good in principle, they also directly impact how comfortable and confident employees feel using them.

For the project management profession at large, the advent of AI could mark a turning point. Rather than making project managers obsolete, AI is likely to redefine the profession. Project managers may evolve to focus more on leadership, strategy and stakeholder communications, while delegating computational tasks to AI. In effect, as one commentary put it, "AI isn't replacing project managers – it's making project management more human" (because the uniquely human elements become even more central). The journey to that future, however, must be navigated with care to ensure project managers' well-being is preserved and promoted. Burnout or resistance among project managers would ultimately undermine the very benefits AI aims to bring to projects.

Beyond practical takeaways, our study contributes to the academic discourse on technology and well-being. It provides evidence within the project management domain for the broader thesis that advanced technology has dual effects on employees (both enabling and threatening). It specifically validates the application of the JD-R model to AI contexts: AI tools can serve as resources (boosting engagement and efficacy) and as demands (creating stress and insecurity). Our findings mirror those of Chuang et al. (2025), who empirically demonstrated this duality in a general sample of employees. We extend their work by focusing on project managers and introducing the moderating effect of the psychological safety climate, which proved significant. This suggests that models of technostress should incorporate environmental moderators – the impact of a given technology on well-being is not uniform but can be contingent on context (supportive versus unsupportive climates). The significant mediation by self-efficacy and job insecurity also advances theory by pinpointing mechanisms through which AI affects well-being, rather than treating 'AI adoption' as a black box. This helps shift the conversation from 'Is AI good or bad for workers?' to 'How and when is AI good or bad for workers?'

7.2 Areas for future research

Building on this work, there are several avenues for future research to deepen understanding of AI's impact on managerial well-being.

First, future research could track project managers over time as AI tools are implemented. A longitudinal design (or even an experimental roll-out where one group gets an AI tool and another doesn't) would help establish causal links and observe how initial reactions to AI might change (for example, does technostress diminish after a year of usage? Does self-efficacy continue to grow or plateau?).

Second, in-depth qualitative studies (interviews or case studies) could explore the personal narratives behind the numbers. How do project managers emotionally experience the introduction of AI? What strategies do they use to cope with insecurity, or to capitalise on AI's advantages? Qualitative insights could reveal subtleties like identity shifts ('seeing oneself now as an AI-augmented manager') or cultural factors in organisations that quantitative scales might miss.

Third, we focused on job satisfaction and stress, but well-being is multifaceted. Future research could examine physical health indicators (does AI adoption affect hours worked or psychosomatic health issues?), or career-related well-being (for example, career satisfaction, intent to remain in the profession). It would also be interesting to see whether AI impacts work-life balance in concrete terms: do project managers with AI work fewer hours because of efficiency gains, or do they end up taking on more projects (thus maintaining or even increasing their workload)? The net effect on work-life integration is an open question.

Finally, further studies might investigate whether certain groups are more vulnerable to AI-related stress. Does age or generation moderate the effects (as we speculated from comments)? Does gender play a role (for example, if women in tech feel additional insecurity or bias in AI contexts)? Also, looking beyond project managers: how does AI affect team members' well-being, or that of programme and portfolio managers? Comparative studies across roles could be valuable.

8. Conclusion

In conclusion, AI's dual impact on project managers' well-being serves as a reminder that technological progress and human well-being are deeply interconnected. Maximising the promise of AI in project management involves acknowledging and addressing its perils.

This study has contributed initial insights and evidence on the matter. Project managers, organisational leaders and researchers should continue to collaborate in this learning process. By actively shaping how AI is integrated into project work – through policies, training and open dialogue – we can strive for outcomes where project managers flourish alongside AI.

With deliberate effort, AI can free project managers from routine constraints, supporting better work-life balance and professional fulfilment alongside improved project outcomes. Ultimately, the goal is not only successful projects but sustainable careers for the professionals who lead them.

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