https://doi.org/10.63985/ttbr.v2i2.115

Strategic Management Agility in the Era of Artificial Intelligence: A Dynamic Capabilities Perspective

Sanju Purohit

Akamai University, Durham, United States
*Corresponding author email address: Purohitsanjana@icloud.com

Abstract: The accelerating diffusion of artificial intelligence (AI) into strategic decision-making has renewed scholarly interest in how firms build the agility needed to sense, seize, and reconfigure resources under conditions of rapid technological change. While dynamic capabilities theory (DCT) offers a well-established lens for understanding strategic renewal, its application to AI-enabled organizational contexts remains fragmented across disparate empirical studies, each examining isolated mechanisms such as data-driven culture, leadership, or innovation performance. This article synthesizes recent literature to develop an integrated conceptual framework explaining how AI reconfigures the microfoundations of strategic management agility. Using a systematic literature review of publications indexed in Scopus, Web of Science, and Google Scholar between 2021 and 2026, this study maps how AI capabilities function as second-order dynamic capabilities that amplify sensing, seizing, and reconfiguring processes. The review identifies data-driven culture, digital leadership, organizational learning, and governance maturity as critical boundary conditions moderating whether AI translates into strategic agility or capability erosion. The novelty of this study lies in proposing an AI-Augmented Dynamic Capabilities (AI-ADC) framework that positions AI not as a standalone resource but as a catalytic infrastructure reshaping the sense-seize-reconfigure cycle. Implications for strategic management theory, managerial practice, and future research agendas are discussed.

Keywords: artificial intelligence; dynamic capabilities; strategic agility; strategic management; organizational agility

Cite: Purohit, S. (2026). Strategic management agility in the era of artificial intelligence: A dynamic capabilities perspective. *TechTalent & Business Review, 2*(2), 1–12. https://doi.org/10.63985/ttbr.v2i2.115

1. Introduction

Strategic management has always been concerned with a single enduring question: how do firms sustain competitive advantage when the environment around them refuses to stay still? For more than two decades, dynamic capabilities theory (DCT), first articulated by Teece, Pisano, and Shuen and later refined by Teece into the sensing, seizing, and reconfiguring triad, has served as the dominant theoretical scaffolding for answering this question. Dynamic capabilities describe a firm's capacity to purposefully create, extend, and modify its resource base so that ordinary operational routines remain aligned with a

shifting competitive landscape. Yet the environment that DCT was built to explain has itself been transformed. Artificial intelligence (AI), understood broadly as machine learning, natural language processing, and algorithmic decision-support systems embedded into organizational routines, has moved from a peripheral IT investment to a central strategic infrastructure. This shift raises a question that the classical dynamic capabilities literature did not anticipate: does AI simply provide firms with better tools to execute existing sensing-seizing-reconfiguring routines, or does it fundamentally reconstitute what those routines look like and how quickly they can be performed?

The urgency of this question is amplified by three converging developments. First, the diffusion curve of generative and predictive AI has compressed dramatically; tools that were experimental in 2022 are now embedded in enterprise resource planning, customer relationship management, and strategic forecasting systems across industries. Second, empirical evidence on the AI-performance relationship has grown increasingly ambiguous. Multiple large-scale studies document that AI investment alone does not reliably translate into superior firm performance, and that the missing link is organizational: firms that lack the absorptive capacity, data-driven culture, or leadership readiness to act on AI-generated insights fail to realize returns despite substantial technological expenditure. Third, strategic agility, long treated as a desirable but loosely defined organizational trait, has acquired new theoretical precision as scholars increasingly operationalize it as an observable output of AI-augmented dynamic capabilities rather than a vague cultural attribute. Taken together, these developments suggest that the relationship between AI and strategic management agility cannot be adequately understood by treating AI as just another exogenous resource to be absorbed into existing capability frameworks. It requires a reconsideration of how the microfoundations of dynamic capabilities themselves operate when perception, cognition, and resource orchestration are partially delegated to algorithmic systems.

A substantial and rapidly growing body of empirical research has begun to address fragments of this puzzle. Studies grounded in the resource-based view and dynamic capabilities theory have shown that AI-enabled dynamic capability, when mediated by data-driven culture and organizational learning, significantly shapes firm performance, indicating that the technology-performance link is conditional rather than direct. Work on AI-enabled systems in business-to-business contexts has demonstrated that strategic agility and decision-making performance jointly explain how AI translates into innovation outcomes, while research in project-based organizations shows that organizational agility mediates the relationship between AI capabilities and value proposition. Parallel streams of research on organizational and customer agility as mediators of AI assimilation, on AI governance and digital leadership as antecedents of strategic resilience, and on strategic agility as a moderator of the big-data-analytics-to-innovation pathway have each contributed valuable but disconnected pieces of evidence. Sector-specific investigations, ranging from green innovation in construction to supply chain resilience in manufacturing to organizational agility in small and medium enterprises, further illustrate that the AI-agility relationship is highly context-dependent, shaped by industry turbulence, regulatory environment, and firm size.

Despite this proliferation of empirical work, the literature remains theoretically fragmented in three important respects, and it is precisely these gaps that motivate the novelty of the present study. First, most existing studies examine AI and dynamic capabilities as separate constructs linked through mediation or moderation models, rather than theorizing AI as an integral, reconstitutive element of the sensing-seizing-reconfiguring cycle itself. AI is typically treated as an antecedent variable that predicts

dynamic capability, when a more precise theoretical move is to ask how AI changes the internal mechanics of sensing, seizing, and reconfiguring as microfoundational processes. Second, the boundary conditions under which AI enhances versus erodes strategic agility remain undertheorized. Several recent studies hint at a paradox in which AI can simultaneously accelerate decision cycles and introduce new rigidities, such as algorithmic path dependency, data governance bottlenecks, or over-reliance on automated pattern recognition that suppresses managerial judgment, yet no integrative framework has systematically mapped these countervailing forces. Third, the literature lacks a synthesis that connects micro-level cognitive and behavioral mechanisms, such as leaders' interpretive frames and human-machine collaboration routines, with macro-level organizational outcomes, such as innovation capability, resilience, and sustainable competitive advantage. Existing reviews tend to summarize findings topically rather than reconstructing them through the sensing-seizing-reconfiguring architecture that DCT itself provides, leaving the field without a coherent conceptual map.

This article addresses these gaps by developing an integrative conceptual framework, termed AI-Augmented Dynamic Capabilities (AI-ADC), that reframes AI as a catalytic infrastructure operating across all three dimensions of dynamic capability rather than as an isolated antecedent variable. The novelty of this contribution is threefold. First, at the theoretical level, the study repositions AI capability as a second-order dynamic capability, one that amplifies the firm's capacity to build first-order capabilities faster and more precisely than would be possible through human cognition alone, while remaining bounded by the same evolutionary fitness and path-dependency constraints that classical DCT identifies. Second, at the analytical level, the study introduces a systematic mapping of moderating and boundary conditions, including data-driven culture, digital leadership maturity, organizational learning capacity, and AI governance, that determine whether AI-enabled dynamic capability translates into strategic agility or, conversely, produces capability rigidity and decision-making erosion. Third, at the practical level, the framework offers strategic management scholars and practitioners a diagnostic structure for evaluating not merely whether a firm has adopted AI, but whether that adoption has been organizationally metabolized into genuine sensing, seizing, and reconfiguring agility.

The stakes of resolving this fragmentation are not purely academic. Practitioner surveys and industry reports consistently show that executives rank AI-driven strategic responsiveness among their top competitive priorities, yet internal capability audits frequently reveal a wide gap between AI adoption rates and the organizational maturity required to exploit them strategically. Firms that invest heavily in predictive analytics platforms but retain rigid, hierarchical decision-making structures often report slower, not faster, strategic response times, because the bottleneck shifts from information scarcity to interpretive and governance capacity. This pattern echoes a long-standing insight in the dynamic capabilities literature that resources alone do not generate advantage; it is the capability to orchestrate them that matters. What is new in the AI era is the speed and scale at which sensing and seizing can occur, which places unprecedented pressure on the reconfiguring dimension, the organizational routines that translate insight into resource redeployment, structural change, and renewed strategic positioning. Without an updated theoretical vocabulary for describing this pressure, strategic management research risks either overstating AI's transformative potential or underestimating the organizational work required to convert algorithmic insight into durable strategic agility.

A further motivation for this study concerns the conceptual conflation, common in both academic and practitioner discourse, between digital transformation broadly and AI-

specific capability development. Digital transformation research has generated valuable insights into technology adoption, process digitization, and platform-based business models, but AI differs from earlier generations of enterprise technology in ways that matter for dynamic capabilities theory specifically. Unlike static digital tools, AI systems learn, adapt, and in some configurations generate novel outputs, which means the technology itself exhibits dynamic, capability-like properties rather than remaining a passive resource waiting to be deployed. This blurs the traditional boundary between resource and capability that underpins classical strategic management theory, and it is precisely this blurring that the present study seeks to theorize through the AI-ADC framework rather than treat as a peripheral complication.

The remainder of this article proceeds as follows. The following section describes the systematic literature review methodology used to identify, screen, and synthesize the underlying evidence base. The results and discussion section then presents the synthesized findings organized around the three dimensions of dynamic capability, integrates them into the proposed AI-ADC framework, and discusses the boundary conditions that govern its applicability. The final section concludes with theoretical and managerial implications and outlines an agenda for future empirical research.

For instructors, the findings suggest that AI-based writing tools should be integrated into structured learning activities rather than used as independent writing substitutes. Students can be asked to use AI for brainstorming, language feedback, revision suggestions, and organization, while remaining responsible for evaluating the suggestions and producing the final academic text. Requiring students to document selected stages of their AI-assisted writing process may also help instructors assess learning development and encourage responsible use of AI. In addition, instructors should provide explicit guidance on prompt formulation, source verification, academic integrity, and appropriate disclosure of AI use. Combining AI-assisted activities with peer review, instructor feedback, and independent writing tasks can help ensure that technological support contributes to long-term writing development rather than excessive dependence on AI-generated content.

2. Method

This study employs a systematic literature review (SLR) approach, following a PRISMA-informed identification-screening-eligibility-inclusion protocol, complemented by qualitative thematic synthesis to construct the AI-Augmented Dynamic Capabilities (AI-ADC) framework. The SLR design was chosen because the research objective is conceptual integration rather than primary data collection: the aim is to synthesize dispersed empirical findings into a coherent theoretical structure organized around the sensing-seizing-reconfiguring architecture of dynamic capabilities theory.

Literature identification was conducted across three databases, Scopus, Web of Science, and Google Scholar, using combinations of the keywords "artificial intelligence," "dynamic capabilities," "strategic agility," "organizational agility," and "strategic management," connected through Boolean operators. The search was restricted to peer-reviewed journal articles and book chapters published between 2021 and 2026 to ensure the review captures the post-generative-AI diffusion period while retaining sufficient time depth to observe the maturation of the AI-dynamic-capabilities research stream. An initial search returned 214 records. After removing 38 duplicates, 176 records proceeded to title and abstract screening. Screening excluded studies that addressed AI adoption without any theoretical connection to dynamic capabilities or organizational agility, non-English publications, and conference abstracts lacking full-text availability, leaving 84 records for

full-text eligibility assessment. At the eligibility stage, articles were retained only if they (a) explicitly engaged dynamic capabilities theory, the resource-based view, or organizational agility constructs, (b) examined artificial intelligence, machine learning, or algorithmic decision-support as a focal independent, mediating, or moderating variable, and (c) reported either empirical findings or a substantive conceptual contribution. This process yielded a final synthesis set of 25 sources, comprising empirical quantitative studies, qualitative case studies, and conceptual or theoretical articles, which form the evidentiary basis for the results and discussion presented in this article.

Thematic synthesis followed three analytical steps. First, each included source was coded according to which dimension of dynamic capability it primarily addressed, sensing, seizing, or reconfiguring, using Teece's canonical typology as the coding frame. Second, moderating and mediating mechanisms reported across studies, such as data-driven culture, digital leadership, organizational learning, AI governance, and technological readiness, were extracted and grouped into recurring thematic clusters. Third, findings within each cluster were compared and contrasted to identify convergence, divergence, and unresolved tensions, which were then integrated into the proposed conceptual framework. This coding and synthesis process was performed iteratively, with initial thematic categories refined as additional sources were incorporated, consistent with established qualitative synthesis practice in strategic management review research.

Figure 1 illustrates the review and synthesis workflow, from database identification through thematic synthesis into the AI-ADC framework.

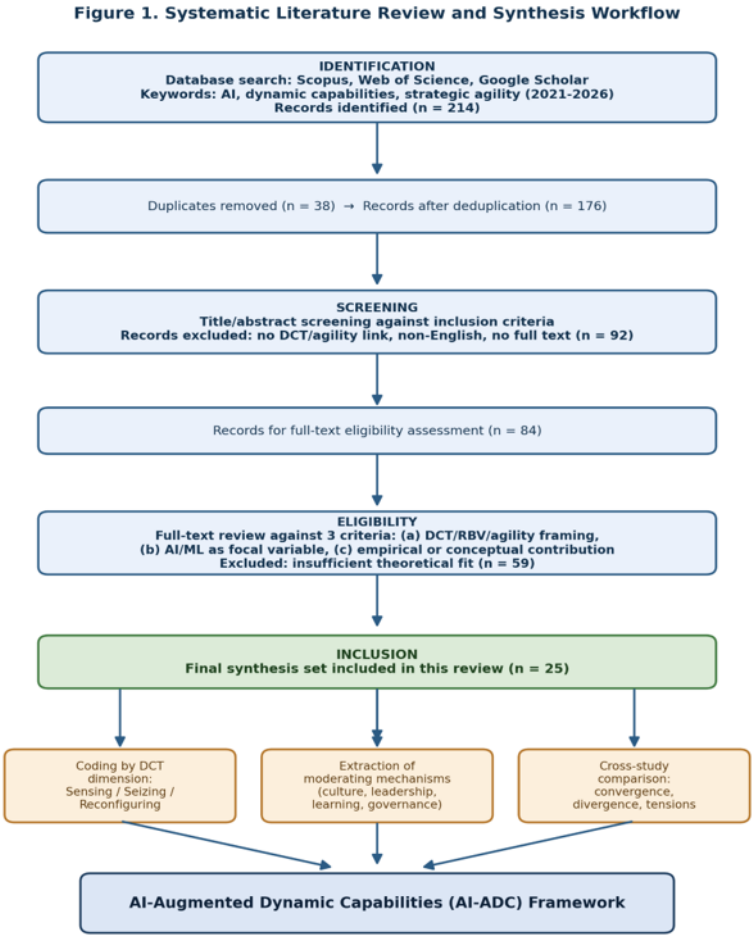

Figure 1. Systematic Literature Review and Synthesis Workflow (PRISMA-Informed)

3. Result and Discussion

The thematic synthesis of the 25 included sources reveals a consistent pattern: artificial intelligence does not act uniformly across dynamic capabilities but exerts qualitatively different effects on sensing, seizing, and reconfiguring, each accompanied by distinct enabling and constraining mechanisms. This section presents the synthesized findings dimension by dimension, integrates them into the proposed AI-Augmented Dynamic Capabilities (AI-ADC) framework, and discusses the boundary conditions that determine whether AI translates into strategic agility.

AI and the Sensing Dimension

Sensing, the capacity to identify and interpret opportunities and threats in the external environment, emerges from the synthesis as the dimension most directly and consistently strengthened by AI. Studies on AI-enabled systems in business-to-business firms show that AI-driven analytics substantially improve firms' ability to detect market shifts and translate them into faster, better-informed decisions, with strategic agility acting as a key transmission mechanism between AI capability and innovation outcomes. Similarly, research on AI assimilation demonstrates that organizational and customer agility mediate the relationship between AI and firm performance, indicating that AI's contribution to sensing is realized only when the organization actively metabolizes AI-generated signals into agility rather than treating them as passive data outputs. Predictive-AI case research further shows that AI enhances sensing not merely through faster data processing but through augmented interpretive capacity, including pattern recognition capabilities that extend beyond conventional human cognitive bandwidth. However, several studies caution that sensing gains are conditional on data quality and organizational readiness: firms operating with fragmented data infrastructure or weak technological readiness realize substantially smaller sensing improvements, a pattern documented in research on green innovation and technological readiness in the construction sector and in supply chain studies linking Industry 4.0 technologies to resilience through the interplay of agility and adaptability.

AI and the Seizing Dimension

Seizing, the capacity to mobilize resources and make timely strategic commitments once an opportunity has been sensed, presents a more complex and, at times, paradoxical picture. On one hand, multiple studies confirm that AI capability, when coupled with strategic agility, significantly enhances decision-making performance and creative product and service development, suggesting that AI accelerates the seizing process by compressing analysis-to-action cycles. Research combining AI governance, digital leadership, and organizational agility similarly finds that firms with mature AI governance structures convert strategic intent into resilient strategic action more effectively than firms with ad hoc AI deployment. On the other hand, the synthesis surfaces a recurring tension: AI's speed advantage in sensing can outpace organizational capacity for seizing, producing a bottleneck in which insight generation exceeds decision-making throughput. This is most visible in studies of small and medium enterprises, where AI adoption improves opportunity identification but leadership style, policy environment, and adaptive capability determine whether that opportunity is actually seized, and in project-based organizations, where organizational agility functions as a necessary mediating mechanism between AI capability and realized project value rather than a direct pathway. Several sources also document a governance-related constraint on seizing: without clear AI accountability structures,

managers may either over-defer to algorithmic recommendations, producing brittle, poorly contextualized strategic commitments, or under-utilize AI outputs due to distrust, both of which erode the seizing dimension despite the presence of strong AI sensing capability.

AI and the Reconfiguring Dimension

Reconfiguring, the capacity to redeploy and restructure resources, routines, and organizational structures in response to strategic decisions, is the dimension most consistently identified across the synthesis as bottlenecked, even when sensing and seizing capabilities are strong. Firm-level studies on AI-enabled dynamic capability show that AI investment translates into superior performance only when mediated by organizational learning, an explicitly reconfiguring-oriented mechanism, and by data-driven culture, which supports the institutionalization of AI-informed changes into standard operating routines. Research on AI-driven risk management in supply chains similarly finds that AI enhances agility most effectively when paired with structural flexibility that allows resource reallocation to occur without extensive bureaucratic delay. Studies of distributed leadership provide complementary evidence, showing that reconfiguring capability depends heavily on whether decision authority is distributed enough to allow rapid resource redeployment once AI-informed strategic direction has been set, a pattern illustrated through case-based analysis of large technology firms navigating volatile competitive conditions. Notably, the innovation-capability literature grounded in dynamic capabilities theory finds that AI's contribution to reconfiguring is strongest in firms that treat AI as an ongoing organizational learning process rather than a one-time technology deployment, reinforcing the view that reconfiguring is fundamentally a routines-and-culture problem that technology alone cannot resolve.

Table 1 synthesizes representative findings across the three dynamic capability dimensions, summarizing the primary AI mechanism, the key moderating condition identified in the literature, and the associated strategic agility outcome.

Table 1. Synthesis of AI Effects Across the Three Dynamic Capability Dimensions

DC Dimension	Primary AI Mechanism	Key Moderating Condition	Strategic Agility Outcome	Representative Sources
Sensing	Real-time analytics, pattern recognition, and predictive signal detection from internal and external data streams	Data quality and technological readiness	Faster, more accurate opportunity/threat identification; improved decision-making performance	Liu et al. (2025); Wamba (2022); Ashergawi et al. (2026)
Seizing	Algorithmic decision-support that compresses the analysis-to-commitment cycle	AI governance maturity and digital leadership	Faster strategic commitments, enhanced creativity; risk of brittle or over-deferred decisions without governance	Shatila (2026); Ameen et al. (2024); Zhong et al. (2026)
Reconfiguring	AI-informed restructuring of routines, resource allocation, and organizational structure	Organizational learning capacity and data-driven culture	Institutionalized, durable strategic renewal; principal bottleneck across firm sizes	Ayoub & Sopuru (2026); Wong et al. (2022); Gao et al. (2025)

Toward the AI-Augmented Dynamic Capabilities (AI-ADC) Framework

Integrating these three strands of evidence, this study proposes the AI-Augmented Dynamic Capabilities (AI-ADC) framework, which departs from prior work in two important respects. First, rather than modeling AI capability as an antecedent that predicts dynamic capability as an outcome, the AI-ADC framework positions AI as an embedded, second-order capability that operates within each of the three classical dimensions simultaneously, accelerating sensing, conditionally enhancing seizing, and depending heavily on organizational absorptive capacity for reconfiguring. This repositioning resolves a conceptual ambiguity present across much of the reviewed literature, where AI capability and dynamic capability are sometimes treated as parallel constructs connected by mediation paths and sometimes treated as nested constructs, without a clear theoretical rationale for either choice. Second, the framework foregrounds four boundary conditions that recur across the synthesized studies as decisive moderators: data-driven culture, which determines whether AI outputs are trusted and acted upon; digital leadership maturity, which governs the interpretive framing leaders apply to AI-generated recommendations; organizational learning capacity, which enables reconfiguring routines to be institutionalized rather than remaining ad hoc; and AI governance, which establishes accountability structures that prevent both over-reliance on and under-utilization of algorithmic insight.

The practical implication of this framework is that strategic management agility in the AI era cannot be achieved through technological investment alone. The synthesis indicates a consistent asymmetry: sensing capability improves relatively quickly and predictably with AI adoption, while seizing and, especially, reconfiguring capabilities require sustained organizational investment in leadership development, governance structures, and learning routines. Firms that pursue AI adoption without corresponding investment in these organizational mechanisms risk what several reviewed studies describe as a widening capability gap, in which the firm's capacity to perceive opportunities outpaces its capacity to act on them, producing frustration, strategic drift, or the erosion of trust in AI systems among decision-makers. Conversely, firms that align AI investment with deliberate development of data-driven culture, distributed leadership, organizational learning routines, and formal AI governance structures are positioned to convert AI's sensing advantages into genuine strategic agility across all three dynamic capability dimensions.

Theoretically, the AI-ADC framework extends dynamic capabilities theory by clarifying that the classical evolutionary fitness and path-dependency constraints identified by Teece remain fully operative in the AI era; AI does not exempt firms from the need to build capabilities incrementally and contextually. What AI changes is the velocity and granularity at which sensing can occur and the intensity of the reconfiguring demands placed on the organization once that sensing capacity is deployed. This reframing addresses the novelty gap identified in the introduction by offering an integrated, dimension-specific account of AI's role in dynamic capabilities rather than a generic claim that AI enhances organizational agility, and by systematically cataloguing the boundary conditions that explain why empirical findings across the reviewed studies sometimes diverge in the strength and even the direction of the AI-agility relationship.

Firm Size, Sector, and Contextual Variation

The synthesis also highlights meaningful variation across firm size and sector that qualifies the general pattern described above. Evidence from small and medium enterprises consistently shows that resource constraints amplify the sensing-to-seizing bottleneck: SMEs frequently report stronger relative gains in opportunity detection following AI adoption than large firms, precisely because their baseline sensing capacity was weaker, yet

they simultaneously report proportionally larger shortfalls in reconfiguring capacity due to limited access to specialized talent, formal governance structures, and slack resources needed to institutionalize organizational learning. This suggests that policy interventions aimed at supporting SME digitalization should prioritize governance and learning infrastructure rather than further subsidizing AI tool acquisition alone, since sensing capability is rarely the binding constraint in this segment. In contrast, studies of large, established firms in manufacturing and construction sectors reveal a different pattern, in which formal governance and structured leadership already exist but often prove too rigid to accommodate the pace of AI-informed sensing, producing what several reviewed studies characterize as a structural lag between opportunity identification and organizational response. This divergence across firm size reinforces the theoretical claim embedded in the AI-ADC framework that no single boundary condition dominates universally; rather, the binding constraint on strategic agility shifts depending on which dynamic capability dimension is already comparatively underdeveloped within a given organizational context.

Sectoral evidence further indicates that market turbulence functions as an amplifying rather than a substituting condition. Research examining the moderating role of market turbulence on the relationship between AI-powered big data analytics and innovation performance finds that strategic agility's contribution is significantly stronger in highly turbulent markets than in stable ones, implying that the AI-ADC framework's practical relevance scales with environmental volatility. This has direct implications for how the framework should be applied diagnostically: firms operating in relatively stable, slow-moving industries may derive adequate value from AI-enhanced sensing alone, whereas firms in turbulent, fast-moving sectors such as technology, financial services, and platform-based industries face substantially higher strategic risk if reconfiguring capacity fails to keep pace with AI-accelerated sensing and seizing.

Synthesis Across Studies and Persistent Tensions

Reading across the 25 synthesized sources as a whole, three persistent tensions recur with sufficient frequency to warrant explicit theoretical attention. The first is the speed-versus-judgment tension, in which AI's capacity to accelerate sensing and, to a lesser extent, seizing, creates pressure for faster strategic commitments that may bypass the deliberative, experience-based judgment that classical strategic management scholarship identifies as essential to sound decision-making under uncertainty. The second is the centralization-versus-distribution tension, in which AI-generated strategic insight can be captured and monopolized by centralized analytics functions, undermining the distributed leadership structures that the reviewed literature identifies as critical for effective reconfiguring, or alternatively can be democratized across the organization, enabling faster resource redeployment but raising coordination and governance challenges. The third is the augmentation-versus-substitution tension, in which firms differ in whether they deploy AI to augment managerial cognition, preserving human interpretive authority over strategic decisions, or to substitute for it, delegating an increasing share of sensing and even seizing decisions to algorithmic systems. The synthesized evidence does not resolve which orientation produces superior long-run performance, but it does suggest that firms adopting a substitution-heavy orientation without corresponding governance safeguards are disproportionately represented among the cases reporting capability erosion, brittle strategic commitments, or diminished organizational trust in AI-informed decisions. These tensions collectively indicate that the relationship between AI and strategic management agility is not monotonically positive, and that the AI-ADC framework's emphasis on

boundary conditions is necessary precisely because it captures the organizational choices that determine which side of each tension a given firm ultimately falls on.

The synthesized findings collectively support the AI-Augmented Dynamic Capabilities (AI-ADC) framework by demonstrating that AI contributes differently across the three dimensions of dynamic capability. AI appears to strengthen sensing most directly by improving data processing, pattern recognition, and opportunity detection, while its contribution to seizing depends more strongly on leadership, governance, and organizational decision-making capacity. Reconfiguring represents the most challenging dimension because translating AI-generated insights into organizational change requires learning routines, flexible structures, and effective resource redeployment.

These findings indicate that AI should not be treated as a uniform technological input to strategic agility. Instead, its contribution depends on how organizations integrate AI capabilities with existing dynamic capabilities and organizational conditions. The AI-ADC framework therefore provides an integrated explanation of how technological capabilities, organizational resources, and governance mechanisms interact to determine whether AI adoption produces genuine strategic agility.

4. Conclusion

This article addresses the fragmentation in the literature on artificial intelligence and strategic management agility by developing the AI-Augmented Dynamic Capabilities (AI-ADC) framework through a systematic review and thematic synthesis of 25 recent sources. The findings show that AI does not enhance strategic agility uniformly across organizations. Instead, its effects differ across sensing, seizing, and reconfiguring, with sensing benefiting most directly, seizing depending on governance and leadership maturity, and reconfiguring remaining the most persistent challenge. The framework positions AI as an embedded, second-order capability operating across all three dimensions and identifies data-driven culture, digital leadership maturity, organizational learning capacity, and AI governance as critical boundary conditions. The study contributes to strategic management theory by explaining how AI reshapes the microfoundations of dynamic capabilities while retaining the evolutionary logic of dynamic capabilities theory. In practice, managers should treat AI adoption and organizational capability development as complementary investments, since technology acquisition without appropriate governance, distributed leadership, and learning routines may create capability imbalance rather than genuine strategic agility.

This study is limited by its reliance on literature-based evidence rather than primary empirical data, meaning that the findings are bounded by the scope, quality, and contextual diversity of the 25 reviewed sources. Although the AI-ADC framework is theoretically grounded, its proposed relationships among AI capabilities, sensing, seizing, reconfiguring, and strategic agility have not yet been directly validated through organizational-level evidence, and differences in industry, firm size, technological maturity, and institutional context may influence its applicability. Future research should therefore empirically test the framework through longitudinal and cross-industry studies, develop validated measures of AI-augmented sensing, seizing, and reconfiguring capabilities, and examine how leadership, organizational learning, and AI governance shape these relationships. Further research should also investigate how the identified tensions between speed and judgment, centralization and distribution, and augmentation and substitution evolve as AI systems become increasingly autonomous and sophisticated.

References

Akter, S., Hossain, M. A., Sajib, S., Sultana, S., Rahman, M., Vrontis, D., & McCarthy, G. (2023). A framework for AI-powered service innovation capability: Review and agenda for future research. Technovation, 125, 102768. https://doi.org/10.1016/j.technovation.2023.102768

Alfaqiyah, E., Alzubi, A., Aljuhmani, H. Y., & Öz, T. (2025). How Industry 4.0 technologies enhance supply chain resilience: The interplay of agility, adaptability, and customer integration in manufacturing firms. Sustainability, 17(17), 7922. https://doi.org/10.3390/su17177922

Alghamdi, O., & Agag, G. (2023). Boosting innovation performance through big data analytics powered by artificial intelligence use: An empirical exploration of the role of strategic agility and market turbulence. Sustainability, 15(19), 14296. https://doi.org/10.3390/su151914296

Ameen, N., Tarba, S., Cheah, J., Xia, S., & Sharma, G. (2024). Coupling artificial intelligence capability and strategic agility for enhanced product and service creativity. British Journal of Management, 35(4), 1652–1675. https://doi.org/10.1111/1467-8551.12797

Ashergawi, M., Aljuhmani, H. Y., & Alzubi, A. (2026). Empowering green innovation through artificial intelligence: The strategic role of organizational agility and technological readiness in the Turkish construction sector. Engineering Management Journal. https://doi.org/10.1080/10429247.2026.2616364

Ayoub, H., & Sopuru, J. (2026). Reconfiguring strategic capabilities in the digital era: How AI-enabled dynamic capability, data-driven culture, and organizational learning shape firm performance. Sustainability, 18(3), 1157. https://doi.org/10.3390/su18031157

Cimino, A., Ferrari, A., & Vecchio, P. D. (2025). Artificial intelligence adoption for sustainable growth in SMEs: An extended dynamic capability framework. Corporate Social Responsibility and Environmental Management. https://doi.org/10.1002/csr.70019

Gao, Y., Liu, S., & Yang, L. (2025). Artificial intelligence and innovation capability: A dynamic capabilities perspective. International Review of Economics & Finance. https://doi.org/10.1016/j.iref.2025.103923

Hossain, S., Fernando, M., & Akter, S. (2025). Digital leadership: Towards a dynamic managerial capability perspective of artificial intelligence-driven leader capabilities. Journal of Leadership & Organizational Studies. https://doi.org/10.1177/15480518251319624

Kao, P.-J. (2025). AI-augmented dynamic capabilities for business sustainability: Enactment through humanistic and instrumental approaches. Journal of Information Technology. https://doi.org/10.1177/02683962251392284

Kunc, M. (2026). Dynamic managerial capabilities for a complex world with AI. In M. Kunc (Ed.), Strategic analytics. Wiley. https://doi.org/10.1002/9781394316038.ch2

Mariani, C., & Mancini, M. (2025). Harnessing AI for value: Examining the impact of AI capabilities and the mediating role of organizational agility on project value proposition. International Journal of Managing Projects in Business. https://doi.org/10.1108/ijmpb-03-2025-0068

Mariani, M., & Dwivedi, Y. K. (2024). Generative artificial intelligence in innovation management: A preview of future research developments. Journal of Business Research, 175, 114542. https://doi.org/10.1016/j.jbusres.2024.114542

Nawab, T. (2024). Integrating artificial intelligence and strategic agility for enhancing sustainable innovation in post-COVID SMEs. iRASD Journal of Management, 6(4), 764–780. https://doi.org/10.52131/jom.2024.0604.0133

Pu, Y., Li, H., Hou, W., & Pan, X. (2025). The analysis of strategic management decisions and corporate competitiveness based on artificial intelligence. Scientific Reports, 15. https://doi.org/10.1038/s41598-025-02842-x

Shafiabady, N., Hadjinicolaou, N., Din, F., Bhandari, B., Wu, R., & Vakilian, J. (2023). Using artificial intelligence (AI) to predict organizational agility. PLOS ONE, 18(5), e0283066. https://doi.org/10.1371/journal.pone.0283066

Shahzad, F., & Ferreira, J. (2026). Artificial intelligence driven dynamic capabilities: Unpacking micro-foundational mechanisms. Management Decision. https://doi.org/10.1108/md-07-2025-2141

Shatila, K. (2026). From artificial intelligence strategy to strategic resilience: The roles of digital leadership, AI governance, and organizational agility. Strategy & Leadership. https://doi.org/10.1108/sl-01-2026-0020

Sjödin, D., Parida, V., & Kohtamäki, M. (2023). Artificial intelligence enabling circular business model innovation in digital servitization: Conceptualizing dynamic capabilities, AI capacities, business models and effects. Technological Forecasting and Social Change, 197, 122903. https://doi.org/10.1016/j.techfore.2023.122903

Wamba, S. F. (2022). Impact of artificial intelligence assimilation on firm performance: The mediating effects of organizational agility and customer agility. International Journal of Information Management, 67, 102544. https://doi.org/10.1016/j.ijinfomgt.2022.102544

Wang, N., Pan, S., & Wang, Y. (2025). How can artificial intelligence capabilities empower sustainable business model innovation? A dynamic capability perspective. Business Process Management Journal, 31(9), 3003–3025. https://doi.org/10.1108/bpmj-11-2024-1045

Wong, L.-W., Tan, G., Ooi, K., Lin, B., & Dwivedi, Y. (2022). Artificial intelligence-driven risk management for enhancing supply chain agility: A deep-learning-based dual-stage PLS-SEM-ANN analysis. International Journal of Production Research, 62(15), 5535–5555. https://doi.org/10.1080/00207543.2022.2063089

Yaseen, M. (2026). Artificial intelligence adoption and organizational effectiveness: The sequential mediating roles of digital transformation, strategic agility, and innovation capability with the moderating effect of top management support. ACADEMIA International Journal for Social Sciences. https://doi.org/10.63056/academia.5.3(s10).2026.2176

Zhong, L., Ady, S. U., & Indrasari, M. (2026). AI in strategic management and organizational agility of SMEs: Leadership, policy environment, and adaptive capability. Future Technology, 5(2). https://doi.org/10.55670/fpll.futech.5.2.1

Liu, Y., Zhang, J., Zheng, J., & Kamal, M. M. (2025). Artificial intelligence-enabled systems and innovation in B2B firms: The role of strategic agility and decision-making performance. Industrial Marketing Management. https://doi.org/10.1016/j.indmarman.2025.04.003.