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Algorithmic Market Structuring: How AI Reconfigures Competitive Boundaries in Platform-Based Economies

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Abstrak

Digital platforms increasingly rely on algorithmic systems to allocate visibility, define evaluative metrics, and recalibrate participation conditions. While prior research has examined platform governance, market shaping, and algorithmic control, strategic management scholarship has yet to fully theorize how algorithmic infrastructures reconfigure the boundaries of competition itself. This article introduces the concept of algorithmic market structuring to explain how competitive boundaries in platform-based economies become endogenous to governance architectures. Integrating boundary theory, competitive dynamics, ecosystem strategy, attention-based theory, performance feedback models, and increasing returns logic, we develop a mechanism-based framework comprising four interrelated processes: visibility-based boundary making, metric re-specification, feedback-loop concentration, and rule volatility–induced adaptation. We argue that algorithmic centrality transforms rivalry from category-based competition to exposure-mediated competition, generating cumulative advantage dynamics and accelerating boundary reconfiguration. Importantly, these effects are not deterministic; their structural consequences depend on differentiation levels, switching costs, and governance automation intensity. By reframing competitive arenas as dynamically curated through algorithmic infrastructures rather than statically defined by industry structure, this study advances strategic management theory and clarifies how digital governance architectures shape the evolution of rivalry in contemporary platform markets.

Keywords

algorithmic market structuring; competitive boundaries; platform governance; ecosystem strategy; attention-based view; performance feedback; increasing returns; digital governance

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1. Introduction

Strategic management scholarship has long treated market structure as an outcome of industry characteristics, resource configurations, and competitive positioning. From industrial organization logics of entry barriers and concentration to resource-based explanations of firm heterogeneity, the boundaries of competition have been conceptualized as relatively stable, exogenously observable constraints within which firms act. Even research on digital platforms—while acknowledging new forms of intermediation and governance—has largely examined how rule design, incentive alignment, and control mechanisms shape participation and value creation (Chen et al., 2022). What remains under-theorized is a more foundational shift: the possibility that market boundaries themselves are increasingly constituted through algorithmic systems that dynamically allocate visibility, structure consideration sets, and recalibrate performance metrics in real time.

Recent developments in digital governance suggest that algorithms do not merely support managerial decision making but function as embedded governance mechanisms that organize exchange relationships (Hanisch et al., 2023). In platform-based economies, ranking systems, recommender engines, and eligibility rules determine which sellers are seen, under what conditions, and relative to whom. These systems continuously calibrate exposure through data-driven feedback loops. As a result, the effective set of competitors confronting any given firm is not simply defined by industry membership or product similarity but by algorithmically curated visibility. The locus of competitive boundary formation shifts from static market definitions to dynamic visibility architectures.

The figure below clarifies the ontological shift from industry-structured competition to algorithmically structured competition. It contrasts the locus of boundary formation in traditional markets with platform-based environments where competitive exposure is curated through governance architectures.

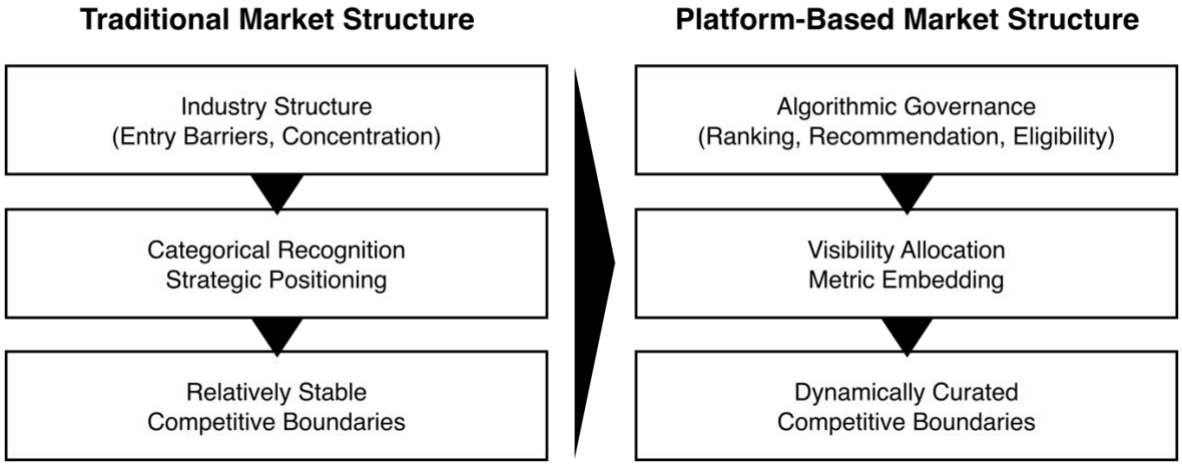

Figure 1. From Industry-Structured Competition to Algorithmically Curated Competitive Boundaries
Source: Developed by the author

As illustrated in Figure 1, competitive boundaries in traditional markets emerge from industry structure and categorical positioning, resulting in relatively stable rivalry configurations. In contrast, the right-hand architecture clarifies how platform-based environments relocate boundary formation into algorithmic governance systems that allocate visibility and embed performance metrics. Figure 1 therefore establishes the ontological shift that underpins the article's core argument: competition becomes exposure-mediated and dynamically curated rather than statically inherited from industry structure.

This shift raises a fundamental theoretical problem for strategic management. If competitive boundaries are algorithmically mediated, then traditional constructs—such as industry structure, strategic group membership, and even competitive positioning—may no longer

fully capture the operative structure of rivalry. Instead, rivalry becomes partially endogenous to the design and operation of algorithmic governance systems. Although market-shaping research has demonstrated that markets can be actively configured through strategic action (Flaig et al., 2021), and market practice theory has emphasized the performative role of devices in constituting markets (Kjellberg & Helgesson, 2006), these perspectives have not yet fully incorporated algorithmic infrastructures as dominant market devices. Concurrently, research on algorithmic control has illuminated how digital systems generate new terrains of power, contestation, and adaptation within organizations (Kellogg et al., 2020), yet the implications of these dynamics for market-level boundary reconfiguration remain insufficiently specified.

This gap is consequential because algorithmic systems do more than rank alternatives; they redefine the competitive arena. First, by allocating visibility selectively, they determine which actors enter the consideration set of consumers. Second, by embedding specific performance metrics—such as conversion rates, responsiveness, or fulfillment reliability—they reshape the basis of competition. Third, through data feedback loops, they may amplify concentration effects independently of formal mergers or explicit exclusion. Finally, frequent recalibration of algorithmic parameters introduces rule volatility, altering strategic predictability and incentivizing adaptive responses such as multi-homing or metric gaming. Taken together, these processes suggest that algorithmic governance operates as a market-structuring mechanism rather than merely as an efficiency-enhancing tool.

Existing platform governance research has convincingly established that digital platforms constitute meta-organizational forms with distinct incentive and control architectures (Chen et al., 2022). Complementary work in digital governance has articulated how automated systems reconfigure coordination, control, and trust mechanisms across exchange relationships (Hanisch et al., 2023). However, this literature typically treats governance as a set of formal rules or contractual arrangements. It pays less attention to how algorithmic visibility allocation transforms the competitive field itself. Likewise, algorithmic management research has shown that algorithmic systems create contested terrains of control and elicit strategic adaptation (Kellogg et al., 2020), but these analyses predominantly focus on labor and intra-organizational dynamics rather than on inter-firm rivalry.

The present article addresses this theoretical lacuna by introducing the concept of algorithmic market structuring—the process through which algorithmic governance mechanisms dynamically configure competitive boundaries in platform-based economies. We define competitive boundaries as the effective set of rivals, performance dimensions, and exchange conditions that structure rivalry within a given market space. By integrating insights from market-shaping theory (Flaig et al., 2021), market practice scholarship (Kjellberg & Helgesson, 2006), platform governance research (Chen et al., 2022), digital governance frameworks (Hanisch et al., 2023), and algorithmic control literature (Kellogg et al., 2020), we develop a mechanism-based model explaining how algorithmic systems restructure markets along four interrelated pathways: visibility-based boundary making, metric re-specification, feedback-loop concentration, and rule volatility–induced strategic adaptation.

Our central argument is that competitive boundaries in platform-based economies are increasingly endogenous to algorithmic governance. As algorithmic centrality intensifies, rivalry becomes less a function of ex ante industry demarcations and more a function of dynamically allocated exposure and performance optimization criteria. This reconfiguration has non-linear consequences. While algorithmic structuring may enhance coordination and reduce search frictions, it may also narrow competitive visibility, amplify concentration dynamics, and destabilize strategic expectations. Thus, algorithmic governance simultaneously organizes and perturbs market structure.

The article makes three primary contributions to strategic management theory. First, it extends market-shaping scholarship by specifying algorithmic governance as a distinct boundary-forming mechanism, thereby shifting the analytical focus from strategic intent to

infrastructural structuring. Second, it advances platform governance research by reconceptualizing visibility allocation—not merely rule design—as the central structural determinant of rivalry. Third, it bridges algorithmic control literature to market-level outcomes, demonstrating how micro-level governance mechanisms aggregate into macro-level boundary reconfiguration.

The table below clarifies how Algorithmic Market Structuring is analytically distinct from adjacent theoretical perspectives. Rather than reiterating existing frameworks, it isolates differences in boundary formation logic, locus of power, and level of analysis. This differentiation strengthens conceptual precision and pre-empts concerns of relabeling.

Table 1. Conceptual Differentiation of Algorithmic Market Structuring.

Theoretical Perspective	Primary Level of Analysis	Boundary Formation Mechanism	Source of Structural Influence	Temporal Dynamics
Industry Structure (IO tradition)	Industry	Entry barriers, concentration, structural positioning	Market structure and resource distribution	Relatively stable
Market-Shaping Strategy	Firm–Market interface	Deliberate strategic interventions	Strategic intent and institutional work	Episodic change
Platform Governance	Ecosystem	Rule design and access control	Architectural control and formal governance	Adjustable but policy-driven
Algorithmic Control	Organization	Embedded evaluative metrics	Automated monitoring and behavioral control	Iterative recalibration
Algorithmic Market Structuring	Market (platform-mediated)	Algorithmic allocation of visibility and metric embedding	Infrastructural exposure calibration	Continuous and recursive

Source: Developed by the author

Table 1 positions Algorithmic Market Structuring relative to established theories by specifying how competitive boundaries become endogenous to algorithmic exposure architectures rather than determined solely by industry structure, strategic intervention, or formal governance rules. Table 1 thus reinforces the article's theoretical contribution by clarifying level of analysis, mechanism, and dynamic logic without conceptual inflation.

By reframing competition as algorithmically mediated rather than solely industry-structured, this study invites a reconsideration of foundational assumptions in strategic management. In digitally intensive markets, competitive boundaries are not simply discovered or defended; they are continuously recalibrated through algorithmic infrastructures that govern visibility, metrics, and participation. Understanding this transformation is essential for theorizing strategy in platform-based economies.

2. Theoretical Foundations

The argument advanced in this article requires repositioning competitive boundaries within a broader theoretical architecture that spans boundary theory, competitive dynamics, ecosystem governance, digital governance, and cumulative advantage. While each of these streams has addressed distinct aspects of market organization, their integration reveals a structural transformation in how rivalry is constituted in digitally mediated environments.

2.1 Competitive and Organizational Boundaries

Strategic management theory has long treated boundaries as central to understanding competition and value capture. Organizational boundary research conceptualizes boundaries as demarcations of activities, transactions, and authority structures that define the scope of the firm (Santos & Eisenhardt, 2005). Boundaries are not merely administrative lines; they shape control, resource allocation, and competitive positioning. Similarly, research on vertical and horizontal scope highlights how boundary decisions determine competitive exposure and coordination mechanisms (Jacobides & Billinger, 2006).

At the market level, competitive boundaries are often shaped by categorical recognition and cognitive framing. Studies of market categorization demonstrate that firms are evaluated relative to cognitively constructed peer sets, influencing competitive interaction patterns (Porac et al., 1995; Zuckerman, 1999). Competitive dynamics research further shows that firms attend selectively to rivals within perceived arenas of interaction, and rivalry intensity depends on awareness, motivation, and capability alignment (Chen & Miller, 2012; Smith et al., 2001).

Across these perspectives, competitive boundaries are either cognitively constructed, strategically chosen, or structurally inherited. What is less developed is a theory of boundaries that are dynamically curated by infrastructural systems external to focal firms. In platform-based markets, rivalry may no longer be defined primarily by shared categories or deliberate boundary choices, but by algorithmically generated exposure patterns that determine which actors enter each other's competitive field. This introduces a distinct layer of boundary formation—algorithmic boundary construction—operating at the interface between governance architecture and competitive dynamics.

2.2 Ecosystem Strategy and Structural Power

Ecosystem scholarship emphasizes interdependence among platform owners and complementors, highlighting how value creation and capture are distributed across networked actors (Jacobides, Cennamo, & Gawer, 2018). Platforms coordinate participation through governance design, influencing entry, pricing, and complementor incentives (Tiwana, 2014; Cennamo & Santalo, 2013). Power asymmetries arise not only from ownership but from architectural control over standards and interfaces.

However, ecosystem research has predominantly conceptualized governance as rule-setting and architectural design. The structuring effects of algorithmic visibility allocation remain under-theorized. Exposure control constitutes a subtler yet potent form of structural power. Unlike formal exclusion, algorithmic exposure determines effective participation intensity without altering nominal access. Complementors may remain within the ecosystem, yet experience diminished competitive relevance due to ranking dynamics.

This perspective extends ecosystem theory by foregrounding infrastructural calibration as a strategic lever. Algorithmic governance becomes a boundary-forming mechanism that redistributes competitive salience within ecosystems. Rivalry is shaped not only by structural interdependence but by exposure hierarchies embedded in algorithmic design.

2.3 Digital Governance and Automated Coordination

Digital governance research conceptualizes automation as a distinct mode of coordination characterized by embedded control mechanisms and continuous recalibration (Hanisch et al., 2023). As governance shifts from human oversight to algorithmic automation, coordination becomes iterative and data-driven. Decisions are implemented ex ante through design choices rather than ex post through enforcement.

This shift has profound implications for competition. When exposure, eligibility, and ranking are continuously recalibrated, competitive boundaries become temporally fluid. Automation increases the frequency of structural adjustment, compressing the timescale of rivalry transformation. Competitive arenas are no longer stable backdrops against which firms act; they are dynamic outcomes of governance calibration.

Moreover, automated governance amplifies informational asymmetry. Platform actors possess privileged knowledge of algorithmic criteria, while complementors infer ranking logic indirectly. This asymmetry introduces uncertainty into strategic decision-making and intensifies adaptation dynamics.

2.4 Cumulative Advantage and Increasing Returns

The feedback-loop mechanism underlying algorithmic market structuring resonates with theories of cumulative advantage and increasing returns. Arthur (1989) demonstrates how small initial advantages can generate path-dependent dominance under increasing returns conditions. Network-based explanations similarly show how preferential attachment mechanisms concentrate attention and resources among early leaders (Barabási, 2016).

In platform markets, visibility-based allocation can function analogously to preferential attachment. Historical performance influences exposure; exposure generates data and demand; accumulated data further improves ranking positions. This recursive dynamic creates concentration without explicit exclusion. Unlike traditional scale economies, which arise from production efficiencies, algorithmic concentration arises from exposure dynamics embedded in governance systems.

However, increasing returns logic alone does not explain boundary reconfiguration. What distinguishes algorithmic market structuring is that cumulative advantage is mediated through programmable governance architectures. Concentration emerges not solely from network externalities but from exposure rules that privilege specific performance signals. Thus, increasing returns are infrastructurally enabled rather than purely emergent.

2.5 Algorithmic Control and Strategic Adaptation

Research on algorithmic control highlights how embedded evaluative metrics reshape behavior and generate contested terrains of control (Kellogg et al., 2020). Actors adapt, resist, or strategically comply with system-defined criteria. These adaptive responses are not passive reactions; they actively reshape performance distributions and participation patterns.

When transposed to inter-firm rivalry, algorithmic control implies that competitive boundaries evolve through co-evolution between governance recalibration and strategic response. Multi-homing, niche repositioning, and metric optimization strategies alter traffic flows and participation intensity across platforms. These adjustments feed back into algorithmic systems, prompting recalibration and further structural shifts.

Competitive boundaries thus emerge from recursive interaction rather than static categorization. Markets become algorithmically structured systems in which rivalry is dynamically curated through infrastructural calibration and strategic adaptation.

3. Conceptual Model

The preceding theoretical integration positions algorithmic market structuring (AMS) as an infrastructural process through which competitive boundaries are dynamically constituted. To deepen the explanatory power of this model, this section anchors each mechanism in established strategy and organizational theory—particularly the attention-based view and performance feedback theory—while preserving the original four-mechanism architecture.

Algorithmic market structuring is defined as the process through which algorithmic governance systems allocate attention, define evaluative metrics, and recalibrate participation conditions, thereby shaping the effective boundaries of competition in platform-based markets. Competitive boundaries are not treated as categorical givens but as dynamically evolving configurations of rivalry produced through infrastructural calibration.

The conceptual architecture below integrates the four mechanisms of Algorithmic Market Structuring into a single analytical system. Rather than presenting them as isolated

processes, the model specifies how algorithmic governance structures visibility, embeds metrics, generates cumulative concentration, and induces adaptive dynamics that jointly reconfigure competitive boundaries. The framework clarifies causal flow while preserving the recursive character of market transformation.

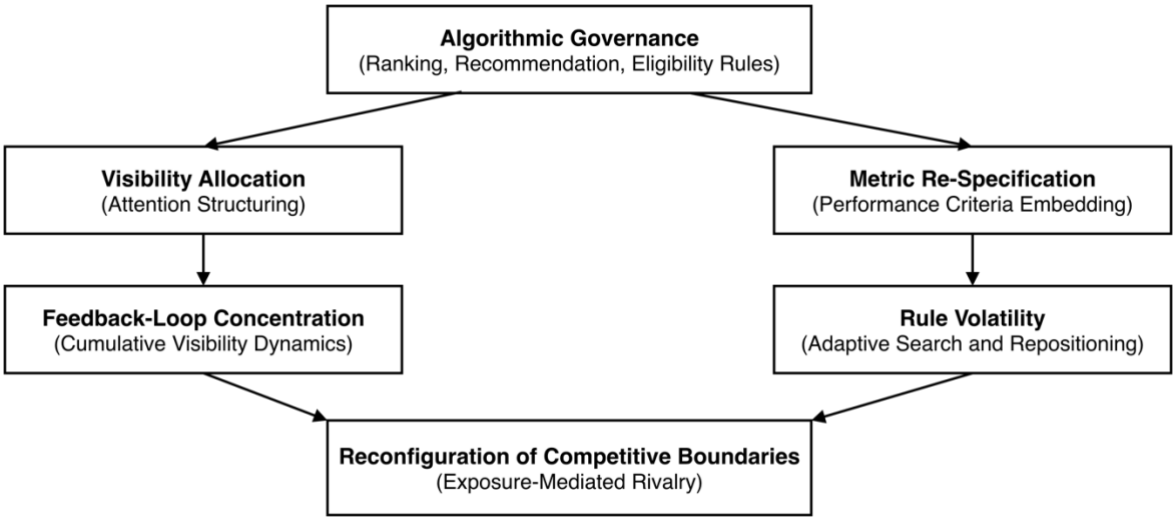

Figure 2. Mechanism Architecture of Algorithmic Market Structuring
Source: Developed by the author

The framework articulated in Figure 2 clarifies how algorithmic governance operates as an infrastructural system that channels visibility and embeds evaluative metrics, thereby generating cumulative concentration and adaptive volatility. The left pathway captures attention structuring and increasing-return dynamics, while the right pathway captures metric-driven rivalry and strategic adaptation. Figure 2 integrates these mechanisms into a unified explanation of how competitive boundaries become exposure-mediated and recursively reconfigured in platform-based markets.

3.1 Visibility Allocation as Attention Structuring

The first mechanism—visibility-based boundary making—can be more precisely understood through the attention-based view of the firm (Ocasio, 1997). According to this perspective, what decision-makers attend to determines organizational action. Attention is a scarce resource, structured by channels and situated within organizational and environmental architectures.

In platform markets, ranking and recommender systems function as attention-structuring devices. They do not merely present options; they allocate scarce cognitive bandwidth across actors. Algorithmic visibility thus shapes not only consumer choice but also competitive awareness among firms. Rivalry depends on mutual visibility; actors cannot respond to competitors they do not perceive.

When algorithmic systems curate exposure, they effectively define which actors enter each other's attentional field. Competitive boundaries become attention-mediated rather than solely category-mediated. As algorithmic centrality increases—meaning that a greater proportion of consumer discovery is governed by ranking systems—the attentional architecture of the market shifts from distributed search to curated exposure.

This attentional structuring generates two effects. First, it increases boundary endogeneity: rivalry is determined by algorithmic exposure logic. Second, personalization fragments attentional fields across micro-segments, producing localized and asymmetrical rivalry patterns.

Proposition 1. The greater the centrality of algorithmic visibility systems in structuring market attention, the more competitive boundaries become endogenous to platform architecture.

Proposition 2. Higher levels of algorithmic personalization fragment attentional fields across micro-segments, increasing asymmetry in competitive boundaries.

3.2 Metric Re-Specification and Performance Feedback

The second mechanism—metric re-specification—can be grounded in performance feedback theory (Greve, 2003). Performance feedback models suggest that firms compare performance against aspiration levels and adjust behavior accordingly. Evaluation criteria structure adaptation.

In algorithmically governed markets, performance metrics are embedded within ranking logic. Conversion rates, responsiveness, ratings, or fulfillment reliability are not merely evaluative signals; they determine exposure. Thus, the algorithm does not only measure performance—it operationalizes it as a determinant of competitive salience.

This integration produces a shift in rivalry logic. Firms adapt not solely in response to market demand but in response to metric-defined aspirations that directly influence visibility. Performance feedback becomes intertwined with exposure allocation. The basis of competition transitions from price-based rivalry toward metric-optimization rivalry, where firms invest in operational capabilities aligned with algorithmic criteria.

The strategic implication is that evaluative criteria are no longer exogenous market signals; they are governance-embedded performance thresholds. Competitive boundaries are reconfigured around metric regimes rather than traditional product categories.

Proposition 3. The stronger the integration of performance metrics into algorithmic ranking systems, the greater the shift from price-based competition to metric-based competition.

Proposition 4. Firms possessing complementary capabilities aligned with algorithmic performance metrics gain disproportionate competitive advantage under metric-based rivalry.

3.3 Feedback-Loop Concentration and Increasing Returns

The third mechanism—feedback-loop concentration—can be interpreted through increasing returns theory (Arthur, 1989). Increasing returns occur when early advantages generate self-reinforcing gains. In networked environments, preferential attachment processes amplify initial exposure advantages.

Algorithmic visibility allocation embeds a similar logic. Historical performance influences ranking; higher ranking generates greater exposure; increased exposure produces more data and transactions; accumulated data reinforces ranking. This recursive mechanism resembles path-dependent accumulation.

However, unlike classical increasing returns rooted in production scale or network externalities, algorithmic concentration is infrastructurally mediated. Exposure allocation is programmable. Platforms can recalibrate weightings, modify ranking criteria, or introduce new evaluative signals. Thus, increasing returns are not purely emergent but are partially governed through design.

This distinction matters theoretically. Market concentration can arise without structural consolidation or explicit exclusion. Competitive boundaries narrow through exposure asymmetry rather than formal access restriction.

Proposition 5. Performance-contingent visibility allocation generates cumulative advantage dynamics analogous to increasing returns.

Proposition 6. Cumulative visibility advantages narrow effective competitive boundaries independently of formal market exclusion.

3.4 Rule Volatility and Strategic Adaptation

The fourth mechanism—rule volatility—connects algorithmic governance to adaptive competition. When ranking parameters and eligibility thresholds are recalibrated, firms experience aspiration instability. Performance feedback signals shift, altering reference points and triggering strategic adjustment.

From a performance feedback perspective, changes in evaluative criteria modify aspiration gaps, prompting search and experimentation (Greve, 2003). In platform environments, such adjustments may include multi-homing, niche specialization, or metric gaming. These adaptations redistribute participation intensity across platforms and categories.

Algorithmic recalibration and strategic adaptation form a co-evolutionary cycle. As firms adjust to ranking logic, platforms refine algorithms to maintain efficiency or fairness. Competitive boundaries thus evolve through iterative interaction rather than unilateral structural change.

Proposition 7. Greater volatility in algorithmic governance parameters increases strategic uncertainty and adaptive search among platform participants.

Proposition 8. Strategic adaptation to rule volatility increases multi-homing and niche repositioning, accelerating boundary reconfiguration.

Proposition 9. Co-evolution between algorithmic recalibration and firm adaptation increases the rate of competitive boundary transformation.

3.5 Moderating Conditions

The strength of algorithmic market structuring effects depends on contextual moderators. In low-differentiation categories, attentional allocation and metric regimes exert stronger influence, as alternative differentiation cues are limited. In highly differentiated categories, brand equity or off-platform demand may buffer exposure effects.

The table below systematizes the boundary conditions under which Algorithmic Market Structuring intensifies, stabilizes, or attenuates competitive reconfiguration. Rather than listing moderators descriptively, it specifies which mechanism each condition amplifies and how this shapes boundary outcomes.

Table 2. Moderating Conditions of Algorithmic Market Structuring

Moderating Condition	Mechanism Primarily Affected	Direction of Effect	Implication for Competitive Boundaries
Low Product Differentiation	Visibility Allocation; Metric Re-Specification	Strengthens algorithmic influence	Boundaries become more exposure-driven and less category-based
High Product Differentiation	Visibility Allocation	Weakens exposure dominance	Category identity and brand buffer boundary compression
High Switching Costs	Feedback-Loop Concentration	Amplifies cumulative advantage	Visibility asymmetries translate into durable boundary narrowing
Strong Data Lock-In	Feedback-Loop Concentration	Reinforces path dependence	Competitive positions stabilize around algorithmically advantaged actors
High Governance Automation Intensity	Rule Volatility; Feedback Loops	Increases speed of recalibration	Boundaries become more fluid and recursively reconfigured

Lower Automation / Human Oversight	Rule Volatility	Dampens volatility effects	Boundary shifts occur more gradually and are partially stabilized

Source: Developed by the author

Table 2 clarifies that the structural consequences of algorithmic market structuring are conditional rather than deterministic. By linking each moderator to a specific mechanism and boundary implication, Table 2 sharpens the causal logic of the model and prevents overgeneralization of concentration or volatility outcomes. It thereby reinforces the manuscript's emphasis on mechanism-driven explanation and bounded theoretical claims.

Switching costs and data lock-in further moderate concentration dynamics. High switching costs amplify cumulative advantage by constraining strategic mobility. Finally, governance automation intensity shapes the speed and amplitude of recalibration. Fully automated systems increase the frequency of boundary adjustments relative to augmented systems involving human oversight.

Proposition 10. Algorithmic market structuring effects are stronger in low-differentiation product categories.

Proposition 11. High switching costs and data lock-in amplify cumulative visibility and boundary-narrowing effects.

Proposition 12. Higher levels of governance automation increase both concentration intensity and boundary volatility.

Taken together, this strengthened conceptual model situates algorithmic market structuring at the intersection of attention allocation, performance evaluation, increasing returns, and adaptive competition. Competitive boundaries in platform-based economies emerge from recursive interactions between infrastructural design and strategic behavior. Rivalry is neither purely industry-structured nor solely cognitively constructed; it is dynamically curated through algorithmically mediated attention and metric regimes embedded within governance architectures.

4. Discussion

The theory of algorithmic market structuring developed in this article invites a reconsideration of how strategic management conceptualizes competition in digitally mediated environments. Rather than treating market boundaries as cognitively constructed categories, strategically chosen scopes, or structurally inherited industry partitions, the model proposes that competitive arenas are increasingly constituted through algorithmic infrastructures that govern attention, evaluation, and participation. This perspective does not replace existing theories of competition but reframes their boundary conditions.

4.1 Boundary Ontology: Categorical Demarcation and Infrastructural Calibration

Traditional boundary theory assumes that competitive arenas are defined through categorical recognition or organizational design (Santos & Eisenhardt, 2005; Porac et al., 1995). Firms identify rivals within shared product categories, and managers cognitively construct competitive sets based on perceived similarity (Zuckerman, 1999). Even when boundaries are dynamic, they are typically treated as outcomes of strategic choice or institutional evolution.

Algorithmic market structuring introduces a distinct ontological shift. Boundaries are no longer solely cognitive or structural demarcations; they are continuously calibrated through exposure architectures. Ranking systems and recommender engines define which actors are rendered visible within a given attentional field. As a result, rivalry becomes conditioned by infrastructural mediation rather than solely by shared categorical identity.

This shift complicates competitive dynamics theory. Awareness—central to rivalry formation in competitive dynamics research (Chen & Miller, 2012)—is no longer purely a function of managerial perception or strategic signaling. It is partially delegated to algorithmic systems that determine which competitors are surfaced. Competition may occur without mutual categorical recognition if algorithmic curation brings actors into shared attentional spaces. Conversely, firms may remain categorically proximate yet rarely encounter each other competitively due to segmentation and personalization.

Importantly, this does not imply that cognitive processes become irrelevant. Rather, attention is redistributed. Managers respond to algorithmic signals embedded in dashboards, performance metrics, and ranking feedback. Competitive awareness becomes mediated rather than direct. Thus, the model extends attention-based explanations of strategy by situating attention allocation within platform governance infrastructures.

4.2 Ecosystem Power and Visibility as Structural Leverage

Ecosystem scholarship emphasizes architectural control and interdependence as sources of platform power (Jacobides et al., 2018; Tiwana, 2014). The present analysis adds a complementary dimension: visibility as structural leverage. Formal access to a platform does not equate to competitive salience. Algorithmic exposure determines effective participation intensity, shaping which complementors gain traction and which remain peripheral.

This perspective reframes debates about platform power. Instead of focusing exclusively on pricing rules or contractual terms, it highlights infrastructural calibration as a subtle yet consequential mechanism of influence. Exposure hierarchies can redistribute competitive advantage without altering formal governance arrangements. Complementors may retain nominal access while experiencing diminished relevance due to ranking dynamics.

Contemporary developments in AI-driven personalization and automated curation illustrate this dynamic. As recommender systems grow more sophisticated, exposure decisions increasingly reflect machine-learned optimization objectives rather than transparent rule sets. While such systems may enhance matching efficiency and consumer relevance, they simultaneously concentrate attention and potentially amplify cumulative advantage. The theory advanced here does not assume inevitable dominance or exclusion; rather, it specifies how exposure design choices can reshape rivalry even in formally open ecosystems.

4.3 Increasing Returns Without Structural Closure

The feedback-loop mechanism aligns with increasing returns logic (Arthur, 1989) but introduces an infrastructural twist. Concentration can emerge through exposure asymmetry rather than production scale or explicit exclusion. Performance-contingent visibility generates cumulative advantages that resemble preferential attachment dynamics.

However, the model avoids equating algorithmic concentration with deterministic monopolization. Unlike classical path dependence driven by irreversible investments, algorithmic systems are programmable. Platforms can adjust ranking weightings, introduce randomization, or recalibrate exposure criteria. Thus, increasing returns operate within a designable architecture. Concentration is possible, but not inevitable; its trajectory depends on governance calibration, switching costs, and differentiation levels.

This nuance is critical for avoiding overclaim. Algorithmic market structuring does not render markets uniformly less competitive. In some contexts, algorithmic exposure may reduce search costs and enable smaller actors to gain visibility that would otherwise be inaccessible.

The structural effects depend on the interaction between design parameters and participant capabilities.

4.4 Performance Feedback, Volatility, and Adaptive Competition

Performance feedback theory suggests that firms adjust behavior relative to aspiration levels (Greve, 2003). In platform environments, aspiration levels are embedded in metric regimes that directly influence exposure. When ranking criteria shift, aspiration thresholds shift accordingly. Strategic adaptation becomes intertwined with infrastructural recalibration.

Recent empirical observations in digital markets reveal heightened volatility in algorithmic criteria—periodic recalibration of ranking signals, evolving performance metrics, and shifting eligibility rules. Such volatility generates uncertainty but also stimulates adaptive experimentation. Firms engage in multi-homing, niche repositioning, and metric optimization to hedge against infrastructural instability.

From a theoretical standpoint, this suggests that competition in platform-based markets is increasingly co-evolutionary. Algorithmic governance shapes strategic adaptation; strategic adaptation feeds back into algorithmic recalibration. Competitive boundaries are therefore recursively constituted rather than statically inherited. Rivalry is not simply intensified or dampened—it is reconfigured through iterative interaction between design and response.

The figure below theorizes the co-evolutionary dynamic between algorithmic recalibration and firm adaptation. Rather than depicting a linear causal chain, it specifies a recursive feedback structure through which governance adjustments and strategic responses jointly accelerate competitive boundary transformation over time.

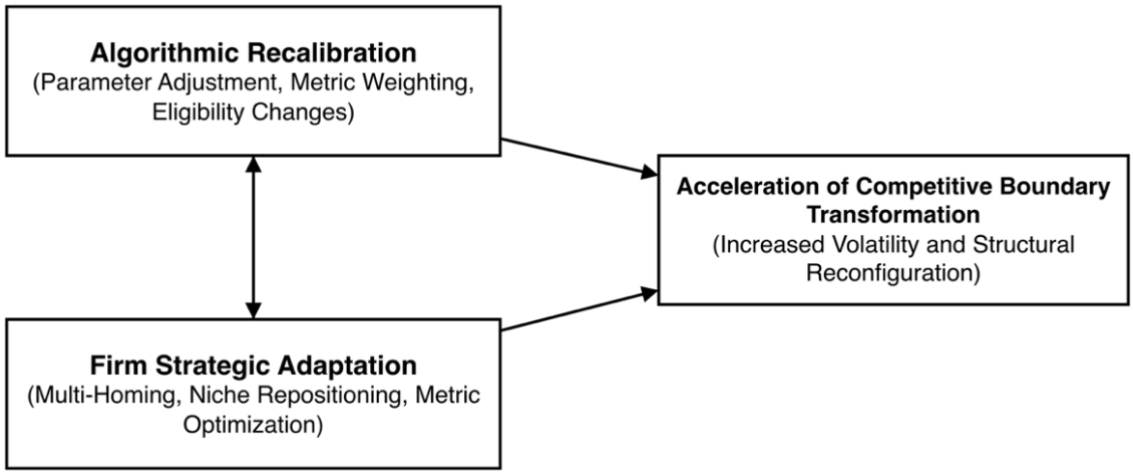

Figure 3. Co-Evolutionary Dynamics of Algorithmic Recalibration and Strategic Adaptation
Source: Developed by the author

Figure 3 reorients the analysis toward the recursive interaction between governance design and strategic agency. Algorithmic recalibration alters performance criteria and exposure conditions, prompting firms to adapt through multi-homing, niche repositioning, and metric optimization. These adaptive responses, in turn, reshape data distributions and participation patterns, inducing further recalibration. Figure 3 therefore captures the endogenous and iterative character of competitive boundary transformation in platform-based markets.

Yet, this co-evolution does not eliminate strategic agency. Firms retain the capacity to differentiate, innovate, and build capabilities that buffer exposure volatility. The model refrains from technological determinism. Instead, it posits a redistribution of structural influence: infrastructural calibration becomes a central variable shaping competitive opportunity structures.

4.5 Infrastructure as a Strategic Variable

A broader implication of the theory concerns the role of infrastructure in strategic analysis. Traditional strategy research emphasizes resources, positioning, and industry forces. The present framework introduces governance architecture—specifically algorithmic exposure systems—as a determinant of competitive boundaries.

This does not imply that infrastructure replaces firm-level strategy. Rather, it suggests that strategy unfolds within algorithmically mediated opportunity structures. Firms compete simultaneously in product markets and in visibility regimes. Operational capabilities aligned with ranking metrics become intertwined with market-facing value propositions.

The conceptual contribution lies in identifying infrastructural calibration as a boundary-forming mechanism. Competitive arenas are no longer solely entered, exited, or redefined through mergers, diversification, or category spanning. They are continuously recalibrated through algorithmic governance architectures that allocate attention and specify evaluative criteria.

Taken together, the discussion reframes competition in digitally intensive markets as an infrastructurally mediated process characterized by recursive calibration, metric-based rivalry, and exposure-driven concentration dynamics. This reframing does not overturn existing strategic theories; it situates them within new boundary conditions shaped by algorithmic governance. Competitive boundaries become dynamic outcomes of the interaction between strategic agency and infrastructural design—neither wholly determined by firms nor entirely dictated by technology, but continuously constituted through their interplay.

5. Conclusion

This article reconceptualizes competition in platform-based economies by introducing algorithmic market structuring as a foundational governance process that dynamically configures competitive boundaries. Rather than treating rivalry as anchored in industry structure, firm positioning, or formal access rules, the analysis demonstrates that algorithmic visibility allocation, metric specification, feedback-loop concentration, and rule volatility jointly constitute the operative field of competition.

The central implication is that competitive boundaries are no longer primarily demarcated by categorical membership or static structural constraints. Instead, they are continuously recalibrated through infrastructural design choices embedded within platform governance architectures. Visibility becomes a structural resource; performance metrics become competitive currencies; and algorithmic recalibration becomes a mechanism of boundary evolution. In such contexts, rivalry is curated rather than merely contested.

This reconceptualization does not suggest that traditional strategy frameworks are obsolete. Cost leadership, differentiation, and capability development remain central to competitive advantage. However, their effects are mediated by algorithmic exposure regimes that determine which capabilities are rewarded, which actors are surfaced, and which forms of performance are amplified. Competitive strategy must therefore be understood as operating within, and partially shaped by, algorithmically governed infrastructures.

The model also underscores the recursive and co-evolutionary nature of digitally mediated markets. Algorithmic governance shapes strategic behavior, which in turn prompts recalibration of governance parameters. Competitive boundaries emerge from this iterative interplay rather than from unilateral technological imposition or purely strategic maneuvering. Markets become infrastructurally dynamic systems in which structural change is embedded in everyday governance operations.

Importantly, the argument remains bounded. Algorithmic market structuring does not deterministically produce concentration or instability in all contexts. Its structural consequences depend on differentiation levels, switching costs, governance automation intensity, and institutional constraints. The contribution of this study lies not in predicting

uniform outcomes, but in specifying mechanisms through which algorithmic infrastructures can reshape rivalry.

By foregrounding infrastructural design as a determinant of competitive boundaries, this article invites strategic management scholarship to reconsider the locus of market structure in digitally intensive environments. Competition in platform-based economies is neither solely industry-defined nor entirely firm-constructed. It is increasingly constituted through algorithmic governance systems that organize visibility, define evaluative criteria, and recalibrate participation conditions. Understanding this transformation is essential for theorizing strategy in contemporary digital markets

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