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Balancing Innovation and Control in Digital Platform Governance: Strategic Challenges in Managing Expanding Business Ecosystems

Samuel Boateng^{1*}, Kwesi Mensah¹, Kojo Asante², Linda Owusu¹

Abstract

Digital platforms have become the cornerstone of contemporary business models, orchestrating expansive ecosystems that drive value creation across multi-sided markets. Platform owners, however, confront a persistent strategic paradox: they must promote openness to fuel innovation, complementor participation, and ecosystem growth while exercising sufficient control to safeguard standards, capture value, and mitigate risks. This managerial and strategic perspective article examines the governance tensions inherent in expanding digital platform ecosystems. Synthesizing insights, it analyses governance mechanisms, openness–control trade-offs, ecosystem coordination challenges, platform owner–complementor dynamics, and the need for dynamic adjustment. Excessive openness risks fragmentation and value leakage, whereas excessive control can suppress innovation and trigger stagnation. A governance balancing framework is introduced that integrates openness configurations, control mechanisms, incentive alignment, ecosystem coordination, adaptive processes, and risk management layers. Practical guidance is offered on how platform owners can operationalize this balance as ecosystems scale, thereby sustaining competitiveness and long-term viability. The article underscores that effective platform governance is not a static choice but a continuous strategic discipline essential for thriving in digital markets.

Keywords Ecosystem orchestration, Digital platform governance, Complementor participation, Innovation-control tension, Openness versus control, Strategic balancing

*Correspondence:

Samuel Boateng
samuel.boateng@gmail.com

¹ Department of Digital Business and Enterprise Innovation, University of Ghana, Accra, Ghana

² Department of Business Analytics and Strategic Systems, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Introduction

Digital platforms now constitute one of the most powerful organizational forms in the global economy, enabling firms to coordinate vast networks of complementors, users, and partners without owning all the assets required for value creation [1–3]. Unlike traditional linear supply chains, platforms function as multi-sided markets in which interactions among diverse actors generate network effects and exponential growth [4–6]. As these ecosystems expand, however, platform owners face mounting strategic challenges in governance. They must deliberately balance

innovation—through openness, experimentation, and low barriers to entry—with control mechanisms that preserve coherence, quality, and value capture [7–9].

The innovation–control tension is not incidental but structural. Openness, realized via accessible APIs, flexible participation rules, and liberal access policies, stimulates complementor-driven innovation and accelerates ecosystem expansion [10–12]. Complementors are encouraged to experiment, introduce novel offerings, and respond rapidly to user needs, thereby enhancing platform attractiveness and generating positive network externalities

[13, 14]. Yet the same openness that fuels growth can erode strategic control. Without adequate safeguards, platforms risk fragmentation, inconsistent quality standards, intellectual-property leakage, and dilution of the core value proposition [10, 15, 16]. Research on platform gatekeeping, for example, demonstrates that overly permissive governance reduces the quality of knowledge sharing among complementors and undermines collective innovation outcomes [10].

Conversely, robust control mechanisms—such as standardized interfaces, real-time monitoring, selective enforcement, and carefully designed revenue-sharing contracts—enable platform owners to maintain strategic discipline and protect ecosystem integrity [9, 17, 18]. These controls ensure compliance, mitigate negative externalities, and secure appropriate value capture for the orchestrator [15, 19]. However, when control becomes excessive, complementors perceive reduced autonomy, participation declines, multihoming increases, and innovation is stifled [18, 20, 21]. Platform owner entry into complementor spaces under tight governance modes can further exacerbate tensions, sometimes crowding out independent innovation [18].

The scaling dynamics of expanding ecosystems intensify these pressures. As the number of actors and interdependencies grows, coordination complexity rises sharply [13, 22, 23]. Platforms transition from relatively simple hub-and-spoke structures to meta-organizations characterized by hybrid governance forms that blend market incentives with hierarchical oversight [3, 6]. Dynamic capabilities for orchestration become indispensable [8, 23, 24]. Governance must evolve in tandem with ecosystem maturity: early-stage platforms may favor openness to bootstrap growth, while mature ecosystems require tighter controls to prevent chaos [16, 21, 25]. Failure to adjust governance dynamically often results in either under-control (fragmentation and value leakage) or over-control (stagnation and loss of competitiveness) [16, 24, 26].

Recent scholarship emphasizes that successful platform governance is inherently coevolutionary [16, 25]. Platform dominance and governance strategies shape one another, influencing complementor performance, ecosystem health, and long-term sustainability [10, 11, 16]. Studies on IT governance further reveal that participation slackness among complementors is directly affected by the perceived fairness and transparency of control mechanisms [17].

Orchestration capabilities that integrate innovation and business-development subsystems are therefore critical [19, 22].

This article adopts a purely managerial and strategic lens, eschewing empirical datasets or statistical modeling. Instead, it synthesizes conceptual and case-derived insights from leading journals in strategic management and information systems to illuminate actionable pathways. The discussion first dissects the strategic challenges of balancing platform governance. It then delineates practical approaches to managing innovation and control within expanding ecosystems, including a visual governance architecture (Figure 1). By focusing on the trade-offs, risks, and adaptive processes required, the article equips platform executives with a coherent strategic playbook for sustaining competitive advantage in digital business ecosystems.

Strategic Challenge of Platform Governance Balance

Platform governance is inherently tension-filled because digital platforms simultaneously operate as engines of open innovation and as tightly coordinated value-capture systems [2, 3, 7]. This paradox arises from the meta-organizational character of platforms, where the owner does not own or directly control most assets yet must orchestrate outcomes across thousands of independent complementors [3, 6]. The challenge intensifies as ecosystems expand, because growth multiplies interdependencies, coordination costs, and potential misalignments [13, 15, 22].

The openness–control trade-off lies at the heart of the paradox. Openness configuration—through liberal APIs, minimal entry barriers, and permissive participation rules—fuels innovation by lowering transaction costs and inviting diverse experimentation [10–12]. Complementors respond with new offerings, rapid feature iteration, and user-centric solutions that enhance platform stickiness and network effects [12, 13]. Empirical patterns in the literature show that higher openness correlates with faster ecosystem growth and greater complementor entry [10, 11]. Yet openness also exposes the platform to fragmentation risks. Without countervailing controls, heterogeneous complementor actions can produce quality inconsistencies, incompatible extensions, and value leakage that erode the

platform's core differentiation [10, 15, 16]. Gatekeeping research confirms that weak oversight diminishes knowledge-sharing intensity and collective innovation output [10].

Control mechanisms, conversely, provide the strategic discipline required for coherence and value capture. Standards, monitoring dashboards, enforcement protocols, and incentive contracts enable the platform owner to align complementor behavior with platform objectives [9, 17, 18]. In multi-sided markets, such controls are essential to internalize externalities and prevent free-riding or opportunism [5, 15]. Platform owner entry into complementor spaces under structured governance modes can reinforce ecosystem quality when controls are calibrated correctly [18]. However, when control is overly tight, complementors experience reduced autonomy, lower motivation, and increased multihoming [18, 20, 21]. Proprietary-to-collective governance transitions illustrate how over-control can shrink the innovation pipeline and slow ecosystem expansion [20].

Scaling challenges compound the tension. As ecosystems mature, the volume of actors and interdependencies creates coordination complexity that traditional hierarchical or market mechanisms cannot fully address [13, 19, 22]. Platforms evolve into meta-organizations that require hybrid governance, blending incentive alignment with selective authority [3, 6]. Dynamic capabilities for ecosystem orchestration—sensing, seizing, and reconfiguring governance elements—become decisive [8, 23, 24]. Failure to adapt governance as the ecosystem grows leads to two archetypal failures: overly open systems suffer fragmentation, reputational damage, and loss of strategic control [15, 16, 25]; overly closed systems experience complementor attrition, innovation stagnation, and competitive decline [18, 20, 21].

Platform owner–complementor dynamics add relational complexity. Complementors weigh participation costs against expected visibility, revenue shares, and innovation freedom [11, 17, 27]. Misaligned incentives trigger participation slackness or strategic withdrawal [17]. Governance must therefore incorporate layers of incentive alignment that evolve with ecosystem size [9, 17, 21]. Orchestration literature further stresses that communication protocols, integration standards, and feedback channels are indispensable for maintaining cohesion amid growth [19, 22, 26].

The literature consistently demonstrates that governance failures are rarely binary but emerge from temporal misalignment. Early-stage platforms benefit from openness to achieve critical mass; later stages demand tighter controls to stabilize value capture [16, 24, 25]. Without deliberate dynamic adjustment, platforms oscillate between extremes, undermining long-term competitiveness [21, 23, 24]. Recent comparative analyses of business, innovation, and platform ecosystems reinforce that successful orchestrators treat governance as a pendulum that swings adaptively between generativity and control [7, 21, 28].

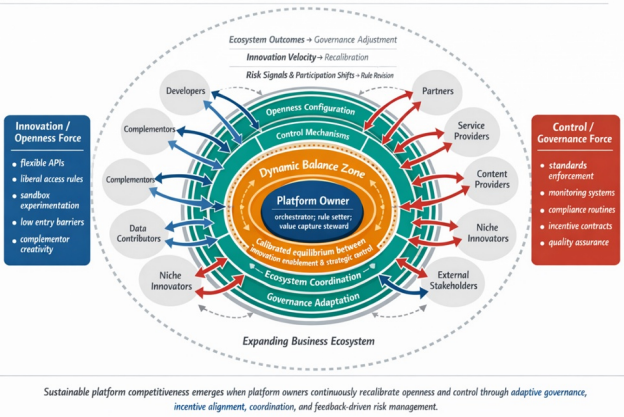
In summary, the strategic challenge of platform governance balance is multidimensional: it encompasses structural tensions (openness vs control), scaling complexities (coordination across actors), relational dynamics (owner–complementor incentives), and temporal adaptation (governance evolution). Addressing these requires moving beyond static rules toward a living architecture that continuously recalibrates innovation enablement against strategic discipline. The next section translates these challenges into actionable managerial approaches.

Managing Innovation and Control in Platform Ecosystems

Platform owners can operationalize the required balance by deploying an integrated governance balancing framework whose six interlocking components translate strategic intent into daily practice. First, the openness configuration defines APIs, access policies, and participation rules that calibrate entry barriers to the ecosystem's maturity [9, 11, 12]. Second, control mechanisms establish enforceable standards, real-time monitoring, and graduated enforcement protocols that safeguard quality without stifling creativity [15, 17, 18]. Third, incentive alignment mechanisms—revenue-sharing models, visibility algorithms, and performance-based rewards—ensure complementors perceive fairness and remain motivated [17, 21, 27]. Fourth, ecosystem coordination instruments, including communication hubs, integration protocols, and shared governance forums, reduce friction across actors [19, 22, 26]. Fifth, governance adaptation processes embed periodic review cycles and data-driven adjustment triggers that allow rules to evolve with ecosystem scale and external shocks [16, 23, 24]. Sixth, a risk management and compliance layer overlays all components, incorporating

scenario planning, audit routines, and contingency protocols to pre-empt fragmentation or stagnation [7, 8, 25].

Figure 1 presents the adaptive governance balancing architecture through which platform owners continuously recalibrate openness and control across expanding business ecosystems.



Sustainable platform competitiveness emerges when platform owners continuously recalibrate openness and control through adaptive governance, incentive alignment, coordination, and feedback-driven risk management.

Figure 1. Innovation–control governance architecture in digital platform ecosystems.

This architecture enables platform owners to move from reactive fixes to proactive orchestration. As ecosystems grow, managers periodically assess the relative strength of innovation versus control flows and adjust components within the dynamic balance zone [16, 23, 24]. For instance, when fragmentation signals appear, control mechanisms are tightened while openness configurations are selectively preserved for high-value innovation pockets [10, 15, 25]. When stagnation indicators emerge, openness levers are relaxed, and incentive alignment is recalibrated to re-energize complementors [12, 20, 21]. Such dynamic adjustment prevents both under-control and over-control, thereby sustaining innovation velocity and strategic coherence [7-9]. Ultimately, the framework transforms the inherent governance paradox into a source of competitive advantage, allowing platform owners to manage expanding business ecosystems with foresight and agility. Table 1 clarifies how the optimal configuration of openness, control, incentives, and coordination shifts across successive stages of platform ecosystem maturity.

Table 1. Governance lever configuration across platform ecosystem maturity stages

Ecosystem maturity stage	Strategic priority	Openness configuration
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Emergence/Launch	Achieve critical mass and stimulate entry	High openness; low entry barriers; accessible APIs; permissive experimentation spaces
Early growth	Accelerate innovation variety while preserving baseline coherence	Moderately high openness; tiered access; expanding participation rules
Scaling expansion	Manage rising interdependence and heterogeneity	Selective openness; differentiate access by complementor role or compliance history
Maturity/Stabilization	Protect quality, reputation, and value capture without stifling renewal	Calibrated openness; focused on high-value innovation domains
Renewal/Reconfiguration	Re-energize ecosystem innovation while correcting rigidity	Re-open selected interfaces; experimental participation windows; sandbox revitalization

Operationalizing the Governance Balancing Framework in Practice

Platform owners translate the six-component governance balancing framework into operational reality by embedding it within day-to-day decision processes and organizational routines. The framework's strength lies in its modular yet interdependent design, allowing executives to fine-tune each lever without destabilizing the overall architecture [9, 19, 23]. As ecosystems expand, managers must treat governance not as a fixed policy manual but as a living system that recalibrates in response to growth signals, complementor feedback, and competitive shifts [16, 21, 24].

Openness configuration and innovation enablement

The first lever—openness configuration—sets the entry conditions that determine how freely complementors can innovate. Platform owners calibrate APIs, documentation quality, sandbox environments, and participation tiers to match ecosystem maturity. In early expansion phases, liberal access policies and modular interface designs lower barriers, inviting diverse experimentation and accelerating network effects [10–12]. For instance, tiered developer programs that grant progressive access based on proven compliance encourage high-quality contributions while preserving a baseline of openness [13, 14]. When openness is configured strategically, complementors perceive the platform as a fertile innovation arena rather than a gated community, leading to faster feature proliferation and greater user value [12, 27]. However, openness must remain bounded; unrestricted entry without complementary controls invites low-quality or malicious participation, which fragments the user experience [10, 15]. Managers therefore monitor entry metrics—such as complementor onboarding velocity and innovation diversity indices—to decide when to tighten or relax access rules [9, 25].

Control mechanisms and strategic discipline

Complementing openness are control mechanisms that enforce standards, monitor behavior, and protect value capture. Real-time analytics dashboards, automated compliance audits, and graduated sanction protocols (warnings, feature restrictions, delisting) provide the necessary discipline without micromanagement [15, 17, 18]. In multi-sided markets, selective enforcement—applying stricter rules to high-impact complementors while granting flexibility to niche innovators—maintains

coherence while respecting heterogeneity [3, 5]. Platform owners who enter complementor spaces themselves must do so transparently under predefined governance modes to avoid crowding-out perceptions [18, 20]. The key managerial skill is proportionality: controls should scale with ecosystem size so that small, agile platforms remain inviting while large ecosystems avoid chaos [16, 24]. Over-reliance on control, however, triggers the very stagnation the mechanisms aim to prevent; therefore, every control decision is paired with an openness review to keep the dynamic balance zone intact [7, 21].

Incentive alignment and owner–complementor dynamics

Incentive alignment forms the relational glue of the framework. Revenue-sharing models, visibility algorithms, co-marketing opportunities, and performance-linked rewards must be perceived as fair and transparent if complementors are to invest their innovation efforts [17, 21, 27]. Research on participation slackness shows that opaque or one-sided contracts increase multihoming and reduce discretionary innovation [11, 17]. Platform owners, therefore, co-design incentive structures through complementor advisory councils or data-sharing agreements, converting potential adversaries into invested partners [22, 26]. As ecosystems grow, incentive systems evolve from simple revenue splits to sophisticated ecosystems of micro-rewards that recognize different contribution types—technical innovation, user acquisition, or standards compliance [9, 28]. This relational governance layer mitigates the owner–complementor power asymmetry and sustains long-term commitment [6, 20].

Ecosystem coordination and orchestration capabilities

Coordination instruments address the growing complexity of interdependencies among actors. Shared governance forums, integration middleware, standardized data protocols, and cross-ecosystem communication hubs reduce friction and enable collective problem-solving [19, 22, 23]. Orchestration capabilities—sensing emerging tensions, seizing coordination opportunities, and reconfiguring integration layers—become core dynamic competencies [8, 13, 24]. Managers deploy cross-functional orchestration teams that operate at the intersection of product, legal, and partner relations, ensuring that innovation flows and control flows remain synchronized [2,

3]. In practice, quarterly ecosystem health reviews serve as coordination checkpoints, surfacing misalignments before they escalate into fragmentation or stagnation [26, 28].

Adaptive governance processes and risk management

The fifth and sixth components—governance adaptation and risk management—serve as the dynamic core of the platform governance system, embedding continuous learning, reflexivity, and resilience into the ecosystem architecture. Unlike static governance arrangements that rely on periodic or reactive adjustments, adaptive governance processes are designed to function as ongoing, data-driven feedback systems that detect early signals of imbalance and trigger timely recalibration. These processes transform governance from a rule-based structure into an evolving capability that responds to both endogenous ecosystem dynamics and exogenous environmental shocks.

At the heart of governance adaptation lies the integration of real-time analytics and performance monitoring systems. Platforms increasingly deploy algorithmic dashboards that track leading indicators of ecosystem health, such as declining innovation velocity, rising complementor complaint ratios, increased multihoming behavior, or shifts in user engagement patterns. These indicators function as “governance triggers,” automatically initiating structured review processes when predefined thresholds are exceeded. For example, a sustained decline in innovation velocity may signal excessive control constraints, prompting a relaxation of entry barriers or API restrictions. Conversely, a spike in multihoming or opportunistic behavior may indicate insufficient control, necessitating tighter compliance mechanisms or revised contractual safeguards [16, 23, 25].

Complementing these automated triggers, scenario-planning workshops, and strategic foresight exercises institutionalize anticipatory governance capabilities. These practices enable platform leaders to simulate potential disruptions—such as regulatory interventions, technological discontinuities, cybersecurity threats, or shifts in complementor power—and to develop contingency protocols in advance. By embedding scenario planning into governance routines, platforms reduce response latency and enhance their capacity to navigate uncertainty proactively rather than reactively [16, 23, 25].

The risk management layer spans all governance components, serving as a protective overlay that safeguards platform integrity while preserving the benefits of openness. This layer encompasses a comprehensive suite of mechanisms, including continuous compliance audits, ethical governance frameworks, data protection protocols, and ecosystem-wide risk monitoring systems. Importantly, risk management is not limited to regulatory compliance; it also addresses reputational, strategic, and systemic risks that emerge from complex interdependencies within the ecosystem.

Ethical guidelines play a particularly critical role in maintaining trust among participants, especially in contexts involving data sharing, algorithmic decision-making, and platform-mediated interactions. Clear standards for data use, transparency, and fairness help prevent abuses that could undermine the ecosystem's legitimacy. Simultaneously, exit-strategy simulations and stress-testing exercises prepare platform owners for worst-case scenarios, such as complementor defection, ecosystem fragmentation, or cascading failures triggered by dominant participants [7, 8, 15].

Together, governance adaptation and risk management form an integrated feedback loop that continuously recalibrates the balance between innovation and control. This loop ensures that governance mechanisms evolve at a pace equal to or faster than the ecosystem itself, thereby preventing structural inertia and strategic drift. In effect, these components transform governance from a static set of rules into a dynamic, learning-oriented system capable of sustaining long-term ecosystem viability under conditions of rapid change [21, 24].

Practical managerial recommendations for implementation

Translating the governance balancing framework into actionable managerial practice requires institutionalizing specific organizational routines and decision-making structures. Executives can embed the framework effectively through three interrelated practices that operationalize its core principles and ensure consistent execution across the organization.

First, establishing a comprehensive governance dashboard is essential to enabling real-time visibility into ecosystem dynamics. Such dashboards should integrate multiple data streams—innovation outputs, complementor activity levels,

compliance metrics, user engagement indicators, and risk signals—into a unified interface that visualizes the relative strength of innovation and control flows. By providing a holistic, continuously updated view of ecosystem performance, these dashboards enable managers to identify emerging imbalances and implement corrective actions promptly. Crucially, the dashboard should not merely report historical data but also incorporate predictive analytics that forecast potential governance challenges based on trend trajectories [9, 17].

Second, organizations should institutionalize cross-functional governance councils that bring together diverse perspectives from across the platform ecosystem. These councils should include representatives from key internal functions—such as product development, legal, compliance, and strategy—as well as external complementor representatives who can provide firsthand insights into ecosystem realities. By integrating internal and external viewpoints, governance councils reduce the risk of decision-making biases arising from insular organizational thinking. Moreover, they facilitate collaborative problem-solving and enhance the legitimacy of governance decisions among ecosystem participants [22, 26].

Third, conducting regular governance maturity audits is critical for ensuring alignment with the dynamic balance zone. These audits should assess the platform's current position along the openness–control spectrum, evaluating whether governance mechanisms are appropriately calibrated to the ecosystem's stage of development and competitive context. Benchmarking against best practices and longitudinal performance data enables organizations to identify deviations from the optimal balance and to implement targeted adjustments. Importantly, these audits should be forward-looking, focusing not only on current performance but also on the platform's readiness to adapt to future challenges [16, 21].

Table 2 provides a diagnostic matrix that links visible ecosystem symptoms to governance imbalances, their likely causes, and the corrective actions required to restore the dynamic balance zone.

Table 2. Diagnostic governance imbalance matrix: early warning signals, strategic causes, and corrective actions

Observable ecosystem signal	Likely imbalance pattern	Underlying strategic cause	
Rapid complementor entry but falling quality consistency	Excessive openness/insufficient control	Entry rules too permissive; weak enforcement; absent interoperability discipline	F
Slowing innovation velocity and declining novelty of offerings	Excessive control/insufficient openness	Over-standardization; restrictive APIs; high procedural burden	a
Rising multihoming among key complementors	Perceived unfairness in governance and incentives	Opaque visibility algorithms; one-sided contracts; disproportionate value capture by owner	a
Increasing complementor complaints and participation slackness	Relational governance breakdown	Lack of procedural fairness; poor communication; unresolved asymmetry	
Growing integration delays and cross-actor friction	Coordination deficit under scale	Weak communication hubs; inconsistent technical protocols;	

		fragmented interfaces
Frequent reactive policy changes with no clear pattern	Governance adaptation failure	Governance review processes are not institutionalized; poor trigger logic; low foresight capability
Escalating compliance incidents, ethical concerns, or ecosystem shocks	Risk oversight failure	Compliance routines lagging behind ecosystem complexity; weak stress testing

Collectively, these practices convert the abstract principles of adaptive governance into repeatable managerial routines. By embedding these routines into organizational processes, platform leaders can ensure that governance remains proactive, data-driven, and aligned with strategic objectives, thereby sustaining competitiveness in increasingly complex and rapidly evolving business ecosystems.

Achieving Sustainable Competitive Advantage Through Adaptive Platform Governance

Digital platform governance ultimately constitutes a strategic discipline centered on the continuous management of paradox. The tension between innovation and control is not a transient challenge to be resolved, but a persistent and dynamic equilibrium to be maintained throughout the ecosystem's lifecycle. Platforms that succeed in this endeavor do so by embracing the paradox as a source of strategic advantage rather than viewing it as a constraint.

The six-component governance balancing framework—comprising openness configuration, control mechanisms, incentive alignment, ecosystem coordination, adaptive processes, and risk management—provides a

comprehensive architecture for managing this equilibrium. Within this architecture, innovation flows outward through mechanisms that encourage experimentation, diversity, and complementor participation, while control flows inward through mechanisms that ensure coherence, quality, and value capture. Feedback loops connect these flows, enabling continuous recalibration within the dynamic balance zone and preventing either dimension from dominating the ecosystem.

Successful platform orchestrators recognize that governance must coevolve with ecosystem scale and complexity. In the early stages of ecosystem development, greater openness is often necessary to attract complementors, stimulate innovation, and achieve critical mass. As the ecosystem matures, stronger control mechanisms become essential to safeguard value, maintain quality standards, and prevent opportunistic behavior. However, introducing controls must be carefully calibrated to avoid stifling the very innovation that drives ecosystem growth. Adaptive governance mechanisms play a crucial role in navigating this transition, ensuring that neither openness nor control becomes excessively dominant at any point in time.

Complementor participation thrives in environments where incentives are perceived as equitable and coordination mechanisms reduce friction. When complementors trust the platform's governance system, they are more likely to invest in innovation, share knowledge, and commit resources to ecosystem development. Conversely, perceived inequities or governance inconsistencies can lead to disengagement, multihoming, or migration to competing platforms, thereby weakening the ecosystem's competitive position.

The risks associated with governance imbalance are well documented. Excessive openness can lead to fragmentation, quality degradation, and loss of strategic control, while excessive control can suppress innovation, discourage participation, and drive high-value complementors toward alternative platforms. Both extremes ultimately undermine the platform's ability to sustain competitive advantage.

In an era where digital ecosystems increasingly define market leadership, the managerial imperative is clear. Platform owners must develop the capability to manage governance as a living, adaptive system that continuously evolves in response to changing conditions. This requires

not only robust governance mechanisms but also the cultivation of organizational capabilities for learning, experimentation, and strategic foresight.

The framework and architectural logic presented here equip executives with both a conceptual map and an operational toolkit for navigating the complexities of platform governance. By treating openness and control as interdependent forces and by embedding adaptive processes and risk management into the core of governance design, platform leaders can sustain innovation velocity, capture appropriate value, and maintain ecosystem vitality over the long term.

Ultimately, balancing innovation and control is not merely a governance challenge—it is the central strategic capability that differentiates thriving digital platforms from those that fragment, stagnate, or decline. As digital ecosystems continue to expand and evolve, future competitiveness will belong to organizations that view governance not as a static set of rules but as a dynamic, continuously evolving discipline that underpins long-term success.

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