

REVIEW

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Digital Transformation in Business and Management Studies: A Critical Review of Strategic Alignment, Organizational Capability, and Performance Outcomes

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Abstract

Digital transformation has become a central construct in business and management studies, but its conceptual boundaries remain unstable. The term is used to describe technological adoption, strategic renewal, organizational redesign, business model innovation, and performance transformation, often without clear differentiation among these levels of analysis. This review addresses the problem that digital transformation research has expanded faster than its theoretical integration. In particular, the relationships among strategic alignment, organizational capability, and performance outcomes remain inconsistently theorised and unevenly measured. The objective of the article is to critically review the digital transformation literature through three interrelated lenses: strategic alignment, organizational capability, and performance outcomes. The article treats digital transformation not as a purely technological phenomenon but as a strategic and organizational process whose value depends on fit, readiness, and execution. The review finds that the literature suffers from conceptual ambiguity, weak integration between alignment and capability perspectives, and considerable heterogeneity in performance measurement. It concludes that future research requires stronger conceptual integration, more rigorous longitudinal designs, and more critical attention to the conditions under which digital transformation creates, fails to create, or destroys organizational value.

Keywords Digital transformation, Strategic alignment, Organizational capability, Performance outcomes, Critical review, Digital readiness

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Introduction

Digital transformation has moved from a marginal information systems topic to a central concern in business and management studies because organizations increasingly depend on digital technologies to reshape strategy, operations, innovation, and customer value creation. Yet the field remains conceptually fragmented, with some studies treating digital transformation as technology adoption, others as strategic renewal, and still others as business model reconfiguration or organizational

change [1, 2]. This ambiguity is problematic because it makes it difficult to compare findings, cumulate evidence, or determine whether digital transformation is a distinct phenomenon or a repackaging of earlier IT-enabled change.

A core problem is that digital transformation research frequently links digital technologies to performance outcomes without sufficiently explaining the organizational mechanisms through which value is produced. Reviews of the field show that digital transformation requires changes

in strategy, structures, processes, capabilities, and value propositions, but empirical studies often isolate one dimension rather than examining their interaction [3, 4]. As a result, the literature has generated a large vocabulary of transformation without an equally robust theory of transformation.

Strategic alignment, organizational capability, and performance outcomes are three recurring but contested themes within this literature. Strategic alignment concerns the fit between digital initiatives and business strategy, while organizational capability concerns the ability to sense, seize, and reconfigure resources for digital change [5, 6]. Performance outcomes concern whether digital transformation improves financial results, innovation, productivity, customer value, or competitive advantage, but studies differ widely in how these outcomes are defined and measured [7, 8].

This critical review examines these three themes as an interdependent chain rather than as separate research streams. Digital transformation is unlikely to generate value when digital strategy is disconnected from business strategy, when firms lack the capabilities to implement change, or when performance is assessed through narrow and inconsistent indicators [9, 10]. The article therefore reviews the literature to clarify how digital transformation has been conceptualised, how strategic alignment has been theorised, and why capability and performance measurement remain central unresolved issues.

Digital Transformation in Business and Management Studies

Digital transformation is commonly defined as the use of digital technologies to produce significant changes in organizational processes, business models, customer interactions, and value creation, but the literature does not converge on a single definition. Vial describes digital transformation as a process through which digital technologies trigger strategic responses that alter value creation paths [1]. Verhoef, Broekhuizen, Bart, Bhattacharya, Dong, Fabian, and Haenlein similarly treat it as a multidisciplinary phenomenon involving strategy, technology, organization, and market outcomes rather than isolated digitisation [2].

The evolution of the concept reveals a shift from digitisation and digitalization toward more systemic accounts of organizational transformation. Earlier distinctions between IT-enabled organizational transformation and digital transformation show that the latter is not merely the automation of existing processes but a more pervasive reconfiguration of organizational identity, boundaries, and value logic [11]. This distinction is important because studies that conflate digital tools with transformation risk overstating the strategic significance of routine technology implementation.

A recurring theme in the literature is that digital transformation combines technological, strategic, organizational, and value-creation dimensions. Systematic reviews identify common components such as digital technologies, organizational restructuring, cultural change, customer experience, innovation, and business model adaptation [3, 12]. However, these components are often assembled descriptively rather than theoretically, meaning that the field has many lists of dimensions but fewer explanations of how these dimensions interact over time.

The definitional plurality of digital transformation is productive because it captures the breadth of the phenomenon, but it also weakens theoretical precision. Conceptual reviews and research agendas repeatedly note that the field lacks agreement on whether digital transformation should be treated as an outcome, a process, a capability, a strategy, or an environmental condition [1, 4]. **Table 1** summarises the dominant definitions and conceptualisations of digital transformation in the literature.

Table 1. Definitions and Conceptualisations of Digital Transformation: A Synthesis of Core Themes and Dimensions

Conceptual emphasis	Representative interpretation	Core dimensions	Common limitations
Technology-triggered transformation	Digital technologies initiate organizational responses that reshape value creation.	Digital technologies, strategic response, value creation, structural change	Focus on technology determinants, organizational agency, and underlying processes
Strategic renewal	Digital transformation is an ongoing	Strategic renewal, leadership,	Often reductive, positive

	process of renewing strategy and capabilities.	dynamic capabilities, reconfiguration	fully e fail misa
Business model transformation	Digital technologies alter how firms create, deliver, and capture value.	Business model innovation, platforms, customer value, market repositioning	overe mark chan unde in cap con
Organizational change	Digital transformation reconfigures processes, structures, culture, and identity.	Structure, culture, process redesign, organizational learning	Dif opera con across and in
Multidisciplinary construct	Digital transformation integrates strategy, technology, organization, and performance.	Strategy, IT, capabilities, innovation, performance outcomes	Broad inc exp rea re defi pre

Figure 1 illustrates how digital transformation is conceptualised as a multidimensional management phenomenon rather than a narrow technology-adoption process.

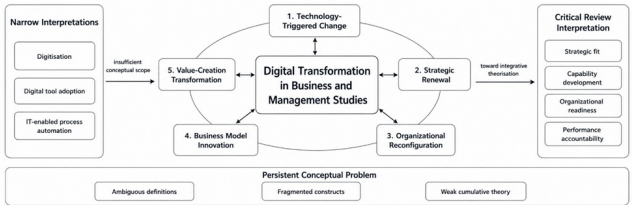


Figure 1. Digital Transformation as a Multidimensional Management Phenomenon: From Technology Adoption to Strategic, Organizational, and Value-Creation Reconfiguration

Digital transformation research therefore occupies a tension between breadth and coherence. Its strength lies in recognising that digital change is not reducible to IT adoption, but its weakness lies in the tendency to use digital transformation as an umbrella label for many loosely

connected phenomena [2, 13]. A critical review must therefore move beyond definitional accumulation and ask how transformation is strategically aligned, organizationally enabled, and empirically linked to performance.

Strategic Alignment in Digital Transformation

Strategic alignment has long been central to information systems research, but digital transformation challenges traditional assumptions about stable alignment between IT strategy and business strategy. In pre-digital settings, alignment often implied fitting IT investments to relatively established business goals, whereas digital transformation can change the goals themselves [6, 9]. This makes alignment more dynamic, recursive, and contested than classical models suggest.

Studies of digital strategy show that transformation requires more than the existence of a digital plan; it requires strategic coherence across leadership, resource allocation, organizational design, and technology choices. Chanias, Myers, and Hess demonstrate that digital transformation strategy making is iterative and politically complex in pre-digital organizations [9]. Yeow, Soh, and Hansen further show that alignment depends on dynamic capabilities that allow organizations to adjust strategy and structures as digital opportunities evolve [6].

The role of leadership is especially important because digital transformation often cuts across functional boundaries and disrupts established power structures. Research on digital strategy implementation shows that senior managers must translate broad digital ambitions into coordinated projects, governance mechanisms, and learning routines [14]. However, the literature sometimes treats leadership as an enabling variable without adequately examining leadership conflict, competing priorities, or the possibility that poorly aligned digital leadership can intensify fragmentation.

Traditional alignment frameworks remain useful but insufficient for explaining digital transformation. They are useful because they direct attention to fit between business priorities and digital investments, but they are insufficient because digital transformation involves experimentation, platform dynamics, ecosystem relationships, and business model change [13, 15]. Table 2 categorises the strategic

alignment frameworks applied in digital transformation research.

Table 2. Strategic Alignment Frameworks in Digital Transformation Research: Key Constructs, Operationalisation, and Empirical Support

Alignment perspective	Key constructs	Typical operationalisation	Empirical support
IT-business alignment	Fit between IT strategy and business strategy	Perceived strategic fit, IT governance, business-IT coordination	Support studies link alignment to transformation coherence
Digital strategy alignment	Integration of digital initiatives with corporate and competitive strategy	Digital roadmaps, strategic priorities, leadership commitment	Support case-based and conceptual studies; digital strategy making
Dynamic alignment	Continuous adaptation between strategy, technology, and capabilities	Reconfiguration routines, iterative strategy processes, learning cycles	Support dynamic capability studies
Business model alignment	Fit between digital technologies and value creation logic	Revenue models, customer interfaces, platform participation	Support research digitalization and business model innovation
Ecosystem alignment	Coordination across platforms, partners, customers, and external actors	Network capability, platform participation, ecosystem orchestration	Support platform SME studies

The performance implications of strategic alignment are widely asserted but unevenly demonstrated. Some studies link IT-enabled capabilities, digital strategy, and analytics

capabilities to competitive performance, suggesting that alignment matters because it allows firms to convert digital resources into operational and strategic value [7, 10]. Yet the evidence is complicated by cross-sectional designs and perceptual measures that make it difficult to determine whether alignment causes performance or whether better-performing firms simply report stronger alignment.

A further issue is that alignment can become a conservative concept if it is interpreted only as fit with existing strategy. Digital transformation may require firms to question inherited strategies rather than merely align digital initiatives with them [5, 16]. This means that alignment should be reconceptualised as a dynamic process of strategic renewal, where digital initiatives both support and reshape organizational direction.

The literature also shows that alignment is not only internal but increasingly external. Digital platforms, network capabilities, and ecosystem relationships require firms to align internal capabilities with external partners and market infrastructures [17]. This broadens the alignment problem from IT-business fit to multi-level strategic coordination across organizations, technologies, and markets.

Overall, strategic alignment remains a necessary but underdeveloped concept in digital transformation research. The field has established that digital transformation requires coherence between digital initiatives and strategic priorities, but it has not fully theorised how alignment evolves, how misalignment emerges, or how alignment interacts with organizational capability and performance measurement [18, 19]. This limitation motivates the next stage of the review, which examines the capability and readiness conditions that determine whether aligned digital strategies can actually be implemented.

Organizational Capability and Digital Readiness

Organizational capability is the mechanism through which digital transformation moves from strategic intention to operational change. The literature frequently draws on dynamic capabilities to explain how firms sense digital opportunities, seize them through investment and experimentation, and reconfigure organizational resources around new technological possibilities [5, 20]. This perspective is valuable because it shifts attention away from digital technologies themselves and toward the

organizational capacities required to convert technological potential into strategic renewal.

Digital readiness extends this capability logic by emphasising whether organizations possess the skills, routines, structures, and cultural conditions needed for digital transformation. Studies of SMEs show that digital transformation depends not only on access to technology but also on entrepreneurial orientation, learning capability, customer engagement, and the ability to redesign internal processes [21, 22]. This is important because readiness is often discussed as though it were a measurable organizational state, while in practice it is a moving condition shaped by uncertainty, experimentation, and managerial interpretation.

The capability literature also highlights the importance of digital innovation capabilities and analytics capabilities. Khin and Ho show that digital technology and digital capability influence organizational performance through digital innovation, while Mikalef, Krogstie, Pappas, and Pavlou connect big data analytics capability to competitive performance through dynamic and operational capabilities [10, 23]. These findings suggest that digital transformation depends less on possessing digital assets than on embedding them within organizational routines that support learning, recombination, and value creation.

However, capability constructs are often measured inconsistently across studies, which limits cumulative theory building. Some studies operationalise capability through digital skills and technology use, while others emphasise analytics infrastructure, managerial competence, innovation culture, or reconfiguration routines [7, 20]. **Table 3** maps the organizational capabilities linked to successful digital transformation.

Table 3. Organizational Capabilities and Digital Readiness: Dimensions, Enablers, and Measurement Approaches

Capability dimension	Core meaning	Main enablers	Common measurement approach
Dynamic capability	Ability to sense, seize, and reconfigure digital opportunities	Strategic renewal, learning routines, managerial orchestration	Survey measures sensing, seizing, and reconfiguration

Digital capability	Ability to deploy digital technologies for innovation and operations	Digital skills, IT infrastructure, data use, digital experimentation	Perceived digital competences and technology use
Analytics capability	Ability to generate value from data and analytics	Data quality, analytics tools, technical talent, decision routines	Big data analytics capability scales
Absorptive capacity	Ability to acquire, assimilate, transform, and exploit digital knowledge	External knowledge search, learning culture, cross-functional integration	Learning and knowledge absorption indicators
Digital readiness	Preparedness for digital transformation across people, processes, and culture	Workforce skills, leadership commitment, culture, maturity	Digital maturity or readiness assessment

Figure 2 presents the review's integrative alignment–capability pathway, showing how digital transformation depends on the interaction between strategic coherence and organizational readiness.

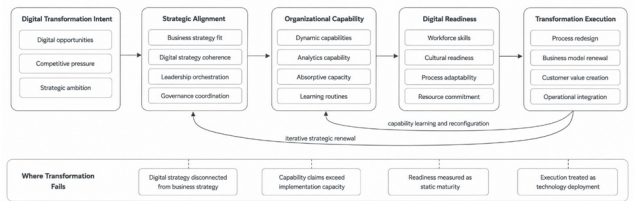


Figure 2. The Alignment–Capability Pathway of Digital Transformation: Linking Strategic Coherence, Organizational Readiness, Dynamic Capabilities, and Transformation Execution

A critical issue is that organizational capability research sometimes treats capabilities as universally beneficial, while digital transformation may also expose capability gaps, coordination problems, and organizational resistance. Studies on business model innovation and digitalization

show that capabilities must be contextually configured rather than simply accumulated [24, 25]. Therefore, digital readiness should not be reduced to a maturity score; it should be analysed as a situated capacity to align strategy, mobilise resources, absorb knowledge, and adapt organizational routines under changing technological conditions.

Performance Outcomes and Measurement Issues

Performance is the most consequential yet least consistently measured dimension of digital transformation research. Studies link digital transformation to financial performance, innovation performance, competitive advantage, operational improvement, customer value, and business model renewal, but these outcomes are rarely measured through comparable indicators [8, 26]. This weakens the field's ability to determine whether digital transformation creates value, under what conditions it does so, and whether reported benefits are durable or temporary.

The evidence suggests that digital transformation can improve performance when digital technologies are integrated with innovation, capability development, and strategic change. Ferreira, Fernandes, and Ferreira show that digital orientation is associated with firm innovation and performance, while Matarazzo, Penco, Profumo, and Quaglia show that SMEs create customer value through digital transformation when supported by dynamic capabilities [8, 21]. These findings support the argument that performance effects are mediated by organizational processes rather than produced automatically by digital investment.

At the same time, the literature contains a persistent productivity and measurement paradox. Digital transformation is often expected to produce measurable gains, but studies use different time horizons, self-reported performance scales, innovation proxies, or financial indicators that are not directly comparable [1, 4]. **Table 4** synthesises the performance outcomes and measurement challenges in digital transformation research.

Table 4. Performance Outcomes of Digital Transformation: Financial and Non-Financial Metrics, Measurement Issues, and Empirical Findings

Outcome category	Typical indicators	Empirical pattern	Measurement issue
Financial performance	Profitability, sales growth, return on assets, revenue growth	Often positive but context-dependent	Frequent cross-sectional self-reports
Operational performance	Efficiency, productivity, process speed, cost reduction	Linked to analytics and process digitalization	Time lags between investment and results often ignored
Innovation performance	New products, business model innovation, digital innovation	Strongly associated with digital capability and dynamic capability	Innovation measurement varies widely across studies
Customer and market performance	Customer value, market responsiveness, platform reach	Positive when digital transformation reshapes value delivery	Often measured through management perception
Strategic performance	Competitive advantage, strategic renewal, organizational agility	Supported when alignment and capabilities interact	Difficult to separate from antecedent capabilities

The COVID-19 literature intensified claims about digital transformation performance because organizations rapidly shifted digital initiatives into high-speed implementation. Amankwah-Amoah, Khan, Wood, and Knight describe the pandemic as an acceleration of digitalization, while Soto-Acosta and Fletcher and Griffiths show how lockdown conditions pushed organizations toward rapid digital transformation [27-29]. These studies are valuable, but they also raise the question of whether crisis-driven digitalization should be interpreted as successful transformation or as emergency adaptation under exceptional conditions.

Recent research has become more attentive to paradoxes and unintended consequences. Guo, Li, Wang, and

Mardani examine whether digital transformation improves firm performance through the lens of a digitalization paradox and managerial myopia, indicating that digital investment may not always translate into superior outcomes [26]. This is crucial because an overly optimistic literature risks treating digital transformation as inherently value creating when its performance effects depend on alignment quality, capability depth, context, and measurement design.

Critical Gaps in Current Research

The first major gap is the lack of longitudinal evidence capable of explaining digital transformation as a process rather than a static condition. Although strategy and capability studies emphasise ongoing renewal, many empirical designs rely on cross-sectional survey data that capture perceived capability and perceived performance at a single moment [5, 7]. This creates a mismatch between theories of transformation as dynamic change and methods that observe transformation as a snapshot.

The second gap is the under-theorisation of the alignment-capability-performance chain. Studies often examine alignment, capability, or performance separately, even though the value of digital transformation depends on their interaction [6, 10]. A more integrated theory would explain how strategic alignment directs digital initiatives, how organizational capabilities enable implementation, and how performance outcomes emerge only when these mechanisms reinforce one another.

The third gap concerns context sensitivity. Much of the literature presents digital transformation as a general management challenge, but studies of SMEs, platforms, Made in Italy firms, and pandemic adaptation show that organizational size, industry, ecosystem position, and crisis conditions strongly shape transformation pathways [17, 21, 27]. This means that universal models of digital transformation may obscure the specific constraints and opportunities that determine whether digital initiatives succeed.

The fourth gap is the limited attention to failure, misalignment, and downside risks. Although research agendas increasingly call for critical perspectives, the dominant literature still privileges successful transformation, innovation, and performance improvement [3, 4]. A more

balanced field must examine failed digital strategies, symbolic transformation, capability overstatement, managerial myopia, employee resistance, and cases where digital transformation produces complexity without corresponding value [26].

Future Research Agenda

Future research should first develop process-oriented theories of digital transformation. Rather than treating transformation as a binary state or maturity level, scholars should examine sequences of strategic decision-making, capability building, experimentation, failure, and reconfiguration over time [9, 14]. Such work would help distinguish temporary digital adoption from deeper organizational transformation.

Second, research should integrate strategic alignment and dynamic capability perspectives more explicitly. Alignment explains whether digital initiatives fit strategic priorities, while dynamic capabilities explain how organizations adapt those priorities as digital opportunities evolve [5, 6]. Combining these perspectives would clarify when alignment stabilises transformation and when excessive alignment with existing strategy prevents necessary renewal.

Third, performance measurement requires greater methodological discipline. Future studies should distinguish financial, operational, innovation, customer, and strategic outcomes rather than treating performance as a single construct [8, 24]. They should also use longitudinal designs, objective indicators where possible, and multi-source data to reduce the risk that successful transformation is inferred from managerial optimism rather than demonstrated outcomes.

Fourth, the field should adopt more configurational and complexity-oriented approaches. Digital transformation outcomes are unlikely to result from single variables; they emerge from combinations of strategy, leadership, capabilities, technologies, business models, ecosystems, and environmental conditions [15, 25, 30]. Future research should therefore examine multiple pathways to transformation success and failure, including the dark sides of digital transformation such as capability gaps, excessive digital investment, organizational overload, and value-destroying complexity.

Figure 3 synthesises the proposed future research agenda by linking conceptual integration, methodological rigour, contextual sensitivity, and critical attention to transformation risks.

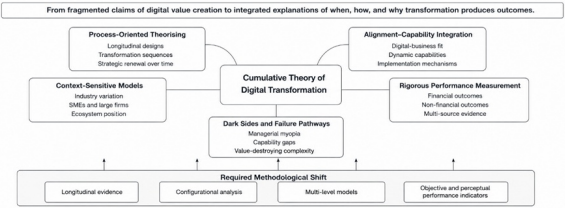


Figure 3. Future Research Agenda for Digital Transformation Studies: Integrating Alignment, Capability, Performance Measurement, Context, and Critical Risk Analysis

Conclusion

This review has argued that digital transformation in business and management studies remains theoretically rich but conceptually fragmented. The literature has established that transformation involves more than technology adoption, yet it has not fully integrated strategy, capability, and performance into a coherent explanatory framework.

The review shows that strategic alignment, organizational capability, and performance measurement are interdependent rather than separate research concerns. Digital transformation creates value only when digital initiatives are strategically coherent, organizationally

executable, and assessed through rigorous and context-sensitive performance indicators.

A stronger research agenda must therefore move beyond broad claims that digital transformation improves organizational outcomes. Future scholarship should build cumulative knowledge by connecting strategic alignment, organizational readiness, capability development, and performance evidence in ways that are theoretically precise, methodologically robust, and critically attentive to both success and failure.

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