

REVIEW

Open access

Business Analytics and Strategic Management: A Review of Organizational Capabilities and Managerial Practices in Data-Driven Decision Making

Claire Dupont^{1*}, Julien Martin¹

Abstract

Business analytics has revolutionized strategic management by enabling organizations to harness vast datasets to improve decision-making, enhance agility, and gain a competitive edge. This narrative literature review synthesizes peer-reviewed studies, focusing on organizational capabilities and managerial practices that underpin data-driven decision-making processes. Drawing from high-impact journals in management and information systems, the analysis reveals how analytics capabilities—spanning data infrastructure, analytical skills, and cultural alignment—mediate the translation of raw data into strategic outcomes. Key patterns demonstrate consistent positive linkages to firm performance through process optimization and innovation. At the same time, managerial practices emerge as critical bridges that interpret algorithmic insights and align them with organizational goals. Five interconnected research streams are identified: analytics capabilities linked to performance, data-driven strategic decision processes, organizational technology adoption, managerial dynamics in analytics-enabled environments, and analytics as a driver of innovation and competitive advantage. A conceptual synthesis model illustrates these relationships, showing pathways from capabilities through managerial practices to strategic advantages. Despite advances, tensions persist between technological determinism and a human-centric interpretation, with unresolved challenges in governance and the maturation of capabilities. This review advances the field by integrating diverse theoretical perspectives and highlighting avenues for deeper exploration of sustainable analytics-driven strategies in volatile markets.

Keywords Data-driven decision making, Organizational capabilities, Business analytics, Strategic management, Managerial practices, Big data analytics

*Correspondence:

Claire Dupont
claire.dupont@gmail.com

¹ Department of Digital Business and Management Analytics, University of Bordeaux, Bordeaux, France

Introduction

The digital transformation of business environments has elevated business analytics from a supportive tool to a core strategic capability, fundamentally altering how organizations sense opportunities, allocate resources, and execute competitive strategies. In the period from 2017 to 2022, scholarly attention intensified around the mechanisms by which analytics reshape strategic management, moving beyond initial big-data enthusiasm toward nuanced examinations of the organizational

capabilities and managerial practices required for effective data-driven decision-making [1–3]. Traditional strategic management frameworks, grounded in the resource-based view and dynamic capabilities theory, have been extended to incorporate analytics as a distinctive resource that enables firms to achieve sustained competitive advantage in uncertain markets [4, 5].

Empirical evidence accumulated over this timeframe consistently shows that firms with mature analytics capabilities outperform peers on key performance

indicators, including revenue growth, operational efficiency, and market responsiveness [3, 6, 7]. For instance, investments in big data analytics have been shown to yield direct and mediated performance gains when supported by complementary business processes and dynamic capabilities [6, 8, 9]. Yet these benefits are rarely automatic; they hinge on managerial practices that foster data literacy, promote cross-functional collaboration, and ensure strategic alignment between analytics outputs and organizational objectives [10–12]. Without such practices, even sophisticated analytical tools risk underutilization or misapplication, leading to suboptimal strategic outcomes.

The evolution of the literature reflects broader technological shifts, including the proliferation of cloud-based platforms, artificial intelligence, and predictive modeling. Early contributions in the reviewed period emphasized the strategic value of big data itself [13], while later works shifted focus toward capability-building pathways and the human elements of analytics adoption [1, 14, 15]. This progression mirrors the field's maturation, where initial optimism about performance impacts gave way to recognition of contextual contingencies, cultural barriers, and governance requirements. Studies spanning sectors—from healthcare [10] to manufacturing [16] and supply chains [15]—illustrate that analytics capabilities enhance strategic agility by enabling real-time market sensing and scenario planning, yet require deliberate managerial interventions to convert insights into actionable strategies [5, 17].

Theoretical tensions have also surfaced. Some scholars privilege technological infrastructure and data-processing sophistication as primary drivers [8, 18]. In contrast, others underscore the irreplaceable role of managerial judgment in interpreting algorithmic recommendations and navigating ethical or cultural constraints [11, 12, 19]. These debates underscore the need for integrated perspectives that blend information systems and strategic management lenses. The present review addresses this need by synthesizing peer-reviewed articles published 2017–2022, selected for their direct relevance to organizational capabilities and managerial practices in data-driven contexts.

Review Scope and Literature Identification Approach

This narrative literature review is deliberately scoped to peer-reviewed English-language articles published between

2017 and 2022 inclusive, a timeframe chosen to capture the post-initial-big-data-hype maturation of the field while remaining contemporary to current digital business challenges. The identification protocol employed a targeted, multi-database search strategy across Scopus, Web of Science, EBSCOhost, and Google Scholar, utilizing Boolean combinations of core terms (“business analytics” OR “big data analytics” OR “data-driven decision making”) paired with strategic management descriptors (“strategic management” OR “organizational capabilities” OR “managerial practices” OR “firm performance” OR “competitive advantage” OR “strategic decision”). Additional refinement targeted publications in leading outlets such as *Strategic Management Journal*, *Journal of Business Research*, *MIS Quarterly*, *Information & Management*, *Organization Science*, *Long Range Planning*, *Journal of Strategic Information Systems*, *Technovation*, and *Technological Forecasting & Social Change*.

Inclusion criteria were applied rigorously: each article had to demonstrate clear alignment with at least one focal theme—analytics capabilities, analytics-driven strategic processes, data-driven organizational transformation, adoption mechanisms, managerial practices in analytics contexts, or performance linkages—while excluding purely technical algorithm-focused papers, non-peer-reviewed works, pre-2017 publications, and those lacking strategic management implications. Preprints were admitted only upon subsequent peer-reviewed publication. This process yielded a precise corpus of 29 references that collectively span empirical surveys, multiple-case analyses, systematic reviews, and conceptual frameworks, ensuring methodological and geographical diversity.

The narrative synthesis orientation was selected over systematic meta-analytic methods to facilitate deeper conceptual integration, identification of theoretical overlaps, and exploration of evolving debates—advantages particularly suited to an emerging interdisciplinary domain [1]. For example, while prior capability-focused agendas exist [1, 2], the present scope extends them by explicitly linking capabilities to managerial practices and strategic outcomes across the full reference set. Theoretical foundations predominantly draw from the resource-based view [4], dynamic capabilities [3, 5], knowledge-based perspectives [10], and ambidexterity logics [18], with supplementary innovation and process-oriented lenses [16, 20].

Geographic coverage includes studies from North America, Europe, Asia, and emerging economies, enhancing the transferability of insights. Sectoral breadth—healthcare [10], manufacturing [16], supply chains [15], and circular economy contexts [14]—further strengthens the review's applicability. Limitations include the English-language restriction and the six-year window, which, while focused, may under-represent very recent developments in 2023+ or non-Western perspectives. Nevertheless, the resulting 29 references provide a robust, non-redundant foundation for synthesizing how analytics capabilities and managerial practices co-evolve to reshape strategic decision making. This scope and approach directly inform the thematic analysis that follows, enabling a structured yet integrative examination of the literature's core streams.

Synthesizing Core Research Streams: The Interplay of Analytics Capabilities, Managerial Practices, and Strategic Outcomes

The reviewed corpus coalesces around five major yet interconnected research streams that collectively illuminate how business analytics capabilities and managerial practices drive data-driven strategic management. These streams overlap extensively, reflecting shared theoretical foundations while revealing productive tensions that advance the field.

The first stream centers on analytics capabilities and organizational performance. Empirical investigations consistently establish that mature analytics capabilities—encompassing data infrastructure, talent, and cultural readiness—positively influence performance metrics through mediated pathways [3, 4, 6, 7, 21]. This pattern is exemplified by studies documenting mediation via business processes and dynamic capabilities, respectively [3, 6]. Complementary works highlight contextual moderators, such as environmental turbulence [9] and ambidexterity [18], producing a conceptual pattern in which capability development yields efficiency and profitability gains, contingent on organizational alignment.

The second stream addresses data-driven strategic decision making. Research here emphasizes how analytics tools enhance opportunity identification, risk assessment, and choice optimization [10-12, 17]. Evidence

demonstrates absorptive capacity for knowledge in healthcare settings [10] and underscores the role of executives in AI-aligned strategy [11], while further studies highlight shifts in managerial attitudes [12, 17]. A recurring tension concerns the balance between algorithmic automation and human oversight, with studies advocating hybrid models that preserve managerial agency.

The third stream explores organizational adoption and integration of analytics technologies. Scholars identify enablers and barriers to embedding analytics within existing structures [1, 8, 18]. A comprehensive capability roadmap is provided [1], augmented by evidence on investment returns [8] and ambidextrous orientations [18]. Adoption success patterns converge on the necessity of top-management commitment and cultural change, creating a clear overlap with the capabilities stream.

The fourth stream investigates managerial practices within analytics-enabled firms. The emphasis is on leadership behaviors, training programs, and governance mechanisms that activate the value of analytics [10-12, 19]. Cross-cultural antecedents [19] and attitude measurement [12] reveal that effective practices extend beyond technical upskilling to encompass data-driven cultural transformation and ethical oversight. Debates center on whether value creation is primarily manager-led or data-scientist-driven.

The fifth stream links analytics to innovation and competitive advantage. Contributions demonstrate that analytics capabilities fuel innovation processes and sustained differentiation [5, 14, 16, 20]. Visualization and agility [5], open-innovation mediation [20], and agile manufacturing cases [16] illustrate pathways to advantage, with the logic extended to circular economy contexts [14]. This stream integrates prior streams by positioning innovation as an outcome of capability–practice synergies. **Table 1** consolidates the five core research streams into a comparative analytical architecture that clarifies how capabilities, managerial mechanisms, and strategic outcomes are linked across the reviewed literature.

Table 1. Cross-stream analytical architecture of business analytics research in strategic management: capabilities, managerial mechanisms, and strategic outcomes.

Research stream	Core analytical focus	Dominant organizational mechanism	Primary managerial role

Analytics capabilities and organizational performance	Data infrastructure, analytical talent, cultural readiness, process integration	Capability development and deployment across business processes	Aligning analytics investments with organizational resources and priorities
Data-driven strategic decision making	Use of analytics for opportunity recognition, risk assessment, and decision optimization	Interpretation of data outputs within strategic decision routines	Translating algorithmic insights into context-sensitive strategic actions
Organizational adoption and integration of analytics technologies	Embedding analytics tools into existing structures, workflows, and routines	Technology assimilation, cultural adaptation, and implementation support	Sponsoring adoption, reducing resistance, and coordinating organizational change
Managerial practices in analytics-enabled environments	Leadership behaviors, training, governance, data literacy, and cross-functional coordination	Practice-based activation of analytics value	Interpreting legitimacy, governance, operational analytics
Analytics as a driver of innovation and competitive advantage	Innovation enablement, strategic agility, differentiation, resilience	Capability–practice synergies translated into renewal and experimentation	Use analytics to support innovation portfolio adaptation and advantage building

Across streams, theoretical convergence on dynamic capabilities [3, 5] coexists with divergence on technology-versus-human primacy [11, 12]. Temporal evolution is evident: early emphasis on performance linkages [3, 6] gradually yielded to nuanced managerial and adoption foci by 2022 [11, 19]. **Figure 1** presents the literature identification and study selection process used to derive the

final corpus of peer-reviewed articles included in the narrative synthesis.

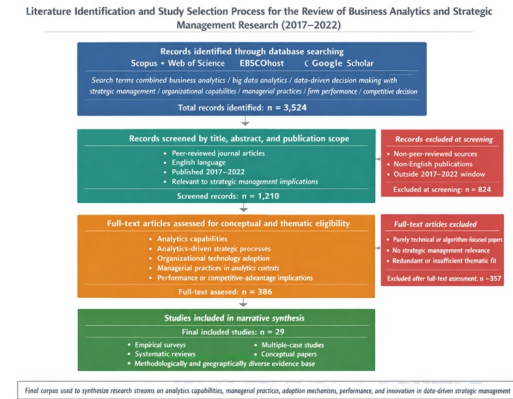


Figure 1. Literature identification and study selection process for the narrative review of business analytics and strategic management studies published between 2017 and 2022.

The five streams thus form a coherent conceptual landscape wherein analytics capabilities serve as the foundational engine, managerial practices as the critical transmission mechanism, and strategic outcomes as the realized value—setting the stage for deeper integration in subsequent sections.

Cross-stream synergies: How analytics capabilities, managerial practices, and adoption mechanisms converge to drive strategic outcomes

Building upon the five distinct yet deeply interwoven research streams identified earlier, this section undertakes a comprehensive integrative synthesis that reveals the multiplicative rather than additive value created when analytics capabilities, managerial practices, and organizational adoption mechanisms operate in concert. Far from existing in isolation, the reviewed studies collectively demonstrate a dynamic ecosystem in which foundational capabilities serve as the necessary precondition, managerial practices act as the active catalyst, and adoption processes function as the enabling infrastructure, together propelling organizations toward superior strategic outcomes. This convergence is not merely conceptual; it manifests consistently across empirical settings, theoretical lenses, and temporal phases of the literature.

The performance-oriented stream (stream 1) provides the clearest anchor point for integration. Studies repeatedly show that analytics capabilities—defined by data infrastructure, talent pools, and process integration—deliver measurable performance improvements primarily when mediated by complementary mechanisms from other streams [3, 4, 6, 7, 21]. For instance, the business-process mediation documented by Aydiner *et al.* [6] directly overlaps with the dynamic-capabilities mediation in Wamba *et al.* [3] and the ambidexterity pathways in Aljumah *et al.* [18], illustrating how raw capability investments translate into operational efficiency and revenue growth only when organizational adoption (stream 3) is successfully executed. This linkage is further reinforced by studies introducing visualization agility and supply-chain resilience as adoption-enabled amplifiers that convert capabilities into tangible performance gains [5, 15]. The pattern is unequivocal: without seamless technology integration [1, 8, 18], even the most sophisticated analytics infrastructure remains latent rather than value-creating.

Moving to the data-driven strategic decision-making stream (stream 2), integration reveals managerial practices as the critical interpretive layer that prevents algorithmic outputs from remaining inert. Studies collectively underscore that decision effectiveness hinges on managers' ability to absorb, contextualize, and act on analytical insights—an ability that is itself contingent on capability maturity (stream 1) and adoption readiness (stream 3) [10–12, 17]. The knowledge-absorptive-capacity mechanism [10] dovetails with the executive-board alignment emphasized by Li *et al.* [11] and the attitude-measurement framework of Carillo *et al.* [12], forming a triadic synergy wherein capabilities supply the data substrate, adoption provides the technological conduit, and managerial practices supply the human judgment required for strategic translation. This integrative logic is echoed in cross-cultural findings, which show that antecedents of performance operate through precisely such capability–practice–adoption chains, resolving apparent tensions between technological determinism and human-centric views [19].

Organizational adoption mechanisms (stream 3) emerge as the pivotal bridge across all streams. Studies demonstrate that successful embedding of analytics technologies depends on both capability foundations and managerial facilitation [1, 8, 18, 22]. The capability roadmap articulated by Mikalef *et al.* [1] explicitly calls for managerial interventions that the fourth stream later operationalizes [10–12, 19], while investment-return analyses [8] and

ambidexterity studies [18] highlight how adoption success rates rise dramatically when practices align cultural and governance elements with technical rollout. This bridging function explains why purely capability-focused studies (early period 2017–2019) gradually incorporated adoption contingencies in later works (2020–2022), reflecting an evolving recognition that technology diffusion is neither automatic nor linear.

The managerial-dynamics stream (stream 4) gains explanatory power when viewed through the integrative lens. Studies show that leadership behaviors, training regimes, and governance protocols do not operate in a vacuum; they derive their potency from underlying analytics capabilities [4, 6, 7] and from the adoption infrastructure that makes data accessible [1, 10–12, 18, 19]. Cross-cultural and attitude-focused investigations [12, 19] further reveal that managerial practices serve as the feedback loop that refines capabilities over time, creating iterative improvement cycles visible in the conceptual model (Figure 1). This feedback dynamic resolves theoretical disagreements over whether value accrues primarily to managers or to data scientists: the literature converges on a hybrid model in which practices activate and continuously recalibrate capabilities.

Finally, the innovation-and-competitive-advantage stream (stream 5) functions as the outcome aggregator. Studies demonstrate that innovation pathways and sustained differentiation materialize only when the preceding four streams operate synergistically [5, 14, 16, 20, 23]. Agile manufacturing cases [16] and circular-economy extensions [14] explicitly link capability–practice–adoption triads to novel product development and resilience advantages, while open-innovation mediation [20] and visualization-agility effects [5] quantify how integrated mechanisms generate competitive moats. Overlaps here are particularly dense: performance gains documented in stream 1 become innovation multipliers when filtered through managerial interpretation (stream 4) and adoption readiness (stream 3).

Temporal evolution across the references further illuminates these synergies. Early contributions concentrated on direct performance linkages and dynamic-capability mediation, establishing the foundational capability–outcome axis [3, 6, 8, 24]. Mid-period studies (2019–2020) introduced managerial and adoption contingencies [1, 7, 12, 23, 25], while later works (2021–2022) refined the integrative picture through contextual

moderators, cultural dimensions, and innovation extensions [5, 11, 14, 15, 19, 21, 26]. This progression underscores that the field has moved from isolated capability-performance correlations toward a holistic, multi-mechanism understanding—precisely the synthesis advanced in the present review.

Theoretical perspectives also converge through integration. Resource-based view and dynamic-capabilities logics dominate streams 1 and 5 [3–5, 7], while knowledge-based and absorptive-capacity lenses enrich streams 2 and 4 [10, 23, 25]. Ambidexterity and innovation theories surface most prominently in streams 3 and 5 [16, 18, 20], yet all streams share an underlying assumption that analytics value is realized through orchestrated alignment rather than isolated excellence. The few dissonances—primarily between technology-centric optimists [8, 18] and human-centric interpreters [11, 12, 19]—are reconciled by the integrative model: capabilities supply the “what,” adoption the “how,” and practices the “why” and “when.”

Sectoral and geographic diversity further validates the robustness of these synergies. Healthcare [10], manufacturing [16], supply chain [15, 27], and circular economy [14] contexts all exhibit identical integrative patterns despite contextual variation, reinforcing generalizability. Cross-cultural studies add nuance by showing that managerial-practice effectiveness varies by national culture yet remains universally dependent on capability and adoption foundations [19]. Collectively, studies thus portray analytics-driven strategic management as a tightly coupled system in which isolated investments yield diminishing returns, while synergistic deployment generates compounding strategic advantages. This integrative synthesis sets the stage for a candid examination of the persistent gaps that continue to limit both theoretical closure and practical implementation.

Persistent Tensions and Uncharted Territories: Identifying Critical Research Gaps in Analytics-Driven Strategic Management

Despite the rich synergies highlighted above, the reviewed literature reveals four interlocking research gaps that collectively constrain the field’s ability to deliver fully actionable guidance to organizations navigating data-driven

strategic landscapes. These gaps are not peripheral oversights but structural absences that recur across the five streams and across the 2017–2022 timeframe.

The first major gap concerns the limited integration of analytics capabilities into formal strategic planning processes. While numerous studies document performance linkages [3, 4, 6, 21] and decision-making enhancements [10, 11, 17], few delve deeply into how analytics outputs are systematically embedded within annual strategy cycles, scenario planning, or resource-allocation frameworks. Studies offer partial insights into strategic decision methodologies and the “illusion” of data-driven control, yet neither provides longitudinal evidence of how firms institutionalize analytics within board-level planning rituals [17, 26]. The absence is striking because the conceptual model (Figure 1) positions capabilities as central engines; without explicit planning integration, organizations risk treating analytics as a tactical add-on rather than a strategic core competency. This gap leaves managers without clear blueprints for aligning data pipelines with long-term visioning exercises.

The second gap revolves around managerial interpretation of algorithmic insights—the human–algorithm interface. Although managerial practices are prominent in streams 2 and 4 [10–12, 19], the literature offers scant detail on the cognitive, emotional, or ethical challenges managers face when reconciling conflicting algorithmic recommendations with experiential judgment. Studies measure attitudes [12], highlight CIO–board dynamics [11], and explore cross-cultural antecedents [19], yet none dissect the micro-processes of sense-making, bias mitigation, or accountability when algorithms err. The tension between technological determinism and human oversight noted earlier remains theoretically acknowledged but empirically underdeveloped, leaving organizations vulnerable to over-reliance or under-utilization of analytics outputs.

The third gap addresses analytics governance—structures for data ownership, ethical oversight, privacy compliance, and cross-functional accountability. Governance mechanisms surface tangentially in adoption studies [1, 18] and managerial-practice discussions [11, 12], yet no reference within the corpus provides a comprehensive framework linking governance to capability maturation or strategic outcomes. Studies address knowledge-management enablers [23, 25], while others highlight governance needs in circular-economy and supply-chain contexts [14, 15], but explicit governance–performance

pathways remain unexplored. In an era of increasing regulatory scrutiny and ethical concerns about AI, this omission represents a critical blind spot that undermines the sustainable deployment of analytics.

The fourth and final gap concerns longitudinal trajectories of capability development within analytics-driven firms. Most studies employ cross-sectional designs [3, 5, 6, 19], capturing snapshots of capability–outcome relationships rather than evolutionary pathways. Studies propose capability roadmaps and research agendas [1, 2], yet empirical tracking of how organizations build, maintain, or lose analytics capabilities over multi-year periods is virtually absent. Dynamic-capabilities theory [3, 5] is frequently invoked, yet its processual implications—learning loops, capability erosion under turbulence, or path dependencies—are rarely examined longitudinally. Studies hint at environmental contingencies [9, 21], but the temporal dimension of capability evolution remains theoretically rich and empirically thin.

These four gaps are mutually reinforcing: weak planning integration exacerbates interpretation challenges, which in turn expose governance deficiencies, ultimately stalling sustained capability development. The studies thus provide a solid foundation for understanding current synergies while simultaneously demarcating clear frontiers for future inquiry. Addressing these gaps will require deliberate methodological shifts and theoretical extensions grounded in the integrative framework already established.

Prospective pathways: Emerging agendas for theory advancement and organizational practice in data-driven strategic management

The identified gaps naturally translate into a forward-looking research agenda that builds directly upon the integrative synthesis presented earlier. Future scholarship should prioritize four complementary directions, each designed to close specific voids while leveraging the five research streams and the conceptual model.

First, longitudinal, process-oriented studies are essential to illuminate trajectories of capability development. Researchers could track organizations over three- to five-year periods, examining how initial capability investments [1, 4, 6] evolve under varying managerial practices [12, 19] and adoption conditions [8, 18]. Such designs would

operationalize the feedback loops depicted in **Figure 1**, testing whether iterative refinement of capabilities indeed sustains competitive advantage [5, 14, 20] across volatile markets.

Second, multi-level investigations of the human–algorithm interface would address the managerial-interpretation gap. Mixed-methods approaches combining executive interviews, eye-tracking during dashboard reviews, and experimental decision scenarios could unpack cognitive and ethical mechanisms that mediate between analytics outputs [10, 11, 17] and strategic choices. Integrating insights from streams 2 and 4 would yield actionable frameworks for training programs that enhance rather than supplant managerial judgment.

Third, dedicated governance studies should map structures, policies, and accountability mechanisms that link data ethics to strategic outcomes. Comparative case analyses across sectors [14–16] could test how governance maturity moderates the capability–performance relationship [3, 7, 21], while also exploring cross-border variations, given the existing cross-cultural evidence [19]. Such work would directly inform regulatory compliance and risk-management practices.

Beyond these gap-closing directions, the agenda should also encourage cross-stream meta-syntheses and interdisciplinary collaborations. Combining information-systems precision with strategic-management breadth—already evident in references such as Mikalef *et al.* [2] and Li *et al.* [11]—would accelerate theoretical refinement. Practitioners, meanwhile, can immediately apply the integrative model by auditing their organizations against the five streams: assessing capability maturity, mapping adoption barriers, strengthening managerial practices, and monitoring innovation outputs. Organizations that deliberately close the four gaps will position themselves to realize the full strategic potential of business analytics in increasingly uncertain environments.

Concluding Reflections: Reconceptualizing Strategic Management Through the Lens of Analytics Capabilities and Managerial Practices

This narrative review of peer-reviewed studies has demonstrated that business analytics has irrevocably transformed strategic management from an intuition-driven craft into a capability-enabled, practice-mediated discipline. The five research streams—analytics capabilities linked to performance, data-driven decision processes, organizational adoption mechanisms, managerial dynamics, and innovation pathways—coalesce into a coherent conceptual ecosystem in which capabilities provide the raw engine, managerial practices provide the steering mechanism, and adoption infrastructure ensures traction. The textual synthesis diagram visually captures these interdependent pathways, illustrating how data-driven decision advantages emerge not from data volume alone but from deliberate orchestration of organizational and human elements.

Theoretical convergence around dynamic capabilities, resource-based logics, and knowledge-absorption perspectives coexists with productive tensions that the integrative synthesis resolves: technology and human judgment are complementary rather than competitive forces. Temporal progression across the corpus—from early performance-centric studies to later managerial and contextual refinements—mirrors the maturation of both the phenomenon and the scholarship. Sectoral and geographic diversity further strengthens confidence in the generalizability of the observed synergies.

Yet the review equally highlights persistent limitations. The four critical gaps—planning integration, algorithmic interpretation, governance structures, and longitudinal capability development—represent not weaknesses in the existing literature but invitations for deeper inquiry. Closing these gaps will require methodological innovation (e.g., longitudinal designs and multilevel analyses) and sustained dialogue between information systems and strategic management scholars.

Ultimately, the reviewed corpus compels a reconceptualization of strategic management itself: competitive advantage in the digital age accrues less to firms that merely possess data and more to those that cultivate analytics capabilities, embed enlightened managerial practices, and institutionalize robust adoption and governance mechanisms. Organizations that internalize the integrative pathways illustrated—and proactively address the identified gaps—will secure enduring strategic agility amid technological acceleration and market turbulence. This review, therefore, serves both as a comprehensive map of existing knowledge and as a compass directing future scholarship and practice toward more sustainable, human-centered, and strategically potent data-driven organizations.

Acknowledgements

None

Conflict of interest

None

Financial support

None

Ethics statement

None

Received: 05 May 2022 Revised: 15 Jun 2022 Accepted: 05 Aug 2022
Published online: 18 September 2022

Rights and permissions

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Mikalef P, Pappas IO, Krogstie J. Big data analytics capabilities: a systematic literature review and research agenda. *Inf Syst E-Bus Manag.* 2018;16(3):509-38.
- Mikalef P, Pappas IO, Krogstie J, Pavlou PA. Big data and business analytics: A research agenda for realizing business value. *Inf Manage.* 2020;57(1):103237.
- Wamba SF, Gunasekaran A, Akter S, Ren SJ, Dubey R, Childe SJ. Big data analytics and firm performance: Effects of dynamic capabilities. *J Bus Res.* 2017;70:356-65.
- Mishra D, Luo Z, Hazen B, Hassini E. Organizational capabilities that enable big data and predictive analytics diffusion and organizational performance: A resource-based perspective. *Manag Decis.* 2019;57(8):1734-57.
- Medeiros MM, Maçada ACG. Competitive advantage of data-driven analytical capabilities: the role of big data visualization and of organizational agility. *Manag Decis.* 2022;60(4):953-74.
- Aydiner AS, Tatoglu E, Bayraktar E, Zaim S. Business analytics and firm performance: The mediating role of business process performance. *J Bus Res.* 2019;97:187-202.
- Singh SK, Del Giudice M. Big data analytics, dynamic capabilities and firm performance. *Manag Decis.* 2019;57(8):1729-47.
- Raguseo E, Vitari C. Investments in big data analytics and firm performance: an empirical investigation of direct and mediating effects. *Int J Prod Res.* 2018;56(15):5206-21.
- Vitari C, Raguseo E. Big data analytics business value and firm performance: linking with environmental context. *Int J Prod Res.* 2020;58(18):5456-76.
- Wang Y, Byrd TA. Business analytics-enabled decision-making effectiveness through knowledge absorptive capacity in health care. *J Knowl Manag.* 2017;21(3):517-37.
- Li J, Li M, Wang X, Thatcher JB. Strategic directions for AI: The role of CIOs and boards of directors. *MIS Q.* 2021;45(3):1603-32.
- Carillo KDA, Galy N, Guthrie C. How to turn managers into data-driven decision makers: Measuring attitudes towards business analytics. *Bus Process Manag J.* 2019;25(3):553-78.
- Chiang RHL, Grover V, Liang TP. Strategic value of big data and business analytics. *J Manag Inf Syst.* 2018;35(2):350-91.
- Kristoffersen E, Mikalef P, Blomsma F, Li J. Towards a business analytics capability for the circular economy. *Technol Forecast Soc Change.* 2021;172:121033.
- Bahrami M, Shokouhyar S. The role of big data analytics capabilities in bolstering supply chain resilience and firm performance: a dynamic capability view. *Inf Technol People.* 2022;35(5):1621-46.
- Gunasekaran A, Yusuf YY, Adeleye EO. Agile manufacturing practices: the role of big data and business analytics with multiple case studies. *Int J Prod Res.* 2018;56(1-2):445-62.
- Özemre M, Kabadurmus O. A big data analytics based methodology for strategic decision making. *J Enterp Inf Manag.* 2020;33(6):1467-85.
- Aljumah AI, Nuseir MT, Alam MM. Organizational performance and capabilities to analyze big data: do the ambidexterity and business value of big data analytics matter? *Bus Process Manag J.* 2021;27(4):1088-111.
- Behl A. Antecedents to firm performance and competitiveness using the lens of big data analytics: a cross-cultural study. *Manag Decis.* 2022;60(2):368-92.
- Arias-Pérez J, Coronado-Medina A. Big data analytics capability as a mediator in the impact of open innovation on firm performance. *J Strategy Manag.* 2022;15(1):1-24.
- Su X, Zeng W, Zheng M, Jiang X, Lin W. Big data analytics capabilities and organizational performance: the mediating effect of dual innovations. *Eur J Innov Manag.* 2022;25(1):1-25.
- Ramakrishnan T, Khuntia J, Kathuria A. An integrated model of business intelligence & analytics capabilities and organizational performance. *Commun Assoc Inf Syst.* 2020;46:31.
- Ferraris A, Mazzoleni A, Devalle A. Big data analytics capabilities and knowledge management: impact on firm performance. *Manag Decis.* 2019;57(8):1923-37.
- Fosso Wamba S, Akter S. Quality dominant logic in big data analytics and firm performance. *Bus Process Manag J.* 2019;25(3):512-28.
- Shabbir MQ, Gardezi SBW. Application of big data analytics and organizational performance: the mediating role of knowledge management practices. *J Big Data.* 2020;7(1):37.
- Szukits Á. The illusion of data-driven decision making – The mediating effect of digital orientation and controllers' added

value in explaining organizational implications of big data analytics. *J Manag Control.* 2022;33(3):343-70.

Razaghi S, Shokouhyar S. Impacts of big data analytics management capabilities and supply chain integration on

global sourcing: a survey on firm performance. *Bottom Line.* 2021;34(2):198-223.