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Designing Organizations for Digital Agility: Structural and Strategic Mechanisms Enabling Rapid Adaptation to Technological Change

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Abstract

In the face of unrelenting technological disruption, organizations require deliberate design choices that embed agility at both structural and strategic levels. This conceptual manuscript synthesizes insights from the organizational adaptation and digital agility literature to propose the STRADA (structural and strategic rapid adaptation for digital agility) framework. The framework articulates five interlocking mechanisms—structural flexibility, strategic sensing and response, adaptive coordination, capability reconfiguration, and governance acceleration—that collectively enable firms to detect, interpret, and act upon technological change signals with unprecedented speed. By integrating organizational design principles with dynamic-capability logic, the STRADA Framework addresses a critical gap: while existing literature has examined digital agility and dynamic capabilities in isolation, few models specify how structural architectures and strategic processes must co-evolve to sustain responsiveness under volatility. The manuscript first examines the theoretical foundations of digital agility and organizational adaptation, then presents the STRADA architecture, including a detailed visual representation of component interrelationships and feedback loops. Theoretical contributions lie in bridging structural and strategic perspectives, while managerial implications offer executives a blueprint for redesigning coordination systems, decision rights, and learning loops. The framework advances the digital-business literature by providing a testable, actionable model for building organizations that treat technological change not as an external threat but as an endogenous design opportunity.

Keywords Dynamic capabilities, Digital agility, Organizational design, Structural mechanisms, Strategic adaptation, Technological volatility

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Introduction

The imperative of digital agility in turbulent technological landscapes

Contemporary organizations operate in environments characterized by exponential technological change, where competitive advantage increasingly accrues to those capable of rapid reconfiguration rather than static efficiency [1, 2]. This is no longer a matter of incremental

improvement; rather, survival depends on an organization's capacity to fundamentally reshape its operations, business models, and value propositions at the pace of technological evolution. Digital agility has emerged as the central organizational capability that allows firms to sense, seize, and transform in response to emerging technologies such as artificial intelligence, blockchain, and cloud-native architectures [3-8]. Unlike traditional agility constructs rooted in manufacturing flexibility—which emphasized cycle time reduction and inventory responsiveness—digital agility

encompasses the simultaneous reconfiguration of data flows, decision processes, and human–machine interfaces [4, 5]. This distinction is critical because digital environments demand coordination across technological, social, and structural domains that traditional agility frameworks were never designed to address. Empirical and conceptual evidence consistently demonstrates that firms lacking integrated structural and strategic mechanisms experience delayed responses to technological shifts, resulting in diminished innovation capacity and market relevance [7, 9–11].

Limitations of conventional organizational architectures in digital contexts

Hierarchical, functionally siloed designs—optimized for stability in pre-digital eras—prove inadequate when technological change compresses decision cycles from months to days [6, 12, 13]. What once functioned as a strength—clear lines of authority, specialized functional depth, and predictable workflows—now becomes a liability when cross-functional coordination must occur in real time. Legacy structures often embed rigid reporting lines and centralized authority, constraining the lateral information flows essential for early detection of technological discontinuities [9, 14–19]. Without the ability to surface weak signals from distributed sources and escalate them rapidly, organizations remain reactive rather than anticipatory. Recent syntheses highlight how such architectures inadvertently suppress the very behaviors required for digital responsiveness: experimentation, boundary-spanning, and rapid resource reallocation [12, 20–25]. In this sense, the structural inheritance of the industrial era actively undermines the behavioral patterns on which digital transformation depends. The consequence is a widening gap between technological opportunity and organizational action, a phenomenon repeatedly documented across industries undergoing digital transformation [3, 23].

Bridging structural and strategic dimensions: A pathway to adaptive capacity

Effective adaptation requires simultaneous redesign of formal structures and strategic processes. Neither dimension alone suffices: structural changes without

accompanying strategic mechanisms produce rigid new configurations, while strategic shifts unsupported by structural enablers dissipate into unrealized intent. Structural mechanisms provide the architectural scaffolding—modularity, loose coupling, and digital platforms—while strategic mechanisms supply the sensing, interpretation, and decision-acceleration capabilities [1, 2, 8]. This dual emphasis aligns with dynamic-capability theory, which posits that competitive advantage stems from the capacity to reconfigure assets in response to environmental signals [17, 26, 27]. Yet the literature remains fragmented: studies of structural redesign rarely incorporate strategic sensing systems, and research on strategic flexibility seldom details the enabling organizational architectures [5, 6]. The result is a conceptual divide that mirrors a practical one, leaving organizations without coherent guidance for simultaneously addressing structure and strategy. The present manuscript addresses this fragmentation by introducing the STRADA (structural and strategic rapid adaptation for digital agility) framework. This unified model specifies how structural and strategic mechanisms interact to produce sustained digital agility. The sections that follow synthesize the conceptual foundations before presenting the framework's architecture and inter-component dynamics.

Literature Synthesis and Conceptual Foundations

Conceptualizing digital agility in contemporary organizations

Digital agility is defined as an organization's capacity to reconfigure its resources, processes, and business models in response to technological opportunities and threats at high velocity [2, 8]. This conceptualization moves beyond reactive flexibility to encompass proactive, anticipatory adaptation, positioning firms to capitalize on technological shifts before they become industry-wide imperatives. Building on earlier foundations in information-systems research, contemporary definitions emphasize the interplay between IT infrastructure flexibility and higher-order organizational capabilities [6, 13]. The distinction matters because IT infrastructure alone—no matter how advanced—cannot produce agility without complementary investments in organizational routines, skills, and governance mechanisms that leverage technological capacity into strategic action. Key dimensions include sensing (identifying technological signals), seizing (mobilizing resources), and transforming (reconfiguring

routes) [1, 17]. These three dimensions operate not sequentially but iteratively, with insights from transformation feeding back into refined sensing capabilities in a continuous cycle of adaptation. Empirical examinations across multiple sectors confirm that digitally agile firms outperform peers in innovation output and market responsiveness, particularly when technological volatility is high [5, 7, 11]. Such performance advantages persist even after controlling for industry effects and firm size, suggesting that digital agility represents a distinct and durable source of competitive differentiation.

Structural mechanisms for adaptation in digital environments

Organizational structure constitutes the foundational layer that enables or constrains agility. Modular architectures, platform-based coordination, and hybrid (centralized–decentralized) governance arrangements have been shown to accelerate adaptation by reducing coordination costs and increasing experimentation scope [9, 19, 26]. Modularity achieves this by decoupling interdependent activities into loosely connected components, allowing localized experimentation without systemic disruption. Structural flexibility manifests through reduced hierarchy, cross-functional teams, and digital backbone systems that allow real-time information sharing [4, 6]. These design elements collectively flatten communication pathways and distribute decision authority closer to the sources of technological intelligence, reducing the latency that traditionally plagued hierarchical decision-making. Studies of digital transformation consistently demonstrate that firms redesigning reporting lines and decision rights around technological domains rather than traditional functions achieve faster cycle times for new technology integration [23, 25]. This domain-aligned structural logic enables organizations to mirror the architecture of their technological ecosystems, creating structural congruence that accelerates both adoption and assimilation.

Strategic responsiveness and dynamic capabilities in technology-driven contexts

Strategic mechanisms operate at the level of managerial cognition and resource orchestration. Strategic sensing systems—comprising environmental scanning routines, big data analytics, and scenario planning processes—enable early detection of technological shifts [3, 27]. These

systems function as the organization's peripheral vision, capturing weak signals that might otherwise remain invisible until competitors act on them. Once signals are identified, response capabilities depend on strategic flexibility and the deliberate cultivation of dynamic capabilities [1, 17]. Strategic flexibility here refers not merely to reactive pivoting but to the capacity to hold multiple strategic options in reserve, deploying resources only when uncertainty resolves sufficiently to justify commitment. Leadership plays a pivotal role: top-management teams that embed digital orientation and ambidexterity within strategy formulation significantly enhance firm-level agility [4, 7]. Ambidextrous leaders simultaneously manage efficiency demands in existing operations while championing exploratory initiatives for future growth, reconciling the inherent tension between exploitation and exploration that digital transformation intensifies. Longitudinal evidence from digital-transformation initiatives further reveals that strategic mechanisms are most effective when aligned with structural enablers, creating reinforcing loops of sensing and action [8, 19]. In such aligned configurations, structural mechanisms provide the channels through which strategic insights flow to execution, while strategic mechanisms ensure that structural capacities are directed toward strategically relevant opportunities.

Adaptive coordination systems and governance for agility

Coordination architectures translate structural flexibility and strategic intent into operational responsiveness. Digitally enabled governance systems—such as agile squads, API-driven ecosystems, and real-time performance dashboards—reduce latency between decision and execution [4, 9]. These systems replace traditional coordination mechanisms—committees, sequential approvals, and periodic reviews—with continuous, digitally mediated alignment that accelerates feedback loops. Research on IT governance highlights the importance of hybrid mechanisms that balance standardization (for efficiency) with autonomy (for innovation) [4, 13]. Hybrid governance avoids the extremes of rigid centralization, which stifles experimentation, and complete decentralization, which sacrifices coherence and interoperability. Adaptive coordination further relies on boundary-spanning roles and digital platforms that facilitate knowledge flows across internal and external ecosystems [11, 27]. These roles and platforms function as connective tissue, ensuring that

insights generated in one unit or partner organization propagate rapidly to where they are most needed. These systems are particularly critical in technology-driven environments where misalignment between structural design and strategic priorities leads to inertia [6, 23].

Capability reconfiguration under technological volatility

The final conceptual pillar concerns the micro-processes of capability reconfiguration. Under conditions of high technological volatility, organizations must continuously renew their resource bases through deliberate learning loops and experimentation routines [1, 17, 27]. Such renewal contrasts sharply with traditional strategic approaches that assumed relatively stable resource configurations could sustain advantage over extended periods. Dynamic-capability literature emphasizes that reconfiguration succeeds when supported by both structural modularity (to isolate change) and strategic vision (to direct change) [5, 17]. Structural modularity enables experimentation in protected pockets without destabilizing core operations, while strategic vision ensures that localized experiments align with overall organizational direction rather than fragment into uncoordinated initiatives. Recent studies document that firms that institutionalize feedback mechanisms and post-adoption learning achieve higher sustained-agility rates than those relying on episodic transformation initiatives [12, 19]. Episodic approaches treat agility as a one-time transformation project; sustained agility, by contrast, emerges from embedded routines that continuously surface inefficiencies, test alternatives, and propagate successful innovations across the organization. Collectively, these foundations reveal the need for an integrative framework that explicitly links structural, strategic, and adaptive elements.

Table 1 positions STRADA against adjacent theoretical lenses and shows that its central contribution lies not in replacing prior perspectives, but in integrating their partial explanations into a single mechanism-based architecture of digital adaptation.

Table 1. Conceptual positioning of the STRADA framework relative to adjacent theoretical lenses on digital adaptation

Theoretical lens	Primary analytical focus	Typical unit of explanation

Digital agility literature	Rapid organizational responsiveness to digital opportunities and threats	Firm-level responsiveness
Dynamic capabilities theory	Sensing, seizing, and transforming under change	Managerial and organizational capabilities
Organizational design theory	Formal structure, hierarchy, modularity, coordination, and governance	Structural configuration
IT/infrastructure flexibility research	Technological modularity, platform flexibility, and digital backbone capacity	IT architecture and infrastructure
Strategic flexibility/ambidexterity research	Option generation, leadership orientation, and balancing exploration and exploitation	Top-management team and strategic process

Agile/adaptive coordination research	Team-based responsiveness, iterative work, and boundary-spanning coordination	Team, process and ecosystem interfaces
Governance research	Decision rights, control, accountability, and standardization—autonomy balance	Governance architecture
STRADA Framework	Co-evolution of structural and strategic mechanisms for rapid digital adaptation	Multi-level organizational system

- architectures, and reduced hierarchical layers that lower reconfiguration costs [6, 9, 19, 26].
2. Strategic sensing and response systems: comprising environmental scanning, big-data analytics, and scenario-planning processes that convert weak technological signals into actionable strategic options [1, 3, 27].
 3. Adaptive coordination processes: hybrid governance arrangements, cross-functional agile teams, and API-enabled ecosystems that synchronize structural and strategic elements in real time [4, 13, 23].
 4. Capability Reconfiguration Mechanisms—institutionalized experimentation routines, resource-reallocation protocols, and post-adoption learning loops that renew organizational capabilities under volatility [5, 17, 27].
 5. Governance and Decision Acceleration Structures—decentralized decision rights, real-time performance dashboards, and leadership ambidexterity protocols that shorten the lag between sensing and action [4, 7, 9].

These components operate as a dynamic system: structural flexibility provides the architectural substrate, strategic sensing supplies directionality, adaptive coordination ensures synchronization, capability reconfiguration drives renewal, and governance acceleration compresses cycle times. Feedback loops that link all five components, enabling continuous self-correction and anticipatory redesign, are presented in **Figure 1**.

Orchestrating Rapid Adaptation: Introducing the STRADA Framework

The STRADA framework synthesizes the preceding literature into a coherent architectural model comprising five interdependent mechanisms. The framework posits that digital agility emerges from the orchestrated interaction of these mechanisms rather than from any single element in isolation.

The five core components are:

1. Structural flexibility mechanisms: encompassing modular organizational units, digital platform

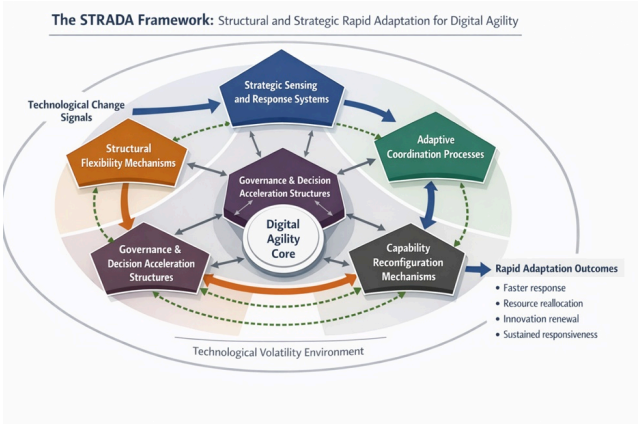


Figure 1. The STRADA framework: structural and strategic rapid adaptation for digital agility

Table 2 clarifies the mechanism-to-outcome logic of STRADA by specifying how each component contributes to agility, what organizational failures emerge when it is

underdeveloped, and why the framework must be understood as an interdependent system rather than a checklist of isolated practices.

Table 2. Mechanism-to-outcome logic of STRADA: enabling conditions, failure risks, and theoretical payoffs

STRADA mechanism	Primary organizational function	Design levers/visible manifestations	contingencies
Structural flexibility mechanisms	Reduce reconfiguration friction and allow localized change without systemic breakdown	Modular units, reduced hierarchy, digital platforms, domain-based reporting lines, and loose coupling	Creation of architectural substrate, reconfiguration experience, redeployment
Strategic sensing and response systems	Detect, interpret, and prioritize technological signals before they become acute threats	Environmental scanning, analytics platforms, scenario planning, intelligence cells, and strategic option portfolios	Continuous signal sensing, direct timing, organizational response
Adaptive coordination processes	Synchronize decentralized units and maintain coherence at speed	Agile squads, cross-functional routines, API-enabled interfaces, boundary-spanning roles, lightweight protocols	Platform modularity, device fragmentation, enable time across ecosystem
Capability reconfiguration mechanisms	Renew the organizational resource base through systematic change and learning	Experimentation budgets, resource-reallocation protocols, post-adoption reviews, iteration	Turnaround adaptation, replenishment, enable transformation, capacity organization

		routines, and learning forums	
Governance and decision acceleration structures	Compress the latency between signal detection, decision, and execution	Decentralized decision rights, real-time dashboards, escalation rules, ambidextrous leadership protocols, and hybrid governance	Intelligent decision velocity, seamless coordination, cohesive accountability
Cross-mechanism feedback loops	Ensure self-correction and anticipatory redesign across the full architecture	Dashboard learning cycles, post-action data flows, continuous review routines, and iterative redesign triggers	Malicious self-reflection, feedback adaptation, outcome improvement, service reengineering

Dynamics of Interdependence: How the STRADA Mechanisms Drive Rapid Adaptation

The STRADA Framework operates as an integrated system in which each mechanism amplifies the others through explicit interdependencies and closed feedback loops, transforming isolated capabilities into a cohesive engine of digital agility. This integrative logic distinguishes the framework from prior models that have treated structural, strategic, and coordinative dimensions as separate domains requiring independent optimization. Structural flexibility mechanisms serve as the foundational substrate, creating modular units and platform architectures that enable rapid disassembly and reassembly of processes without cascading disruption [6, 9, 19]. Without this substrate, strategic insights would encounter organizational friction at every turn, delaying execution until windows of opportunity close. These structures do not function in isolation; they are activated by strategic sensing and response systems that continuously scan external technological signals and translate them into prioritized action pathways [1, 3, 27]. Activation is the critical linkage: structural flexibility provides the capacity for

reconfiguration, but strategic sensing supplies the direction and timing that determine whether reconfiguration aligns with market realities. For instance, big-data analytics embedded in sensing routines feed directly into modular teams, enabling localized experimentation while maintaining enterprise-wide coherence. This integration of analytics with modular structures allows organizations to test multiple technological approaches simultaneously, preserving strategic optionality without sacrificing operational stability.

Adaptive coordination processes then act as the synchronization layer, employing hybrid governance and API-driven ecosystems to align structural modularity with strategic direction in real time [4, 13, 23]. Synchronization is essential because modular structures, left uncoordinated, tend to fragment rather than integrate. This coordination prevents the common pitfall of structural flexibility devolving into fragmentation by enforcing lightweight protocols that maintain alignment across decentralized units. Such protocols avoid the bureaucratic overhead of traditional coordination mechanisms while ensuring that decentralized units remain responsive to enterprise-level strategic priorities. Capability reconfiguration mechanisms build upon this synchronized base, institutionalizing experimentation routines and resource-reallocation protocols that renew organizational competencies under conditions of technological volatility [5, 17, 27]. These mechanisms transform ad hoc responses to technological shifts into systematic, repeatable processes that continuously refresh the organization's resource base. Here, the framework's feedback loops become critical: post-adoption learning data flows back to strategic sensing systems, refining future signal detection and closing the adaptation cycle. This closure ensures that each adaptation event improves the organization's capacity to sense and respond to subsequent technological shifts, creating a virtuous cycle of learning and refinement.

Governance and decision acceleration structures sit at the center, reducing latency at every interface through decentralized decision rights and real-time dashboards [4, 7, 9]. Central positioning of governance mechanisms reflects their enabling rather than controlling function; they exist to accelerate, not impede, the flow of decisions across structural, strategic, and coordinative domains. This acceleration mechanism ensures that sensing does not remain contemplative but converts rapidly into coordinated action and reconfiguration. In traditional organizational designs, sensing often produces reports that circulate

without triggering action; in the STRADA Framework, governance structures compress the time between insight and intervention. The pentagonal architecture illustrated in **Figure 1** makes these interdependencies visually explicit: blue directional arrows represent the primary sensing-to-action sequence, green dashed loops depict continuous learning, and orange connectors highlight how structural flexibility underpins every other vertex. This visual representation reinforces the conceptual point that structural flexibility is not merely one component among many but rather the enabling foundation upon which the other mechanisms depend. Under high technological volatility, the entire system self-corrects; for example, a detected disruption in cloud infrastructure triggers immediate structural reconfiguration, which governance structures accelerate, and coordination processes propagate across ecosystems [11, 25]. Self-correction occurs without centralized intervention because the framework embeds feedback loops and distributed decision authority directly into its operational logic. The result is not episodic change but continuous, anticipatory adaptation that treats technological shifts as endogenous opportunities rather than exogenous shocks. This orientation marks a fundamental departure from reactive transformation models, positioning the organization as an active participant in shaping its technological environment rather than a passive respondent to forces beyond its control.

Advancing the Scholarly Conversation: Theoretical Contributions of the STRADA Framework

The STRADA Framework extends existing theory by forging an explicit synthesis between organizational design literature and dynamic-capability research, a linkage previously examined in parallel rather than in integrated form [2, 8, 17]. This synthesis matters because organizational design and dynamic capabilities have traditionally occupied separate scholarly communities—one focused on structural forms and coordination mechanisms, the other on managerial routines and resource reconfiguration—with little cross-fertilization between them. While prior work has established the importance of IT infrastructure flexibility and dynamic capabilities for digital transformation [1, 6], few models specify the precise structural and strategic mechanisms that must co-evolve to sustain agility. Co-evolution is the critical insight: agility

does not emerge from optimizing structures or capabilities in isolation but from the reciprocal adaptation of both over time, each shaping and being shaped by the other. STRADA fills this void by positioning structural flexibility and governance acceleration as necessary enablers of higher-order dynamic capabilities, thereby resolving the micro-macro gap that has limited the prescriptive power of capability-based theories [5, 27]. The micro-macro gap refers to the tendency of dynamic-capability research to describe what organizations must do (sense, seize, transform) without specifying how structural arrangements enable or inhibit those activities at the level of day-to-day operations.

A second contribution lies in the framework's emphasis on feedback loops as the central engine of sustained agility. Feedback loops are often treated in the literature as beneficial but secondary features; STRADA elevates them to first-order architectural components. Earlier syntheses of digital transformation have documented the importance of learning and reconfiguration [12, 19], yet they stop short of embedding these processes within a closed architectural system. Embedding within a closed system means that learning does not depend on managerial vigilance or episodic post-project reviews but occurs automatically through designed interdependencies that channel performance data back into sensing and decision-making routines. STRADA's pentagonal model with bidirectional loops advances theory by demonstrating how continuous self-correction becomes an inherent property of organizational design rather than an add-on initiative. This shift from add-on to inherent property has profound implications: organizations no longer need to remember to learn; rather, learning is structurally compelled by the framework's architecture. This perspective enriches adaptive coordination theory by showing that governance is not merely a control function but a velocity multiplier operating across all mechanisms [4, 13]. Velocity multiplier captures the idea that well-designed governance structures do not simply monitor activity but actively compress the time required for information to travel from sensing to action and for resources to be reallocated in response.

Third, the framework introduces a configurational logic that moves beyond linear stage models of digital maturity [3, 23]. Linear stage models—such as maturity matrices that prescribe progression from “initial” to “optimized” phases—imply that organizations follow a universal sequence of development regardless of context. By illustrating how the five mechanisms must mutually reinforce within a

technological volatility envelope, STRADA offers a testable mid-range theory suitable for future empirical validation across sectors. The concept of a technological volatility envelope acknowledges that the required configuration of mechanisms may vary with environmental conditions; what sustains agility in stable settings may prove insufficient in high-uncertainty environments. Collectively, these advances bridge strategic management, information systems, and organization science, providing a unified lens for understanding why some digitally transformed firms achieve sustained responsiveness while others revert to inertia despite substantial technology investments [7, 11, 25]. The puzzle of reversion to inertia—where firms initially invest heavily in digital transformation but gradually lose momentum—has remained inadequately explained; STRADA attributes this phenomenon to the absence of integrated mechanisms and closed feedback loops that would otherwise sustain momentum beyond the initial transformation phase.

Executing the Vision: Managerial Pathways to Institutionalize Digital Agility

Executives can operationalize the STRADA Framework through three sequenced pathways that translate architecture into practice. Sequencing matters because attempting all changes simultaneously risks organizational overload and diffused accountability; staged implementation allows learning to accumulate and early wins to build credibility. First, conduct a structural diagnostic that maps existing hierarchies against modular and platform criteria, identifying bottlenecks that impede flexibility [6, 9]. This diagnostic should extend beyond formal organization charts to include informal decision rights, information flows, and the actual loci of authority that often diverge from documented reporting structures. Leaders should then redesign reporting lines around technological domains rather than legacy functions, simultaneously embedding digital backbone systems that enable real-time information flows. Domain-aligned reporting lines ensure that decision authority resides with those possessing the deepest technological expertise, while digital backbone systems—such as enterprise platforms and integrated data architectures—provide the visibility necessary for coordination without centralized control.

Second, institutionalize strategic sensing routines by establishing cross-functional intelligence cells equipped with analytics platforms and scenario-planning protocols [3, 27–29]. Cross-functional composition is essential because technological signals rarely announce themselves within the boundaries of a single function; they emerge at the intersections of markets, technologies, and operations. Top-management teams must cultivate digital orientation and ambidexterity to ensure sensing outputs translate into prioritized strategic options [4, 7]. Digital orientation refers to leadership's cognitive commitment to leveraging technology as a strategic asset. At the same time, ambidexterity captures the capacity to simultaneously manage existing operations and explore new opportunities—a duality that digital transformation intensifies. Without these leadership attributes, sensing outputs risk accumulating as unactioned intelligence, creating frustration and disengagement among the teams responsible for signal detection.

The third pathway focuses on governance acceleration: decentralize decision rights for technology-related initiatives while installing lightweight coordination mechanisms such as agile squads and API ecosystems [13, 23]. Decentralization of decision rights reduces the approval latency that traditionally plagues technology initiatives, yet it must be balanced against the risk of fragmentation. Lightweight coordination mechanisms—agile squads that form and dissolve around specific initiatives, API ecosystems that enable modular integration across units—provide this balance by maintaining alignment without reintroducing bureaucratic friction. Real-time dashboards linked to the STRADA hub provide visibility into cycle times, allowing leaders to monitor and compress latency between sensing and reconfiguration. Visibility into cycle times transforms governance from a periodic reporting exercise into a continuous improvement discipline, where delays become visible and actionable rather than hidden within organizational silos.

To sustain momentum, organizations should embed capability reconfiguration through institutionalized experimentation budgets and post-adaptation learning forums [5, 17]. Experimentation budgets signal that exploration is not an exception to be justified but a routine organizational activity with dedicated resources; post-adaptation learning forums ensure that lessons from successful and failed experiments alike are captured, codified, and disseminated. Managers are advised to treat feedback loops as strategic assets, allocating dedicated

resources to capture and disseminate lessons across the Pentagon. Treating feedback loops as strategic assets elevates learning from a tacit, ad hoc activity to an explicit organizational priority with designated ownership and accountability. Implementation is iterative; initial pilots in high-volatility domains can demonstrate value before enterprise-wide rollout, minimizing resistance while building internal proof points [11, 19]. Piloting in high-volatility domains—such as business units facing rapid technological disruption—allows the framework to generate tangible results quickly, creating organizational momentum and confidence that supports broader adoption. By following these pathways, executives convert the abstract STRADA architecture into concrete organizational redesign, positioning their firms to thrive amid accelerating technological change.

Conclusion

The STRADA Framework demonstrates that digital agility is not an accidental outcome of technology adoption but the deliberate product of carefully engineered structural and strategic mechanisms. By integrating modular architectures, sensing systems, adaptive coordination, reconfiguration routines, and decision acceleration within a dynamic, feedback-rich system, organizations can convert technological volatility from a threat into a sustainable source of competitive advantage [1, 8, 17]. The model underscores a fundamental shift in organizational design logic: future-proof firms will treat structure and strategy as interdependent design variables that must co-evolve continuously rather than sequentially.

As technological change continues to compress adaptation cycles, the frameworks presented here offer both scholars and practitioners a coherent blueprint for building organizations that sense, respond, and reconfigure at digital speed. The ultimate promise of STRADA lies in its capacity to help leaders move beyond reactive transformation toward proactive, self-renewing agility—an essential capability for thriving in the digital economy of tomorrow.

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