STARDOM UNIVERSITY

جامعة ستاردوم

مجلة ستاردوم العلمية للدراسات الاقتصادية والإدارية

- مجلة ستاردوم العلمية للدراسات الاقتصادية والإدارية -

تصدر بشكل ربع سنوي عن جامعة ستاردوم

العدد الرابع - المجلد الرابع 2026م

رقم الإيداع الدولي: ISSN 2980-3799



Editorial Team

Editor-in-Chief

Prof. Sameer Al-Jamal - Palestine

Deputy Editor-in-Chief

Prof. Ahmed Nafee - United States

Editorial Board Members

Prof. Dr. Hanan Subhi Abdullah Obaid - UK

Dr. Manaf Marza Neama - Iraq

Dr. Rashad Khalil Shat - Palestine

Dr. Mohammed Yousef Al-Qarm - Palestine

Dr. Mahmoud Talal Al-Najar - Palestine

Dr. Elbatoule Baryala - Morocco

Dr. Eng. Hamza Moh. Raslan - Saudi Arabia

Dr. Alaa Ali Amr - Palestine

Dr. Mohammed Khalid Hamdan - Malaysia

Dr. Mohammed Ahmed Halsa - Palestine

Dr. Hind Mahrous Al-Jildawi - Egypt

Dr. Suheir Yusef Suhwel - Egypt

Dr. Ghada Safi Al-Yamani - Syria / Türkiye

Dr. Rajaa Khalil Al-ahmad - Iraq

Dr. Abeer Al-Shibami - Lebanon

Dr. Saeed Abdulkader Zabania - Palestine

Dr. Badr Nasser Al-Hamad - United States

All literary and artistic property rights are reserved for Stardom Scientific Journal for Economic and Administrative Studies

Human AI Synergy in Project Management

How Innovative Leadership Enables AI Driven Project Performance

Abdulaziz Hussain Alajmi

Graduate School of Management

Management and Science University, Malaysia

Abstract

Artificial intelligence can support project planning and control, but access to analytical tools offers limited explanation of how project teams obtain value from them. This conceptual paper examines how innovative leadership may support human–AI synergy and the development of capabilities through which AI contributes to project performance. The argument brings together socio-technical scholarship, the resource-based view, the theory of capabilities for organizational adaptation, and upper echelons theory. It distinguishes the quality of human–AI coordination from the repeatable organizational ability to apply AI in project work. Four propositions connect leadership with synergy and capability development, synergy with capability development, and capabilities with multidimensional performance. The framework includes a direct leadership–capability relationship alongside the proposed sequential pathway. It suggests that the contribution of AI depends on how project teams allocate tasks, interpret recommendations and retain responsibility for decisions. These relationships remain theoretical and have not been tested in this paper. The discussion identifies conditions that may weaken the proposed relationships, including poor data, unsuitable task allocation and excessive reliance on automated recommendations. It also explains how future studies could distinguish perceived collaboration from demonstrated performance gains. The paper offers a basis for studying leadership and AI use at project level, with attention to the differences between delivery efficiency, stakeholder outcomes and strategic value.

Keywords: human–AI synergy, innovative leadership, artificial intelligence, project management, AI-enabled project capabilities, project performance.

1 Introduction:

Project managers make decisions using information about schedules, costs, resources and stakeholder requirements. AI can extend the analysis of this information through forecasting, classification and pattern recognition. Recent reviews describe applications across project planning and execution, including risk analysis, resource allocation and progress monitoring. Their contribution, however, depends on the project task and on how the resulting information is used (Almeida et al., 2025; Dwivedi et al., 2021; Salimi Moghadam et al., 2025).

Digital transformation research places these applications within a wider process of organizational change. New technologies alter work arrangements and the capabilities required to coordinate them. An organization may acquire a system without developing the knowledge or routines needed to use it effectively. For this reason, investment and adoption provide an incomplete account of the value obtained from digital technologies (Hanelt et al., 2021; Kraus et al., 2022; Verhoef et al., 2021).

The distinction matters in project management because performance has several dimensions. Completing work within agreed time and cost limits remains relevant, but project success also concerns the quality and usefulness of what is delivered, stakeholder assessments and longer-term value. A tool that improves a forecast may support project control while leaving these other outcomes unchanged. Claims about AI and project performance therefore need to specify the outcome being explained (Ika & Pinto, 2022; Serrador & Turner, 2015).

Research on human–AI decision making provides a starting point. AI can process data and generate recommendations, while people contribute knowledge of the task, its constraints and the consequences of alternative decisions. These contributions can be complementary, although cooperation does not guarantee a better decision. The organization of decision rights and the relationship between automation and human involvement require attention

(Jarrahi, 2018; Raisch & Krakowski, 2021; Shrestha et al., 2019).

Leadership may help explain how these arrangements develop. Studies of digital transformation connect leadership with technology-related priorities, organizational agility and strategic direction. They support examining how leaders influence AI use, but they do not by themselves establish a relationship between project leadership, human–AI synergy and project outcomes. Moving from organization-level research to project-level explanation requires a clear account of the intervening processes (AlNuaimi et al., 2022; Wrede et al., 2020).

The problem addressed here is the conversion of AI access into project capability. Existing reviews already consider AI applications, implementation barriers and relationships with human work. The argument is therefore not that the human dimension has been overlooked. It is that a more explicit distinction between leadership, human–AI coordination and repeatable capability can help explain the proposed relationship with project performance. This is a theoretical opportunity within the literature considered, rather than a verified claim that no equivalent framework exists (Almeida et al., 2025; Salimimoghadam et al., 2025).

1.1 Research question and purpose

The paper asks: How can innovative leadership support human–AI synergy through which AI-enabled capabilities contribute to multidimensional project performance? Its purpose is to develop an explanation that can guide subsequent empirical research. The four constructs and four propositions concern relationships to be investigated; they do not represent findings from a survey, experiment or statistical model.

The intended contribution has two parts. The paper separates interaction during project decisions from the organizational capability that can persist across decisions and projects. It then specifies the relationships through which leadership may influence both. This distinction allows later research to ask whether good collaboration contributes to repeatable capability, and whether that capability is associated with outcomes beyond delivery efficiency.

2 Review approach and scope

The paper uses a conceptual review to connect scholarship on AI and human judgement with research on organizational capabilities, leadership and project success. The approach is appropriate to the present purpose because the task is to clarify constructs and develop propositions. It does not estimate an overall effect of AI or report the results of an exhaustive literature search.

The theoretical argument is organized around four questions. What distinguishes productive human–AI coordination from technology adoption? How may leadership shape that coordination? How can coordination become a repeatable capability? Which dimensions of project performance might be affected? The cited literature is compared according to its contribution to these questions. Conceptual explanations, empirical findings and the propositions developed here are treated as different forms of support.

Project-specific reviews provide context for AI applications, while organizational studies provide explanations that may be transferable to project work. The transfer is an analytical step in this paper. Evidence about firm performance is not treated as direct evidence about project performance, and studies of senior management are not treated as tests of project-team leadership. These distinctions limit the conclusions that can be drawn from the sources.

The resulting framework should be assessed as a conceptual explanation. The paper does not report a screened study population, frequencies of findings, pooled effect estimates or formal assessments of evidence certainty. A systematic review would require a reproducible search, documented selection and extraction, and appraisal of the studies contributing to each conclusion. Those activities constitute a separate evidence-building task.

3 Human AI synergy and project capabilities:

The framework distinguishes four constructs so that the same behaviour is not used to define both an explanatory mechanism and its outcome. Leadership concerns what leaders do to support learning and change. Synergy concerns coordination between people and AI during work. Capability concerns the repeatable use of AI in project processes. Performance concerns the outcomes of those processes. Table 1 sets out the distinctions used in the paper.

Table 1 Construct definitions and analytical distinctions

Construct	Focus in this paper	Distinction for future research
Innovative leadership	Leader behaviors supporting experimentation, learning and changes in work practices.	Separate behaviors from general support, technology investment and the authority to commit resources.
Human–AI synergy	Coordination of human expertise and AI analysis during project decisions.	Measure interaction quality separately from use frequency and any demonstrated performance advantage.
AI-enabled project capabilities	Repeatable abilities to apply AI in project analysis and coordinated action.	Describe what the project organization can do without defining capability through successful outcomes.
Project performance	Delivery outcomes, quality, stakeholder satisfaction and strategic benefits.	Assess relevant dimensions and observation periods without assuming a single uniform effect.

Note. These are conceptual definitions for the proposed framework. They are not validated scales or findings from a measurement model.

3.1 Human AI synergy

Human–AI synergy refers here to the coordinated use of human expertise and AI analysis in project decisions and execution. The concept draws on work that explains the complementary contributions of people and intelligent systems. It includes the allocation of tasks, interpretation of outputs and adjustment of decisions when a recommendation conflicts with project knowledge (Jarrahi, 2018; Makarius et al., 2020).

Consider a system that predicts a delay and recommends reallocating a specialist. The project team still needs to examine whether the data reflect current conditions, whether the specialist can be moved and which commitments would be affected. The example illustrates the mechanism proposed in this paper. It is not evidence that a combined

decision will necessarily be more accurate than either a human or an automated decision.

That qualification is important to the use of the word synergy. A perception that collaboration works well can indicate the quality of coordination, but it cannot establish an improvement over an appropriate alternative. Studies claiming a performance advantage should compare the combined arrangement with credible human-only or AI-only arrangements, where those comparisons are feasible. Survey research can examine perceived coordination, provided its conclusions remain consistent with that measurement.

The framework therefore treats synergy as a proposed collaborative mechanism whose value needs to be demonstrated. Frequent use, strong trust or agreement with recommendations is insufficient on its own. A team may use AI frequently and still lack a way to challenge an unsuitable recommendation. Conversely, an appropriate decision to override AI may indicate effective coordination. This interpretation follows the attention given to judgement and decision structures in the human–AI literature (Raisch & Krakowski, 2021; Shrestha et al., 2019).

3.2 AI enabled project capabilities

AI-enabled project capabilities are the repeatable abilities through which a project organization applies AI to analysis and coordinated action. They may concern forecasting, monitoring or decision support, but access to a tool does not establish any of these abilities. Capability requires a workable combination of data, technology, relevant skills and organizational arrangements (Mikalef & Gupta, 2021).

Synergy and capability can be distinguished by their focus. Synergy concerns how people and AI work together in a decision episode. Capability concerns whether the organization can perform an AI-supported process reliably across episodes. A team might interpret one recommendation well without retaining the knowledge needed to repeat the process. An organization might also maintain a technically stable forecasting routine while users struggle to interpret an unusual output. These possibilities justify keeping the constructs separate.

The distinction also prevents a circular explanation of performance. If capability is defined as successful AI use, and performance is measured using the same judgement of success, their relationship becomes difficult to interpret. Future measures should describe what the organization can do independently of whether the project achieved its desired outcomes. The present framework adopts that separation as a requirement for empirical development.

3.3 Multidimensional project performance

Project performance refers to outcomes assessed against the purposes and obligations of the project. Delivery efficiency concerns time and cost, whereas wider assessments may include quality, stakeholder satisfaction and strategic benefits. These outcomes should be specified separately because improvement in one dimension does not establish improvement in the others (Ika & Pinto, 2022; Serrador & Turner, 2015).

The same reasoning applies to AI. A scheduling capability may have a plausible relationship with delivery control, while a relationship with stakeholder satisfaction requires further explanation. Some benefits may also appear after project closure. The framework therefore proposes a relationship with multidimensional performance

without assuming that every dimension changes to the same extent or within the same period.

4 Theoretical explanations

The paper uses socio-technical reasoning as its main explanation of human–AI coordination. The resource-based view explains why complementary resources matter for capability. The theory of organizational adaptation explains how established routines may change. Upper echelons theory informs the leadership argument. Each perspective has a defined role so that their combination does not imply that four theories independently establish the complete model.

4.1 Socio technical explanation of coordination

Socio-technical scholarship examines how technology and the organization of work influence one another. Makarius et al. (2020) apply this reasoning to AI implementation, directing attention to the arrangements through which employees work with intelligent systems. Jarrahi et al. (2023) similarly connect the meaning and consequences of AI with work practices and context.

For projects, this suggests that an AI application should be examined together with decision authority, information sharing and responsibility. A recommendation can change whose knowledge is given weight and how a decision must be justified. The proposed mechanism concerns the way these arrangements allow technical analysis and project knowledge to inform action. The leadership relationship follows when leaders have influence over those arrangements.

This perspective also accommodates poor outcomes. If staff cannot question a recommendation or if responsibility is unclear, closer integration can reproduce an error across decisions. Coordination therefore needs to be evaluated by its operation and consequences. Its existence alone cannot establish that the human and technical contributions are well matched.

4.2 Resource based explanation of capability:

The resource-based view connects differences in organizational performance with the resources and capabilities an organization control. Barney (1991) explains why the characteristics of those resources matter for sustained advantage. Applied here, the argument concerns the combination surrounding AI rather than a presumption that an acquired algorithm is scarce or difficult to copy.

Mikalef and Gupta (2021) provide a relevant organization-level account of AI capability that includes technical, human and organizational resources. Their study supports considering these resources together. Extending that reasoning to projects suggests that data access and analytical expertise need to relate to the routines through which a project team responds to information. This extension remains a proposition about project work.

The explanation has a limit. Firm-level capability and firm performance cannot be substituted for project-level constructs. A firm may possess expertise that is unavailable to a particular project, and a project may perform well for reasons unrelated to AI. The framework therefore requires capability to be observed at the level at which it is used and performance to be assessed for the focal project.

4.3 Capabilities for organizational adaptation

Dynamic capabilities theory (DCT) concerns the adaptation and renewal of an organization's resource base. It gives a reason to examine how project information might lead to changes in routines and resource use. The literature distinguishes such adaptation from the possession or repeated execution of an existing activity (Schilke et al., 2018; Teece, 2018; Teece et al., 1997).

This distinction prevents every AI application from being labelled an adaptive capability. An automated report may improve an established process without changing the organization's capacity to respond to new circumstances. A stronger DCT argument arises when a team uses new information to revise how work is organised or how resources are deployed. Human interpretation remains part of the proposed connection between identifying a signal and changing practice.

The present model allows AI-enabled capabilities to include ordinary operational abilities. Their adaptive character is a possible feature to be studied, not part of the definition imposed on every application. This keeps the capability construct broad enough for project work while identifying the conditions under which DCT adds explanatory value.

4.4 Upper echelons explanation of leadership

Upper echelons theory links organizational choices with the experience and interpretations of senior managers. It provides an explanation of how leaders direct attention and influence strategic decisions, while recognizing limits on managerial discretion (Carpenter et al., 2004; Hambrick, 2007; Hambrick & Mason, 1984).

Research on digital transformation extends the leadership discussion to technological change. Wrede et al. (2020) examine the practices of top managers, while AlNuaimi et al. (2022) consider leadership alongside agility and digital strategy. These studies justify examining leadership-related choices. They do not establish that openness to new ideas is equivalent to effective project leadership or that it guarantees useful AI applications.

Innovative leadership (IL) is defined in this paper through behavior's that support the consideration and implementation of new ideas, including experimentation, learning and the revision of work practices. It is analytically distinct from technology investment and general senior-management support. Applying upper echelons reasoning at project level also requires attention to authority: a project leader may influence team routines while lacking control over procurement, organizational data or staffing.

5 Proposition development

The propositions describe the relationships represented in the framework. They preserve a direct relationship between leadership and capability alongside the sequential argument involving synergy. The theoretical literature provides reasons to expect these associations, but their direction, strength and conditions require empirical assessment.

5.1 Leadership and human AI synergy

Leaders can influence whether a project team is able to test AI outputs against task knowledge. Support for experimentation may give staff opportunities to learn where an application is useful and where review is required. Clear decision responsibilities may

also make it easier to raise a disagreement with a recommendation. These are mechanisms proposed from the leadership and socio-technical arguments, rather than established project-level findings (AlNuaimi et al., 2022; Makarius et al., 2020).

The relationship is expected to weaken where leaders encourage adoption but do not provide the time or authority needed for learning. Pressure to present an AI initiative as successful could also discourage the reporting of errors. The proposition therefore concerns leadership behavior's that support informed use and revision of practice. It does not treat enthusiasm for technology as sufficient evidence of leadership quality.

Proposition 1 (P1). Innovative leadership is positively associated with human–AI synergy in project environments.

5.2 Leadership and AI enabled project capabilities

Leadership may also influence capability through decisions that do not depend entirely on the quality of a particular human–AI interaction. Leaders can support training, establish access to appropriate expertise and allocate resources to maintaining project data. Where they possess the relevant authority, they may also revise procedures so that AI-supported work can be repeated. This reasoning connects leadership research with the complementary-resource account of AI capability (Mikalef & Gupta, 2021; Wrede et al., 2020).

The direct relationship is distinct from the relationship proposed in P1. Better coordination is one possible route through which capability develops, while investment and procedural change provide other routes. Retaining both propositions avoids if synergy accounts for every association between leadership and capability. It also allows later research to examine the relative contribution of the two pathways.

Proposition 2 (P2). Innovative leadership is positively associated with the development and effective use of AI-enabled project capabilities.

5.3 Human AI synergy and capability development

Coordination can contribute to capability when the knowledge obtained during a decision is retained and applied again. For example, the team may learn which data need checking before a forecast is discussed or which recommendations require specialist review. If these lessons become part of an established process, knowledge from interaction can support the repeatable use of AI. This is the mechanism proposed here from the complementarity and capability perspectives (Jarrahi, 2018; Mikalef & Gupta, 2021).

The step is not automatic. A team may coordinate well because one experienced individual resolves disagreement, without transferring that expertise to others. Staff turnover or the temporary nature of the project may prevent learning from being retained. The proposition therefore gives a reason to investigate how individual decision episodes become team or organizational routines. It should not be tested using measures that define coordination and capability through identical behaviors.

Proposition 3 (P3). Human–AI synergy is positively associated with the development and effective use of AI-enabled project capabilities.

5.4 Capabilities and project performance

Repeatable AI-supported processes may improve the information available for project decisions. Forecasting and monitoring applications provide plausible routes to earlier recognition of deviations, while decision support can inform a response. Project reviews identify relevant application areas, but a map of potential uses is different from evidence that each use produces a performance gain (Almeida et al., 2025; Salimimoghadam et al., 2025).

The proposed association is consistent with organizational research on AI capability, although evidence from firms does not establish the project-level relationship. Alayed (2025) addresses AI and project management performance with attention to management support and retained competence, providing a related project-specific starting point. The present argument retains a separate question about how coordination becomes capability and how outcomes differ across performance dimensions.

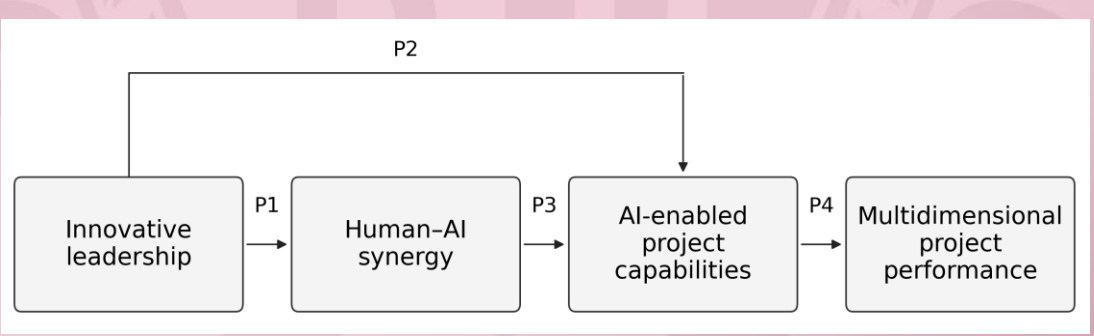
Benefits also depend on the suitability of an application and the costs of using it. A technically consistent capability may deliver limited value if its outputs concern a minor decision, require excessive checking or exclude information that matters to stakeholders. The proposition expresses an expected association across appropriate applications; it does not assume a uniform improvement in all projects or outcomes.

Proposition 4 (P4). AI-enabled project capabilities are positively associated with multidimensional project performance.

6 Proposed framework

Figure 1 brings the four propositions together. Leadership is connected to human–AI synergy through P1 and directly to capability through P2. P3 connects synergy with capability, and P4 connects capability with project performance. The diagram therefore represents all four relationships, including the direct leadership–capability path.

Figure 1 Proposed framework for human AI synergy in project management



Note. P1–P4 correspond to the propositions in Section 5. Arrows indicate proposed relationships, not tested effects.

The sequence suggests that leadership may be associated with performance through synergy and capability, while P2 allows a further route through capability. These indirect implications follow from the framework; they have not been tested and do not constitute additional propositions. In a later empirical study, the relevant indirect associations would need to be specified and estimated rather than inferred from the significance of individual paths.

The framework also allows competing explanations to be considered. Well-performing projects may have more resources to develop capabilities, and established capabilities

may change how leaders manage the team. Data quality, project complexity and organizational support may influence several constructs at once. These possibilities mean that an association consistent with the diagram would provide limited evidence about causal ordering without an appropriate research design.

7 Discussion and implications

The framework provides an explanation of how leadership and human–AI coordination may contribute to project capability. Its value lies in separating these stages clearly enough to permit examination. It also identifies where arguments from organizational research require further evidence before they can explain project-level outcomes.

7.1 Theoretical implications

The first implication concerns the distinction between collaboration and capability. Human–AI research explains how different sources of intelligence can contribute to a decision, while capability research concerns the resources and routines that support repeated action. Connecting them requires an account of how learning from interaction is retained. The proposed P3 relationship makes that step explicit without defining collaboration as a performance outcome

(Jarrahi, 2018; Mikalef & Gupta, 2021).

The second implication concerns leadership. Strategic AI and digital transformation research links technology with organizational choices, while project work introduces limits on the authority of a team leader. A project-level account therefore needs to identify which leader controls the relevant decisions. General arguments about business strategy or top management cannot establish that a project manager can change every condition needed for capability development (Kitsios & Kamariotou, 2021; Wrede et al., 2020).

The third implication concerns the outcome. Separating performance dimensions allows an AI capability to have different relationships with delivery control, stakeholder judgements and longer-term benefits. This avoids treating efficiency as a sufficient measure of project value. It also provides a way to examine cases where an improvement in analytical work has limited consequences for wider project success (Ika & Pinto, 2022; Serrador & Turner, 2015).

These implications do not establish that the model is unique or that its relationships hold. Its distinct contribution would depend on clearer construct measurement and evidence that the proposed mechanism explains project outcomes beyond established accounts of management support, data quality and organizational capability. Comparison with related models is therefore part of the empirical agenda.

7.2 Implications for project management

For project leaders, the framework suggests starting with a decision process. A team should identify the decision to be supported, the information required and the person responsible for acting on the recommendation. This makes it possible to assess whether AI adds useful information and whether staff can identify when that information is unsuitable. The recommendation follows from the decision-structure argument and should be evaluated in the focal project setting (Shrestha et al., 2019).

Training should address interpretation as well as software operation. Team members may need to discuss uncertain outputs, question the relevance of the data and explain

why a recommendation was followed or overridden. Recording such decisions could help retain learning across project stages. These are suggested practices derived from the framework, rather than interventions whose effectiveness has been established in this paper.

Evaluation should connect capability with a specified outcome and a credible comparison. More tools, more users or more frequent use may indicate implementation activity. They provide limited evidence about improved decisions or project value. Managers can assess whether the process changes outcomes that matter to the project and whether any gains remain after considering the cost of implementation and review.

The argument also concerns accountability. AI may inform a choice, but project commitments and responsibility for consequences remain matters of organizational governance. The framework therefore suggests explicit arrangements for reviewing and escalating consequential recommendations. The required arrangements are likely to vary with the task and the discretion available to the project team (Raisch & Krakowski, 2021; Shrestha et al., 2019).

7.3 Institutional context

Saudi Arabia remains a possible setting for future investigation, given the policy context represented by national documents on data, AI and digital government. These documents provide contextual motivation; they do not demonstrate that a particular organization possesses the leadership or routines proposed in the model (Digital Government Authority, 2024; Saudi Data & AI Authority, n.d.).

A study in this setting would need to establish the actual AI applications used by participating projects, the authority of the leaders being assessed and the availability of relevant data. Comparisons across sectors or organizations could then examine whether policy expectations and implementation conditions influence the proposed relationships. The present paper does not claim empirical evidence from Saudi projects.

8 Limitations and future research

The framework is conceptual and its propositions remain untested. The review approach supports theoretical comparison but does not establish the completeness of the literature or the prevalence of a finding. The proposed distinction between synergy and capability also requires measurement development before the model can be evaluated with confidence.

Future research should begin by defining the unit of analysis. Leadership behaviour, coordination and capability may be reported by different people and may exist at different levels. A study of projects should specify how individual reports relate to team-level constructs and should justify any aggregation. Firm-level measures should be adapted and examined for their relevance to project work rather than transferred unchanged.

Measurement of synergy requires care. Qualitative studies could examine decision episodes to identify how people question and use AI recommendations. Subsequent measures could distinguish task allocation, interpretation and appropriate reliance. If the objective is to demonstrate a performance advantage from combining human and AI contributions, a design with relevant comparison conditions would provide evidence beyond self-reported collaboration.

Temporal ordering also deserves attention. Repeated observations could examine whether changes in leadership practices precede changes in coordination and capability, and whether outcomes appear later. Interviews and project records could help explain the process. Cross-sectional associations may be useful as an initial examination, but they would not establish the sequence or rule out reverse relationships.

Empirical work should assess whether synergy and capability are distinguishable before interpreting their structural relationship. It should also consider whether respondents can meaningfully report each performance dimension. Delivery records may inform time and cost outcomes, while stakeholder assessments and later benefits may require other sources and observation periods. Using several sources could reduce reliance on a single respondent's overall impression.

Task uncertainty, data quality, project complexity and the maturity of the AI application remain possible boundary conditions. They are identified here as issues for investigation, without adding moderators or hypotheses to the four-proposition model. Research could test whether the model adds explanatory value when these conditions and alternative accounts of project performance are considered.

9 Conclusion

The paper proposes that the relationship between AI and project performance can be examined through leadership, human–AI synergy and repeatable project capabilities. Its framework contains four propositions and retains both the direct leadership–capability relationship and the pathway through synergy. The argument explains why adopting an AI application may leave a further organizational task: developing ways of interpreting its outputs and using them consistently in project decisions.

The contribution is a set of distinctions and relationships for empirical investigation. The paper does not establish that combined human and AI work improves performance, or that leadership produces the sequence shown. Those conclusions require evidence about actual use, suitable comparison conditions and clearly defined performance outcomes. Examining these questions would help determine when AI-supported project work contributes to delivery efficiency and wider project value.

References

Alayed, S. (2025). The role of artificial intelligence in project management performance: The mediating effects of competence retention and top management support. *Journal of Project Management, 10*(3), 575–584. https://doi.org/10.5267/j.jpm.2025.3.005

Almeida, P. M., Fernandes, G., & Santos, J. M. R. C. A. (2025). Artificial intelligence tools for project management: A knowledge-based perspective. *Project Leadership and Society, 6*, 100196. https://doi.org/10.1016/j.plas.2025.100196

AlNuaimi, B. K., Singh, S. K., Ren, S., Budhwar, P., & Vorobyev, D. (2022). Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research, 145*, 636–648. https://doi.org/10.1016/j.jbusres.2022.03.038

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management, 30*(6), 749–778. https://doi.org/10.1016/j.jm.2004.06.001

Digital Government Authority. (2024). Digital transformation basic standards (Version 3.0). https://dga.gov.sa/sites/default/files/2024-07/Digital%20Transformation%20Basic%20Standards%20-V3.0.pdf

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., … Williams, M. D. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management, 57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review, 32*(2), 334–343. https://doi.org/10.5465/AMR.2007.24345254

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193–206. https://doi.org/10.5465/amr.1984.4277628

Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. *Journal of Management Studies, 58*(5), 1159–1197. https://doi.org/10.1111/joms.12639

Ika, L. A., & Pinto, J. K. (2022). The "re-meaning" of project success: Updating and recalibrating for a modern project management. *International Journal of Project Management, 40*(7), 835–848. https://doi.org/10.1016/j.ijproman.2022.08.001

Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons, 61*(4), 577–586. https://doi.org/10.1016/j.bushor.2018.03.007

Jarrahi, M. H., Lutz, C., Boyd, K., Oesterlund, C., & Willis, M. (2023). Artificial intelligence in the work context. *Journal of the Association for Information Science and Technology, 74*(3), 303–310. https://doi.org/10.1002/asi.24730

Kitsios, F., & Kamariotou, M. (2021). Artificial intelligence and business strategy towards digital transformation: A research agenda. *Sustainability, 13*(4), 2025. https://doi.org/10.3390/su13042025

Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management, 63*, 102466. https://doi.org/10.1016/j.ijinfomgt.2021.102466

Makarius, E. E., Mukherjee, D., Fox, J. D., & Fox, A. K. (2020). Rising with the machines: A sociotechnical framework for bringing artificial intelligence into the organization. *Journal of Business Research, 120*, 262–273. https://doi.org/10.1016/j.jbusres.2020.07.045

Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information & Management, 58*(3), 103434. https://doi.org/10.1016/j.im.2021.103434

Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review, 46*(1), 192–210. https://doi.org/10.5465/amr.2018.0072

Salimimoghadam, S., Ghanbaripour, A. N., Tumpa, R. J., Kamel Rahimi, A., Golmoradi, M., Rashidian, S., & Skitmore, M. (2025). The rise of artificial intelligence in project management: A systematic literature review of current opportunities, enablers, and barriers. *Buildings, 15*(7), 1130. https://doi.org/10.3390/buildings15071130

Saudi Data & AI Authority. (n.d.). National strategy for data & AI. https://sdaia.gov.sa/en/SDAIA/SdaiaStrategies/Pages/NationalStrategyForDataAndAI.aspx

Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals, 12*(1), 390–439. https://doi.org/10.5465/annals.2016.0014

Serrador, P., & Turner, R. (2015). The relationship between project success and project efficiency. *Project Management Journal, 46*(1), 30–39. https://doi.org/10.1002/pmj.21468

Shrestha, Y. R., Ben-Menahem, S. M., & von Krogh, G. (2019). Organizational decision-making structures in the age of artificial intelligence. *California Management Review, 61*(4), 66–83. https://doi.org/10.1177/0008125619862257

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Wrede, M., Velamuri, V. K., & Dauth, T. (2020). Top managers in the digital age: Exploring the role and practices of top managers in firms' digital transformation. *Managerial and Decision Economics, 41*(8), 1549–1567. https://doi.org/10.1002/mde.3202

Stardom University

Stardom Scientific Journal of Economy and management Studies

- Stardom Scientific Journal of Economy and management Studies -

Issued quarterly by Stardom University

4th issue- 4th Volume 2026

ISSN 2980-3799

