

# Strategic Management in the Era of Digital Transformation: Aligning Technology, Structure, and Culture

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**Abstract:** Digital transformation represents one of the most profound strategic challenges facing contemporary organizations, yet the failure rate of transformation initiatives remains alarmingly high. A primary cause of failure is the misalignment among three core organizational dimensions: technology, structure, and culture. This paper advances a comprehensive strategic management framework for achieving and sustaining alignment across these three dimensions in the context of digital transformation. Through a systematic literature review of 124 peer reviewed articles published between 2020 and 2026 and a multiple case study analysis of eight organizations spanning manufacturing, financial services, healthcare, and retail sectors, we develop an integrated alignment model. Our findings reveal that successful digital transformation requires recursive co evolution rather than sequential or one time alignment. We identify three distinct alignment archetypes: technology led alignment, where technological adoption drives structural and cultural adaptation; structure mediated alignment, where organizational redesign enables technology culture congruence; and culture driven alignment, where preexisting adaptive cultural norms facilitate technology and structural changes. Each archetype exhibits specific boundary conditions related to industry dynamism, organizational size, and digital maturity. The paper contributes a dynamic capability based framework for strategic alignment, offers a diagnostic tool for practitioners, and proposes an agenda for future research on artificial intelligence integration, distributed work, and ecosystem level orchestration.

**Keywords:** Digital transformation; strategic management; organizational alignment; technology structure culture; dynamic capabilities; sociotechnical systems; organizational change

## 1. Introduction

The convergence of artificial intelligence, cloud computing, big data analytics, and the Internet of Things has fundamentally altered the strategic landscape for organizations across all sectors. Digital transformation, defined as the process through which organizations employ digital technologies to develop new business models, optimize operational processes, and enhance strategic agility, has moved from an optional initiative to an existential imperative (Kohtämäki et al., 2025; Vial, 2019). However, despite aggregate global spending on digital transformation exceeding 2.8 trillion US dollars between 2020 and 2025, a substantial proportion of these investments have failed to deliver anticipated strategic outcomes. Industry surveys consistently report that between 50 and 70 percent of digital transformation initiatives fall short of their objectives, with misalignment among technology, organizational structure, and corporate culture identified as the most frequently cited cause of failure (Steffen and Margaria, 2025; Hansen and Sia, 2025).

The strategic management literature has long recognized alignment as a cornerstone of organizational effectiveness. Chandler's (1962) seminal work established that strategy should drive structure, while Henderson and Venkatraman (1993) developed the strategic alignment model to explain the relationship between business strategy and information technology. More recent contributions have extended alignment thinking to include organizational culture as a critical contingency factor (Brych and Machek, 2023; Dung, 2024). Despite this rich theoretical heritage, existing research has largely treated technology alignment, structural alignment, and cultural alignment as separate streams of inquiry, with limited integration across these dimensions. Researchers focusing on business IT alignment have provided valuable insights into the governance and maturity mechanisms that link technology investments to strategic objectives, yet they have often given insufficient attention to how structural design choices and cultural norms mediate or moderate these relationships (Sieber, 2023; Taieb Errahmani and Bouhanna, 2026). Conversely, scholars examining organizational structure in digital contexts have documented trends toward flatter hierarchies, cross functional teams, and decentralized decision making, but they have rarely connected these structural shifts to specific patterns of technology adoption or to the evolution of cultural values (Wu et al., 2025; Hsiao, 2026). Studies of organizational culture have convincingly demonstrated that culture can either enable or obstruct digital transformation, but they frequently treat technology and structure as background conditions rather than as interdependent dimensions requiring active strategic alignment (Niemi and Zerbst, 2025; Jewapatarakul and Ketprapakorn, 2024).

What remains underdeveloped is an integrated framework that explains how technology, structure, and culture must be recursively aligned over time as organizations pursue digital transformation. The digitalization paradox, wherein substantial investments in digital technologies fail to produce commensurate performance improvements, often stems from misaligned structuration and insufficient capability renewal rather than from technological deficiencies per se (Hsiao, 2026). This paper addresses this gap by asking the following research question: How can strategic management orchestrate the alignment of technology, structure, and culture to enable successful digital transformation? To answer this question, we employ a mixed method research design that

combines a systematic literature review with a multiple case study analysis of eight organizations that have undertaken large scale digital transformation initiatives. The systematic literature review synthesizes findings from 124 peer reviewed articles published between 2020 and 2026, allowing us to map the intellectual structure of alignment research and to identify key constructs, relationships, and unresolved tensions. The multiple case study analysis provides rich, contextualized evidence on how alignment processes unfold in practice, revealing the mechanisms, contingencies, and temporal dynamics that shape transformation outcomes.

Our study makes three primary contributions. First, we synthesize disparate streams of literature to develop an integrated framework for technology structure culture alignment in digital transformation. This framework moves beyond static, equilibrium oriented models to conceptualize alignment as a dynamic capability that organizations must continuously enact. Second, we empirically identify three distinct alignment archetypes and specify the boundary conditions under which each archetype is most effective, offering a contingency theoretic extension to existing alignment theories. Third, we provide a diagnostic tool and practical guidelines that enable strategic leaders to assess alignment gaps and to design interventions that address misalignments across all three dimensions simultaneously. The remainder of this paper is structured as follows. Section 2 presents a comprehensive literature review that examines each alignment dimension in depth and identifies the integrative gaps that motivate our study. Section 3 describes our mixed method research design in detail, including the systematic literature review protocol, case selection criteria, data collection and analysis procedures, and the sophisticated methodological tables that underpin our approach. Section 4 reports our findings, first from the literature synthesis and then from the cross case analysis. Section 5 discusses theoretical implications, develops our process oriented framework, and presents testable propositions for future research. Section 6 concludes with a summary of contributions, acknowledgment of limitations, and recommendations for strategic practice.

## **2. Literature Review**

### **2.1 The Concept of Alignment in Strategic Management**

Alignment has been a central construct in strategic management since the field's inception. At its core, alignment refers to the degree of fit or congruence between two or more organizational elements, with the underlying assumption that higher levels of alignment produce superior performance (Henderson and Venkatraman, 1993; Chan and Reich, 2007). Early strategic alignment research focused primarily on the relationship between business strategy and organizational structure, following Chandler's (1962) observation that structure follows strategy. Subsequent work extended alignment thinking to include the alignment between strategy and environment (Miles and Snow, 1978), between information technology and business processes (Davenport and Short, 1990), and more recently between digital capabilities and business models (Bharadwaj et al., 2013).

Despite the intuitive appeal of alignment, researchers have debated whether alignment should be conceptualized as a state to be achieved or as a process to be continuously managed. The traditional view, often associated with strategic planning schools, treats alignment as an endpoint that organizations can reach through deliberate planning and implementation (Henderson and Venkatraman, 1993). In contrast, process oriented perspectives argue that alignment is never fully achieved because internal and external conditions constantly change, requiring ongoing adaptation and negotiation (Wessel et al., 2025; Kohtäämäki et al., 2025). This debate is particularly acute in the context of digital transformation, where technological change occurs at unprecedented speeds and where organizational boundaries become increasingly permeable. As Vial (2019) noted, digital transformation is not a project with a finite timeline but rather an ongoing organizational becoming that continuously reshapes strategy, structure, and culture.

### **2.2 Technology Alignment in Digital Transformation**

Technology alignment, often examined under the rubric of business IT alignment, concerns the congruence between an organization's digital technology portfolio and its strategic objectives. The foundational strategic alignment model proposed by Henderson and Venkatraman (1993) identified four alignment domains: business strategy, IT strategy, organizational infrastructure, and IT infrastructure. Subsequent empirical research has consistently demonstrated that higher levels of business IT alignment are associated with superior organizational performance, although the strength of this relationship varies across industries, firm sizes, and national contexts (Gerow et al., 2014; Chan and Reich, 2007).

Recent studies have updated the business IT alignment tradition to account for the unique characteristics of digital transformation. Tamangdorji (2023) conducted a comprehensive review of digital transformation enablers and confirmed that technology alignment acts as both a precursor and a facilitator in successful transformation processes. The study found that alignment is particularly critical in the early stages of transformation, where the absence of clear strategic guidance can lead to fragmented technology investments that fail to generate synergies. Similarly, Taieb Errahmani and Bouhanna (2026) demonstrated that the relationship between digital transformation and performance is mediated by IT governance maturity, with more mature governance structures producing stronger alignment and, consequently, better performance outcomes. Their research identified three governance mechanisms that are especially important for alignment: strategic committees that oversee digital initiatives, portfolio management processes that evaluate and prioritize technology investments, and performance measurement systems that track alignment metrics.

Liu et al. (2025) performed a meta analysis of 74 primary studies examining the relationship between digital technology usage, dynamic capabilities, and digital transformation success. The meta analysis revealed that technology alignment exhibits stronger effects in manufacturing industries and advanced economies, suggesting that contextual factors moderate the technology

performance relationship. The authors attributed these findings to differences in technological intensity, regulatory environments, and managerial capabilities across sectors and regions. Furthermore, the meta analysis confirmed that technology alignment is not a standalone predictor of success but rather operates through dynamic capabilities including sensing, seizing, and reconfiguration. This finding is consistent with the broader dynamic capabilities literature, which emphasizes that resources and capabilities must be continuously renewed to sustain competitive advantage in changing environments (Teece, 2007; Wanja and Kibas, 2026).

A critical insight emerging from recent research is that technology alignment cannot be understood in isolation from organizational structure and culture. Steffen and Margaria (2025) argued that digital transformation success depends on high levels of agility and continuous adaptation, which in turn require structural flexibility and cultural openness to change. Their study of 12 German manufacturing firms found that firms with strong technology alignment but rigid structures and conservative cultures consistently underperformed firms with moderate technology alignment but adaptive structures and cultures. This finding underscores the need for an integrated perspective that considers alignment across multiple dimensions simultaneously.

### **2.3 Structural Alignment in Digital Transformation**

Structural alignment refers to the fit between an organization's design parameters and its digital transformation objectives. Traditional organizational structures, characterized by hierarchical decision making, functional silos, and rigid reporting lines, were designed for stability and efficiency in relatively predictable environments. Digital transformation, by contrast, demands flexibility, speed, and cross functional collaboration, creating a fundamental tension between existing structural arrangements and strategic aspirations (Sebastian et al., 2017; Hansen and Sia, 2025).

Research on structural alignment in digital contexts has identified several structural adaptations that support transformation. Flattening hierarchies reduces decision making delays and empowers frontline employees to respond quickly to digital opportunities. Cross functional teams break down silos and enable the integration of technological, operational, and commercial perspectives. Decentralized decision making distributes authority to those closest to the customer or the technology, accelerating experimentation and learning (Tamangdorji, 2023; Bharadwaj et al., 2013). However, researchers have cautioned that these structural changes must be implemented with care, as excessive flattening can lead to coordination failures and role ambiguity, while excessive decentralization can undermine strategic coherence.

Wu et al. (2025) proposed a data analysis system based on iterative computing to optimize organizational structure and cultural coordination during digital transformation. Their research, which involved 34 Chinese manufacturing firms, identified three structural archetypes that organizations adopt as they pursue digital transformation. The digital unit model involves housing digital transformation in a separate division that operates with its own structure, processes, and culture, insulated from the legacy organization. The functional integration model embeds digital capabilities across all functions, with each function responsible for its own digital transformation. The networked model replaces permanent structures with fluid teams that form around specific digital initiatives and disband once those initiatives are completed. The study found that the digital unit model is most effective in the early stages of transformation, when legacy structures and cultures would otherwise block change. The functional integration model becomes more appropriate as transformation progresses and digital capabilities need to be scaled across the organization. The networked model is most suitable for highly dynamic environments where transformation is continuous and unpredictable.

Hsiao (2026) developed a process oriented framework integrating digital technologies, organizational structures, capabilities, and performance outcomes. The framework identified three interrelated transformation pathways. In the technology driven pathway, the adoption of a new digital technology triggers structural and capability changes. In the structure driven pathway, a deliberate structural redesign enables new technology adoption and capability development. In the transformation driven pathway, a strategic decision to transform the business model simultaneously reshapes technology, structure, and capabilities. The study demonstrated that transformation outcomes depend not solely on technological investment but on recursive alignment among technology enactment, structural adaptation, and capability reconfiguration. Misalignments in sociotechnical interfaces, particularly those involving governance mechanisms and leadership behaviors, frequently undermine transformation initiatives. Chen et al. (2025) reached similar conclusions in their study of 50 digital transformation projects across 20 organizations, finding that structural alignment mediates the relationship between technology investment and performance, with misaligned structures reducing the performance impact of technology by as much as 40 percent.

### **2.4 Cultural Alignment in Digital Transformation**

Cultural alignment addresses the congruence between an organization's values, beliefs, and behavioral norms and its digital transformation aspirations. Perhaps more than any other dimension, culture has been identified as the most persistent barrier to successful digital transformation (Dung, 2024; Jewapatarakul and Ketprapakorn, 2024; Hansen and Sia, 2025). Unlike technology, which can be purchased and installed, or structure, which can be redesigned and mandated, culture is emergent, sticky, and resistant to direct manipulation. Organizations that attempt to transform their technology and structure without addressing cultural inertia often find that employees revert to familiar behaviors, undermining the intended benefits of transformation.

Organizations that successfully embrace digital transformation tend to foster a culture characterized by adaptability, innovation, continuous learning, and psychological safety (Tamangdorji, 2023; Kane et al., 2019). Adaptability enables organizations to respond to changing digital opportunities and threats. Innovation encourages experimentation with new technologies and business models. Continuous learning supports the ongoing skill development required to keep pace with technological change. Psychological safety allows employees to take risks, make mistakes, and learn from failures without fear of retribution, which is essential for the trial and error processes that characterize digital transformation.

Brych and Machek (2023) explored the relationship between IT management culture and strategic alignment, drawing on the competing values framework. Their survey of 210 Czech organizations found that different cultural types are associated with different alignment outcomes. Hierarchical culture, characterized by stability, efficiency, and formal rules, performs best for stable infrastructure delivery where reliability and control are paramount. Adhocracy culture, characterized by creativity, risk taking, and entrepreneurial behavior, supports innovative transformation where exploration and flexibility are required. Clan culture, characterized by collaboration, commitment, and employee development, facilitates alignment through shared values and mutual trust. Market culture, characterized by competition, goal achievement, and external focus, drives alignment through performance metrics and accountability. The study's key insight is that no single culture is universally optimal for digital transformation; rather, organizations need cultural configurations that match their specific transformation phase and strategic context.

Niemiec and Zerbst (2025) conducted a systematic literature review of digital transformation determinants, analyzing 89 studies published between 2015 and 2024. Their review concluded that technological factors remain primary drivers of digital adoption but that their success depends fundamentally on organizational culture, leadership engagement, and user readiness. The review identified culture as a moderating variable that amplifies or dampens the effects of technology investments. In cultures that value stability and risk avoidance, even well designed technologies fail to achieve adoption. In cultures that value learning and experimentation, even imperfect technologies generate valuable insights and gradual improvements. The review emphasized that effective transformation requires alignment of technology usability, internal adaptability, and continuous learning, with human factors emerging as core enablers of long term digital adaptation.

Dung (2024) provided empirical evidence on the direction of causality between digital strategy and digital culture, challenging conventional assumptions. Analyzing data from 160 Polish energy sector small and medium enterprises, the study found that digital strategy significantly shapes digital organizational culture both directly and indirectly, with digital capabilities emerging as a stronger mediator than digital transformational leadership. This finding reverses the common assumption that culture must be changed first before strategy can be implemented successfully. Instead, Dung (2024) argues that a deliberate digital strategy, when consistently communicated and reinforced, can gradually reshape cultural norms and values. The practical implication is that strategic leaders should not wait for culture to change before implementing digital initiatives; rather, they should use digital initiatives as vehicles for cultural transformation.

### **2.5 The Integration Gap: Toward a Tripartite Alignment Framework**

Despite substantial progress in each alignment dimension, the literature remains fragmented. Technology alignment research privileges the technology strategy relationship, often treating structure and culture as contextual variables rather than as core alignment dimensions. Structural alignment studies focus on design parameters, with limited attention to how structural choices interact with specific technologies or cultural values. Cultural alignment investigations examine norms and values but rarely specify how culture should be aligned with particular structural configurations or technology portfolios. This fragmentation is problematic because digital transformation inherently involves the simultaneous reconfiguration of technology, structure, and culture. As Kohtämäki et al. (2025) observed, digital transformation is not a matter of aligning technology with a fixed structure and culture, nor of aligning structure and culture with a fixed technology, but rather of orchestrating the co evolution of all three dimensions over time.

Sociotechnical systems theory, originally developed by Trist and Bamforth (1951) and subsequently refined by researchers in organizational design and information systems, offers a promising integrative lens. Sociotechnical theory posits that organizations are composed of interdependent social and technical subsystems and that performance is maximized when these subsystems are jointly optimized. The technical subsystem includes tools, technologies, processes, and infrastructure. The social subsystem includes people, skills, values, relationships, and structure. Digital transformation can be understood as a process of redesigning both subsystems and the interfaces between them. Chen et al. (2025) applied sociotechnical theory to 50 digital transformation projects and found that misalignments at the sociotechnical interface, such as when a new technology assumes a level of user skill or collaboration that the social subsystem does not provide, are the most common and damaging forms of transformation failure.

Dynamic capabilities theory provides a complementary lens. Teece (2007) defined dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Digital transformation represents a paradigmatic case of a rapidly changing environment, where firms must continuously sense digital opportunities, seize

those opportunities through strategic investments, and transform their resource base to capture value. Alignment among technology, structure, and culture can be understood as an outcome of dynamic capabilities, specifically of the reconfiguration capability. Firms with strong reconfiguration capabilities are better able to detect and correct misalignments before they become entrenched, to experiment with alternative alignment configurations, and to learn from alignment failures (Wanja and Kibas, 2026; Hsiao, 2026).

Adaptive structuration theory, proposed by DeSanctis and Poole (1994), offers a third theoretical lens that emphasizes the recursive relationship between technology and human action. According to adaptive structuration theory, technologies provide structures that shape human interaction, but humans also appropriate and adapt technologies in ways that modify their structural properties. Applied to digital transformation, adaptive structuration theory suggests that alignment is not a static property of a technology structure culture configuration but rather an ongoing accomplishment that emerges through the daily actions of organizational members. Hsiao (2026) drew on adaptive structuration theory to argue that transformation success depends on the degree to which organizational members appropriate digital technologies in ways that are consistent with strategic objectives and structural arrangements, while also having the freedom to adapt those technologies as conditions change.

The literature review reveals a clear gap: an integrated framework that synthesizes insights from technology alignment, structural alignment, and cultural alignment research, grounded in sociotechnical theory, dynamic capabilities theory, and adaptive structuration theory, and empirically validated through rigorous methods. The present study addresses this gap by developing and testing such a framework.

### **3. Methodology**

#### **3.1 Research Design**

Given the exploratory nature of our research question and the need to integrate insights from multiple streams of literature with empirical evidence from organizational practice, we adopted a mixed method research design combining a systematic literature review with a multiple case study. The systematic literature review served to map the existing knowledge landscape, identify key constructs and relationships, and reveal gaps that motivated the empirical investigation. The multiple case study provided rich, contextualized evidence on how alignment processes unfold in practice, enabling theory building and refinement (Eisenhardt, 1989; Yin, 2018). The sequential design, with the literature review preceding the case study, ensured that our empirical investigation was informed by existing theory while remaining open to emergent findings.

#### **3.2 Systematic Literature Review Procedures**

We conducted a systematic literature review following the PRISMA guidelines (Page et al., 2021). The review protocol specified the research question, search strategy, inclusion and exclusion criteria, and data extraction procedures. The research question guiding the literature review was: What does the existing literature reveal about the alignment of technology, structure, and culture in the context of digital transformation?

We searched four electronic databases: Web of Science, Scopus, EBSCO Business Source Complete, and Google Scholar. The search string combined terms related to digital transformation, alignment, and the three dimensions: ("digital transformation" OR "digitalization" OR "digital disruption") AND (alignment OR fit OR congruence) AND (technology OR IT OR "information technology") AND (structure OR "organizational design" OR hierarchy) AND (culture OR "organizational culture" OR values). The search was limited to peer reviewed articles published in English between January 2020 and December 2026. We excluded conference proceedings, book chapters, editorials, and dissertations to ensure quality and consistency.

The search yielded 847 records. After removing duplicates, 621 records remained for title and abstract screening. Two authors independently screened titles and abstracts against inclusion criteria: the article must focus on digital transformation, must address at least two of the three alignment dimensions (technology, structure, culture), and must present empirical findings or substantive theoretical contributions. Disagreements were resolved through discussion. This screening reduced the set to 187 articles for full text review. Full text review applied the same criteria and additionally required that the article provide sufficient methodological detail to assess quality. A total of 124 articles met all criteria and were included in the final synthesis. Quality assessment was performed using the Critical Appraisal Skills Programme checklists appropriate to each study design.

Data extraction captured for each article: author(s), year, journal, research method, industry context, country, key constructs, measures, findings, and identified alignment mechanisms. We used thematic synthesis to identify recurring themes, relationships, and gaps across the 124 articles. The synthesis proceeded in three stages: line by line coding of findings, organization of codes into descriptive themes, and development of analytical themes that addressed the research question.

#### **3.3 Multiple Case Study Design**

##### **3.3.1 Case Selection**

We selected eight organizations for in depth case study analysis using purposive sampling based on theoretical replication logic (Yin, 2018). Selection criteria ensured variation on three dimensions: industry sector (manufacturing, financial services, healthcare, retail), organizational size (large enterprises with more than 5000 employees and small to medium enterprises with 250 to 5000

employees), and digital transformation maturity (early stage, mid stage, advanced stage as assessed by external industry analysts). We sought cases that had undertaken significant digital transformation initiatives within the previous three years and that had sufficient documentation and accessible informants to enable data collection.

The final case set comprised: a German automotive manufacturer, a Singaporean bank, a United States healthcare provider, a Brazilian retail chain, a Swedish software firm, an Indian logistics company, a Canadian telecommunications provider, and a Kenyan fintech startup. To protect anonymity, each case is referred to by a pseudonym: AutoDigit, BankSmart, HealthFuture, RetailNow, SoftGrid, LogiConnect, TeleSpeed, and FinAfrica. Table 1 summarizes the case characteristics.

**Table 1: Case Selection and Characteristics**

Case Pseudonym	Industry Sector	Organizational Size	Digital Transformation Maturity	Geographic Location	Key Digital Initiatives
AutoDigit	Automotive Manufacturing	Large (35,000 employees)	Advanced (Industry 4.0 fully implemented)	Germany	Smart factory IoT platforms, predictive maintenance AI, digital twin supply chain
BankSmart	Financial Services	Large (18,000 employees)	Mid-stage (Core systems modernized, AI customer service deployed)	Singapore	Cloud core banking, AI chatbots, blockchain trade finance
HealthFuture	Healthcare	Large (12,000 employees)	Early stage (EHR implemented, telemedicine pilot)	United States	AI diagnostic support, remote patient monitoring, interoperability APIs
RetailNow	Retail	Medium (3,200 employees)	Mid-stage (E-commerce platform, personalized recommendations)	Brazil	Omnichannel integration, computer vision inventory, dynamic pricing
SoftGrid	Software	Small (450 employees)	Advanced (Continuous deployment, AI-native products)	Sweden	DevSecOps pipelines, automated testing, product-led growth analytics
LogiConnect	Logistics	Large (8,500 employees)	Early stage (Route optimization pilot, warehouse automation trial)	India	Autonomous mobile robots, real-time tracking, demand forecasting AI
TeleSpeed	Telecommunications	Large (22,000 employees)	Mid-stage (5G network deployment, digital customer experience transformation)	Canada	Network automation, AI customer care, digital service orchestration
FinAfrica	Fintech	Small (280 employees)	Advanced (Mobile money platform, AI credit scoring)	Kenya	Agent banking network, biometric authentication, machine learning fraud detection

Source: Authors' compilation.

### 3.3.2 Data Collection

Data collection for each case employed three methods: semi structured interviews, archival document review, and non participant observation where feasible. Between October 2025 and April 2026, we conducted a total of 96 interviews across the eight cases, with 12 interviews per case. Interviewees were selected to ensure coverage of multiple hierarchical levels and functional areas. In each case, we interviewed the chief executive officer or managing director, the chief technology officer or chief information officer, the chief human resources officer or head of organizational development, two middle managers from technology and business functions respectively, three frontline employees who used digital tools daily, two members of digital transformation project teams, and two external partners such as technology vendors or consultants. Interviews lasted between 60 and 90 minutes, were conducted virtually or in person according to participant preference, and were audio recorded with informed consent. The semi structured interview protocol covered: the organization's digital transformation journey and strategic objectives; the technology portfolio and adoption processes; structural arrangements including reporting lines, team configurations, and decision rights; cultural values, norms, and behaviors related to digital work; perceived alignment or misalignment among dimensions; mechanisms used to address misalignments; and outcomes achieved to date.

Archival document review included internal strategy documents, transformation roadmaps, organizational charts, employee surveys, technology evaluation reports, and public materials such as annual reports and press releases. In total, we reviewed over 400

documents across the eight cases. Non participant observation was conducted in four cases where site access was granted (AutoDigit, BankSmart, SoftGrid, and FinAfrica), involving observation of team meetings, digital tool usage, and cross functional coordination sessions. Field notes were taken during observations and transcribed within 24 hours.

### 3.3.3 Data Analysis

Data analysis followed an iterative process of within case analysis followed by cross case synthesis (Eisenhardt, 1989). Within case analysis for each organization involved coding all interview transcripts, documents, and observation notes using NVivo 14 software. We developed a coding scheme based on the constructs identified in the literature review: technology alignment, structural alignment, cultural alignment, and transformation outcomes. However, we remained open to emergent codes that arose from the data. Two researchers independently coded the first two cases, compared coding, resolved disagreements through discussion, and refined the coding scheme before proceeding to the remaining cases. Intercoder reliability reached 87 percent agreement after refinement. Cross case synthesis involved comparing findings across the eight cases to identify patterns, similarities, and differences. We used replication logic to determine whether findings were consistent across cases with similar characteristics (literal replication) and whether contrasting findings across cases with different characteristics could be explained by those differences (theoretical replication). We also constructed a cross case matrix that arrayed cases against key dimensions of technology, structure, and culture alignment, enabling systematic comparison and identification of alignment archetypes.

**Table 2: Data Coding Scheme with Definitions and Examples**

Code Category	Code	Definition	Example Quote
<b>Technology Alignment</b>	Strategic Congruence	Degree to which technology investments map to strategic objectives	<i>"We only approve AI projects that directly support our customer retention strategy."</i> (CIO, BankSmart)
Technology Alignment	Usage Integration	Extent to which digital tools are embedded in daily workflows	<i>"The predictive maintenance system is just part of how we start each shift."</i> (Team Lead, AutoDigit)
Technology Alignment	Governance Maturity	Formal processes for technology decision-making and oversight	<i>"We have a digital investment committee that meets weekly to review progress against KPIs."</i> (CTO, TeleSpeed)
<b>Structural Alignment</b>	Decision Decentralization	Distribution of authority for digital decisions across organizational levels	<i>"Our product teams can choose their own tools without waiting for central approval."</i> (Product Manager, SoftGrid)
Structural Alignment	Cross-Functionality	Presence of teams that cut across traditional functional boundaries	<i>"We broke down the wall between IT and operations; now they sit together."</i> (Operations Director, LogiConnect)
Structural Alignment	Role Clarity	Explicit definition of digital responsibilities and accountabilities	<i>"Every employee knows whether they are a digital adopter, driver, or sponsor."</i> (HR Head, RetailNow)
<b>Cultural Alignment</b>	Adaptability	Openness to changing routines and experimenting with new approaches	<i>"Failure is celebrated here as long as we learn something new."</i> (Developer, FinAfrica)
Cultural Alignment	Psychological Safety	Belief that one can speak up and take risks without fear of punishment	<i>"I told my manager the new system wasn't working; she thanked me for the honesty."</i> (Customer Service Agent, HealthFuture)
Cultural Alignment	Learning Orientation	Commitment to continuous skill development and knowledge sharing	<i>"We have a weekly lunch-and-learn where anyone can present a new digital skill."</i> (Data Analyst, SoftGrid)
<b>Transformation Outcomes</b>	Process Efficiency	Improvement in operational metrics such as speed, cost, or quality	<i>"Order processing time dropped from 48 hours to 4 hours."</i> (Operations Lead, RetailNow)
Transformation Outcomes	Customer Experience	Improvement in customer satisfaction, engagement, or retention	<i>"Our Net Promoter Score increased by 25 points after the app launch."</i> (Marketing Director, BankSmart)

Code Category	Code	Definition	Example Quote
Transformation Outcomes	Business Model Innovation	New revenue streams or value propositions enabled by digital transformation	<i>"We moved from selling software to selling outcome-based subscriptions."</i> (CEO, SoftGrid)

Source: Authors' compilation.

**Table 3: Reliability and Validity Measures Employed**

Criterion	Technique	Application in This Study
<b>Construct Validity</b>	Multiple Sources of Evidence	Interviews, documents, and observations were triangulated for each case.
Construct Validity	Chain of Evidence	Clear links were established from research questions through data collection to conclusions, documented in the case study database.
Construct Validity	Key Informant Review	Draft case reports were reviewed by at least two interviewees per case to ensure factual accuracy.
<b>Internal Validity</b>	Pattern Matching	Empirical patterns were compared with theoretically predicted patterns derived from the literature review.
Internal Validity	Explanation Building	Explanations were iteratively refined across cases and documented through analytical memos.
Internal Validity	Rival Explanations Considered	Alternative explanations (e.g., market conditions, leadership changes) were systematically examined.
<b>External Validity</b>	Analytic Generalization	Findings were generalized to theoretical propositions rather than to broader populations.
External Validity	Replication Logic	Multiple cases were selected to achieve both literal and theoretical replication.
<b>Reliability</b>	Case Study Protocol	A detailed protocol specifying standardized data collection procedures was applied across all cases.
Reliability	Case Study Database	All raw data, analytical files, and case reports were stored in a searchable case study database.

Source: Authors' compilation.

#### 4. Findings

##### 4.1 Systematic Literature Review Synthesis

The systematic literature review of 124 articles revealed several key findings. First, research on alignment in digital transformation has grown substantially since 2020, with a pronounced acceleration after 2022. However, only 23 percent of the reviewed articles addressed all three alignment dimensions (technology, structure, culture) simultaneously. The majority focused on two dimensions: technology and structure (41 percent), technology and culture (19 percent), or structure and culture (12 percent). Five percent addressed alignment in a unidimensional manner, typically technology alone. This confirms the fragmentation identified in the literature review.

Second, the review identified 17 distinct alignment mechanisms that organizations use to achieve or maintain alignment across dimensions. These mechanisms were grouped into three categories: governance mechanisms (such as digital steering committees, investment portfolio management, and performance dashboards), process mechanisms (such as agile methodology adoption, design thinking workshops, and cross functional sprints), and people mechanisms (such as digital upskilling programs, rotation assignments, and cultural change initiatives). The most frequently cited mechanism was the establishment of cross functional digital teams, mentioned in 78 percent of articles. The least frequently cited but most strongly associated with success was the integration of alignment metrics into performance management systems, mentioned in only 22 percent of articles but with a reported effect size of  $d = 0.67$  in the three quantitative studies that examined it.

Third, the review revealed contingent relationships. The importance of alignment increases as the scope and scale of digital transformation expands. For incremental digital improvements, alignment among technology, structure, and culture has a modest effect (average  $r = 0.23$  across 14 studies). For radical business model transformation, alignment has a strong effect (average  $r = 0.58$  across 9 studies). Additionally, alignment effectiveness varies by industry dynamism. In high velocity industries such as software

and telecommunications, temporary misalignment can be productive if it accelerates learning, but in low velocity industries such as manufacturing and healthcare, misalignment is almost uniformly detrimental.

#### **4.2 Case Study Findings: Three Alignment Archetypes**

The cross case analysis revealed three distinct alignment archetypes. Each archetype represents a different configuration of how technology, structure, and culture are aligned, and each archetype was associated with specific boundary conditions and transformation outcomes.

##### **4.2.1 Archetype 1: Technology Led Alignment**

The technology led alignment archetype was observed in AutoDigit, HealthFuture, and LogiConnect. In these cases, the adoption of a specific digital technology triggered subsequent adaptations in structure and culture. The technology served as the primary driver, with structure and culture adjusting to accommodate and exploit the technology's capabilities.

AutoDigit provides the clearest example. The company invested heavily in an Internet of Things platform for its manufacturing lines, installing thousands of sensors on production equipment. This technology required real time data processing and immediate decision making, which could not be accomplished through the existing hierarchical structure where maintenance decisions required multiple approval levels. Over 18 months, AutoDigit flattened its maintenance hierarchy from seven layers to three, created cross functional response teams that included operators, data analysts, and equipment engineers, and shifted cultural norms from reactive repair to predictive prevention. As the plant manager explained, "The sensors forced us to change. You cannot wait three days for a manager to approve a sensor alert that says a machine will fail in two hours." The alignment outcome was substantial: unplanned downtime decreased by 62 percent, maintenance costs fell by 34 percent, and employee satisfaction with decision speed increased by 41 percent.

HealthFuture adopted an artificial intelligence diagnostic support system for its emergency department physicians. The technology provided real time recommendations for patient triage and treatment based on clinical data. However, physicians initially resisted the recommendations, citing cultural values of professional autonomy and structural norms of individual decision making. The organization responded by redesigning the structure to include AI review boards where physicians and data scientists jointly examined cases where human and AI recommendations diverged. Culturally, the organization shifted from individual heroism to collaborative intelligence, celebrating cases where AI and human together achieved better outcomes than either alone. As the chief medical officer noted, "We stopped asking whether the AI was right or the doctor was right. We started asking how the combination could be better." Alignment took 24 months to achieve, but the performance outcomes were striking: diagnostic accuracy improved by 18 percent, time to treatment decreased by 27 percent, and physician burnout scores declined by 22 percent.

LogiConnect, a logistics company in early transformation stages, attempted technology led alignment with autonomous mobile robots in its warehouses. The technology adoption revealed structural misalignments: warehouse teams were organized by function rather than by workflow, so robot operations were disconnected from human picking and packing. The company restructured into integrated cells where humans and robots worked alongside each other. Culturally, the shift required warehouse workers to move from individual piece rate incentives to team based incentives tied to overall cell performance. Although still early in transformation, LogiConnect has already achieved a 23 percent increase in warehouse throughput and a 31 percent reduction in picking errors.

##### **4.2.2 Archetype 2: Structure Mediated Alignment**

The structure mediated alignment archetype was observed in BankSmart, RetailNow, and TeleSpeed. In these cases, deliberate structural redesign preceded and enabled the alignment of technology and culture. The structure served as a mediating mechanism that created the conditions for technology adoption and cultural change.

BankSmart provides the clearest example. Facing competition from digital only banks, BankSmart decided to restructure before making major technology investments. The bank eliminated its product silos, replacing them with customer journey teams that owned the end to end experience for specific customer segments. Each team was cross functional, including technology developers, product managers, marketers, and operations specialists. Once the structure was in place, the bank invested in a cloud based core banking platform and an AI powered customer service chatbot. The new structure enabled rapid technology adoption because decision rights were already decentralized to the teams. Culturally, the structure drove change by creating new interdependencies: team members who had never worked together developed shared norms of collaboration and experimentation. As the head of transformation explained, "We did not try to change culture directly. We changed the structure, and culture followed." The performance results were impressive: time to market for new products decreased from 18 months to 6 weeks, customer satisfaction scores increased by 35 points, and employee engagement among cross functional team members was 28 points higher than in legacy functions.

RetailNow adopted a similar approach. Facing pressure from e commerce giants, the Brazilian retailer restructured from a store centric model to an omnichannel model where stores, warehouses, and digital platforms operate as an integrated network. The structural change involved creating cross channel inventory teams, unified pricing authority, and shared performance metrics. Only after restructuring did RetailNow implement its computer vision inventory system and dynamic pricing algorithms. The structure

enabled the technology to work as designed, because inventory visibility was already integrated. Culturally, the structure shifted focus from channel competition to channel collaboration. The chief operating officer noted, "Our stores used to hide inventory from e-commerce because they wanted their own sales. Now they are rewarded for total company sales, so sharing is automatic." Early results showed a 28 percent reduction in stockouts, a 19 percent increase in inventory turnover, and a 33 percent increase in online orders fulfilled from stores.

TeleSpeed, a telecommunications provider, restructured from geographic divisions to product and service based units aligned with digital offerings such as 5G, Internet of Things connectivity, and cloud services. The structural change was painful, involving the reassignment of 3,000 employees and the elimination of two management layers. However, it enabled the rapid deployment of network automation technologies that would have been impossible under the old structure because automation cut across geographic boundaries. Culturally, the structure shifted identity from regional loyalty to product expertise. As a network engineer commented, "Before, I was the Calgary guy. Now I am the 5G network automation specialist. That is a better source of pride and career growth." Although TeleSpeed is still measuring long term outcomes, early indicators show a 40 percent reduction in network configuration errors and a 25 percent reduction in customer trouble tickets.

#### 4.2.3 Archetype 3: Culture Driven Alignment

The culture driven alignment archetype was observed in SoftGrid, FinAfrica, and partially in HealthFuture. In these cases, preexisting cultural values of adaptability, learning, and psychological safety enabled flexible structural arrangements and technology adoption. Culture served as the foundation upon which alignment was built, rather than as an outcome to be achieved.

SoftGrid, a Swedish software firm, had a deeply ingrained culture of continuous deployment, blameless post mortems, and bottom up innovation. When the company adopted new DevSecOps pipelines and automated testing technologies, the culture absorbed these technologies seamlessly because they aligned with existing values of automation and quality. Structurally, SoftGrid had always operated with fluid team formations and minimal hierarchy, so no structural changes were required. As the chief technology officer stated, "Our culture is the operating system. Technology and structure are just applications that run on that operating system." The outcome was rapid technology adoption with no performance dip; deployment frequency increased from daily to hourly, and mean time to recovery decreased by 60 percent.

FinAfrica, a Kenyan fintech startup, emerged from a cultural context of informal financial networks and mobile first behavior. Its founders deliberately cultivated a culture of rapid experimentation, customer obsession, and resilience in the face of infrastructure failures. When the company adopted machine learning for credit scoring, the technology was embraced because the culture valued data driven decisions over intuition. Structurally, FinAfrica uses small autonomous squads with end to end responsibility, a structure that emerged organically from the culture rather than being imposed from above. The alignment has enabled FinAfrica to grow from 50,000 to 1.2 million customers in three years while maintaining a 97 percent loan repayment rate. The chief executive officer explained, "We do not have a transformation problem because transformation is our natural state. Our culture is built for change."

HealthFuture showed partial culture driven alignment in its later transformation stages. After initially struggling with technology led alignment, the organization gradually developed a learning culture that made subsequent technology adoptions smoother. The development of psychological safety, where physicians felt comfortable admitting uncertainty and consulting the AI system, turned out to be the critical success factor. Once the culture shifted, structural adjustments became easier and technology adoption accelerated. This suggests that archetypes are not mutually exclusive but can evolve over time.

#### 4.3 Cross Archetype Comparison and Boundary Conditions

Table 4 presents a comparative summary of the three archetypes across key dimensions.

**Table 4: Comparison of Alignment Archetypes**

Dimension	Technology-Led Alignment	Structure-Mediated Alignment	Culture-Driven Alignment
<b>Primary Driver</b>	Digital technology adoption	Deliberate organizational redesign	Pre-existing cultural values and norms
<b>Sequence</b>	Technology first, followed by structure, then culture	Structure first, followed by technology, then culture	Culture enables technology and structure simultaneously
<b>Time to Achieve Full Alignment</b>	12–24 months	18–30 months	Immediate to 6 months
<b>Resource Requirements</b>	High technology investment; moderate change management requirements	High change management demands; moderate technology investment	Low-to-moderate technology investment; low structural requirements
<b>Risk Factors</b>	Cultural resistance; structural inertia	Implementation fatigue; diminished focus on technology	Complacency; culture becoming rigid or cult-like

Dimension	Technology-Led Alignment	Structure-Mediated Alignment	Culture-Driven Alignment
<b>Performance Outcomes</b> ( <i>Average Across Cases</i> )	Efficiency (+48%); quality (+22%); satisfaction (+31%)	Speed (+55%); customer metrics (+35%); engagement (+28%)	Adoption speed (+67%); innovation rate (+52%); employee retention (+41%)
<b>Best-Fit Context</b>	Organizations with strong change management capability and high technology urgency	Organizations with strong organizational design capability and stable leadership	Organizations with mature learning cultures and entrepreneurial orientation
<b>Poor-Fit Context</b>	Hierarchical or risk-averse cultures	Organizations with weak execution capabilities	Organizations with fragmented or toxic cultures

**Source:** Authors' compilation.

The cross archetype comparison reveals that no single archetype is universally superior. Technology led alignment produced the largest efficiency gains but required substantial change management investment. Structure mediated alignment produced the largest improvements in speed and customer metrics but was the most time consuming to implement. Culture driven alignment produced the fastest adoption and highest innovation rates but was only possible in organizations that had already developed adaptive cultures.

Boundary conditions for each archetype emerged from the data. Technology led alignment is most effective when the technology in question has strong material properties that compel structural and cultural change, such as real time sensors, automation systems, or AI that requires new decision protocols. It is least effective when the culture is highly hierarchical or risk averse, as in HealthFuture's early stages. Structure mediated alignment is most effective when the organization has strong design and execution capabilities and when leadership is stable enough to see the restructuring through its difficult middle phase. It is least effective when the organization faces immediate competitive threats that require rapid technology deployment, because restructuring takes time to complete. Culture driven alignment is most effective when the organization already has a mature learning culture and when leaders are willing to maintain that culture through deliberate practices. It is least effective when the culture is fragmented, meaning different subcultures hold conflicting values, or when the culture has become rigid, such as a culture that was adaptive for past challenges but not for current digital requirements.

## 5. Discussion

### 5.1 Theoretical Contributions

This study makes several theoretical contributions to strategic management in the digital era. First, we develop and empirically validate an integrated framework for technology structure culture alignment that addresses the fragmentation identified in the literature. The framework conceptualizes alignment not as a static state but as a dynamic capability that organizations must continuously enact through recursive co evolution of the three dimensions. This extends prior work on strategic alignment (Henderson and Venkatraman, 1993; Chan and Reich, 2007) by explicitly incorporating culture as a core alignment dimension rather than as a contextual variable, and by specifying the mechanisms through which alignment is achieved. Our framework also responds to calls for dynamic perspectives on alignment (Wessel et al., 2025; Kohtämäki et al., 2025) by showing how alignment archetypes can evolve over time, as in the HealthFuture case where technology led alignment eventually gave way to culture driven alignment.

Second, we identify three distinct alignment archetypes and specify their boundary conditions. This provides a contingency theoretic extension to alignment research. Prior work has often assumed a one size fits all approach to alignment, or has treated industry sector as the primary contingency. Our findings reveal that the most important contingency is the starting condition of the organization specifically, whether the organization has preexisting technology, structural, or cultural strengths that can serve as the driver of alignment. This insight aligns with and extends the resource based view (Barney, 1991) by showing that alignment archetypes leverage different types of organizational resources as initiating conditions. It also extends dynamic capabilities theory (Teece, 2007; Wanja and Kibas, 2026) by showing that the reconfiguration capability can be activated through different pathways depending on which dimension is most ready for change.

Third, our findings challenge the assumption that alignment must be complete and consistent at all times. In the technology led archetype, temporary misalignment was productive: technology adoption created structural and cultural tensions that motivated change. In the structure mediated archetype, misalignment during the restructuring phase was anticipated and managed. This suggests that alignment should be conceptualized as a process of managed disequilibrium rather than as a state of perfect fit. This insight resonates with processual perspectives on strategy (Pettigrew, 1987) and with the concept of productive misalignment in innovation management (Tushman and O'Reilly, 1996). However, our study extends these ideas by specifying the conditions under which misalignment is productive (early transformation stages, high urgency, strong change management) versus destructive (late transformation stages, low urgency, weak change management).

### 5.2 An Integrated Process Framework for Strategic Alignment

Based on our literature synthesis and empirical findings, we propose an integrated process framework for strategic alignment in digital transformation. The framework consists of four phases, each with specific activities and alignment mechanisms.

Phase 1 is alignment assessment. Organizations must diagnose the current state of alignment across technology, structure, and culture. This involves auditing technology portfolio and usage patterns, mapping structural decision rights and coordination mechanisms, and measuring cultural values and behaviors. The assessment should identify which dimensions are already aligned, which are misaligned, and which have the capacity to serve as drivers of change. Diagnostic tools such as the alignment maturity model (Luftman, 2000) can be adapted to include culture specific items.

Phase 2 is archetype selection. Based on the assessment, organizations select an alignment archetype: technology led, structure mediated, or culture driven. The selection should consider the boundary conditions identified in this study. Organizations with strong technology capabilities but weak structural and cultural alignment should consider technology led alignment. Organizations with strong design capabilities and stable leadership should consider structure mediated alignment. Organizations with mature adaptive cultures should leverage culture driven alignment. Organizations with no clear strengths in any dimension may need to invest in capability building before selecting an archetype.

Phase 3 is archetype enactment. Organizations execute the activities specific to the selected archetype. For technology led alignment, this involves piloting the technology, allowing structural and cultural tensions to surface, then deliberately redesigning structure and culture to resolve those tensions. For structure mediated alignment, this involves designing new structural arrangements, then selecting and deploying technologies that fit the new structure, while using the structure to drive cultural change through new interdependencies and incentives. For culture driven alignment, this involves reinforcing and scaling cultural values, then adopting technologies and structures that are culturally congruent.

Phase 4 is continuous recalibration. Because digital transformation is ongoing, alignment must be continuously monitored and adjusted. Organizations should establish alignment dashboards that track indicators for all three dimensions, conduct regular alignment reviews, and be prepared to shift archetypes as conditions change. For example, an organization that begins with technology led alignment may, after achieving structural and cultural changes, transition to culture driven alignment for subsequent technology adoptions.

### **5.3 Propositions for Future Research**

Our study generates several propositions that can guide future research.

Proposition 1: The relationship between digital transformation investment and performance outcomes is moderated by the degree of alignment among technology, structure, and culture, such that higher alignment strengthens the investment performance relationship.

Proposition 2: Organizations that explicitly diagnose alignment gaps before launching digital transformation initiatives are more likely to achieve successful outcomes than organizations that proceed without such diagnosis.

Proposition 3: The effectiveness of alignment archetypes varies by industry dynamism, with technology led alignment producing superior outcomes in high velocity industries and structure mediated alignment producing superior outcomes in moderate velocity industries.

Proposition 4: Misalignment that is detected and addressed within six months has no long term negative effect on transformation success, whereas misalignment persisting beyond 12 months has increasingly negative effects.

Proposition 5: Organizations that develop dynamic capabilities for sensing misalignment and reconfiguring technology, structure, and culture exhibit greater resilience in digital transformation than organizations that rely on static alignment models.

Proposition 6: Cultural alignment is the most difficult dimension to change directly, but it can be changed indirectly through structural redesign and technology adoption, with the strength of this indirect effect mediated by the consistency of leadership messaging and incentive systems.

### **5.4 Practical Implications**

For strategic leaders, our findings offer several actionable recommendations. First, do not assume that technology investment alone will drive transformation. Technology must be accompanied by deliberate structural and cultural change. Second, assess your organization's starting conditions honestly. If you have a strong adaptive culture, leverage it. If you have structural design capabilities, use structure as a lever. If you have a compelling technology with material properties that force change, lead with technology. Third, expect and manage temporary misalignment. The goal is not to avoid misalignment entirely but to detect it early and resolve it before it becomes entrenched. Fourth, invest in alignment monitoring. Organizations that track alignment metrics

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across all three dimensions are better positioned to correct course before failure occurs. Fifth, recognize that culture change is slow but possible through structural and technological interventions. Do not wait for culture to change before acting; use digital initiatives as vehicles for cultural transformation.

## 6. Conclusion

### 6.1 Summary of Contributions

This paper has addressed the question of how strategic management can orchestrate the alignment of technology, structure, and culture to enable successful digital transformation. Through a systematic literature review of 124 articles and a multiple case study of eight organizations, we have developed an integrated alignment framework, identified three distinct alignment archetypes, and specified the boundary conditions under which each archetype is most effective. Our findings demonstrate that alignment is not a static state to be achieved but a dynamic capability to be continuously enacted. The three archetypes technology led, structure mediated, and culture driven offer strategic leaders a contingency based approach to alignment that respects organizational starting conditions and industry contexts.

### 6.2 Limitations

This study has several limitations. The multiple case study design, while providing rich contextual evidence, limits generalizability. Our eight cases, selected for theoretical replication, may not represent all organizational types, industries, or geographic regions. Future research should test our framework and propositions using large scale survey methods and longitudinal quantitative designs. The cross sectional nature of our data collection, despite retrospective accounts, cannot fully capture the temporal dynamics of alignment. Longitudinal studies that track organizations over several years of digital transformation would provide stronger evidence on causality and sequencing. Our reliance on self reported interview data may introduce recall bias and social desirability bias, although we mitigated this through triangulation with documents and observations. Finally, the rapid pace of digital technology evolution means that some of our findings may become dated as new technologies such as generative AI and quantum computing introduce novel alignment challenges.

### 6.3 Future Research Directions

Future research should address four directions. First, investigate how the alignment framework applies to emerging technologies such as generative AI, which may have different material properties than the technologies studied here. Second, examine alignment in distributed and hybrid work contexts, where technology, structure, and culture are even more loosely coupled than in colocated settings. Third, extend the framework to ecosystem level orchestration, where multiple organizations must achieve interorganizational alignment of technology, structure, and culture. Fourth, develop and validate diagnostic instruments that enable organizations to measure alignment across the three dimensions reliably and efficiently.

### 6.4 Concluding Remarks

Digital transformation is not primarily a technology challenge. It is a strategic management challenge that requires the simultaneous and recursive alignment of technology, structure, and culture. Leaders who understand this and who deliberately orchestrate alignment across all three dimensions will succeed in the digital era. Those who focus narrowly on technology while neglecting structure and culture will continue to experience transformation failures, regardless of how much they invest. The framework and archetypes presented in this paper offer a roadmap for strategic alignment that is both theoretically grounded and practically actionable.

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