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Regulatory Architectures and Market Structuring in ASEAN Digital Platform Ecosystems

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Abstrak

The rapid maturation of digital platform markets in Southeast Asia has coincided with intensified regulatory development across the region. While existing platform research emphasizes network effects and governance design, limited attention has been given to how regulatory systems actively structure ecosystem configuration. This article develops a mechanism-based framework explaining how regulatory architectures shape digital platform ecosystems in emerging economies. Rather than conceptualizing regulation as an external constraint, the study reframes it as an institutional infrastructure that organizes market participation, redistributes governance control, and reconfigures complementarities among interdependent actors. The framework identifies four architectural dimensions—entry structures, data governance boundaries, interoperability standards, and enforcement intensity—and specifies five structuring mechanisms through which they influence ecosystem outcomes. These mechanisms explain variations in ecosystem concentration, value capture distribution, cross-border scalability, and innovation directionality. By integrating institutional theory, ecosystem strategy, and nonmarket strategy perspectives, the article advances a structurally grounded understanding of how markets are organized in digitally mediated environments. The analysis offers theoretical contributions to institutional and platform scholarship while outlining managerial and policy implications for emerging digital economies navigating regulatory consolidation.

Keywords

regulatory architecture; digital platform ecosystems; market structuring; institutional theory; ecosystem governance; emerging digital economies; asean digital economy

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1. Introduction

Digital platform ecosystems in Southeast Asia have entered a phase of structural recalibration. After a decade characterized by rapid expansion, aggressive subsidy strategies, and ecosystem consolidation, the institutional environment surrounding digital firms has intensified. Regulatory agencies across ASEAN have moved from experimental sandbox approaches toward more formalized licensing regimes, data governance enforcement, interoperability mandates, and supervisory oversight. This transition signals more than regulatory maturation; it represents a shift in the architecture of market governance.

While prior research on digital platforms emphasizes network effects, winner-take-all dynamics, and multi-sided market strategies (Eisenmann et al., 2006; Boudreau, 2010), less attention has been devoted to how regulatory systems actively structure platform ecosystems. Institutional theory suggests that organizations operate within rule systems that shape behavior through coercive, normative, and cognitive pressures (Scott, 2014). Yet in emerging digital economies, regulation does not merely constrain firms—it configures entry conditions, redistributes control, reshapes complementarities, and redefines legitimacy thresholds.

This article advances the argument that regulatory architectures function as market-structuring mechanisms within digital platform ecosystems. Rather than treating regulation as an exogenous constraint, we conceptualize it as an institutional infrastructure that actively organizes competition, orchestrates interdependencies, and alters value capture logic. In line with the regulatory capitalism perspective, the diffusion of regulatory regimes represents a transformation in how markets are governed and reproduced (Levi-Faur, 2005). Consequently, digital markets should be understood not as spontaneous arenas driven solely by technological innovation, but as institutional fields structured through layered regulatory design.

Platform ecosystem scholarship provides a complementary lens. Ecosystems are structured arrangements of interdependent actors coordinated around a focal platform (Adner, 2017; Jacobides et al., 2018). Governance choices—such as openness versus control, access rules, and standards—determine how value is created and captured (Tiwana, 2014). However, these governance configurations do not emerge in isolation. They are shaped by institutional pressures and regulatory interventions that alter the boundaries of permissible strategy. When data localization mandates, tiered licensing, or interoperability standards are introduced, the structural properties of the ecosystem change: some actors gain advantage, others face barriers, and new forms of coordination become necessary.

Existing literature rarely integrates institutional theory with ecosystem strategy to explain how regulatory architectures shape market structure in emerging economies. Studies of institutional environments often emphasize legitimacy and conformity (Scott, 2014), while platform research foregrounds innovation and competition (Jacobides et al., 2018). What remains underdeveloped is a mechanism-based explanation of how regulatory design reshapes ecosystem configuration, strategic positioning, and inter-firm power dynamics.

To address this gap, the present study develops a conceptual framework linking regulatory architectures to market-structuring mechanisms and ecosystem outcomes. Drawing from institutional theory (Scott, 2014), institutional work (Lawrence & Suddaby, 2006; Gawer & Phillips, 2013), regulatory capitalism (Levi-Faur, 2005), and ecosystem strategy (Adner, 2017; Jacobides et al., 2018), we propose that regulatory systems operate through distinct mechanisms: re-segmentation of markets, reallocation of control, reconfiguration of complementarities, legitimacy production, and institutional work dynamics. These mechanisms collectively determine ecosystem concentration, value capture distribution, cross-border scalability, and innovation directionality.

By situating ASEAN digital platforms within this integrated theoretical lens, this article contributes to three streams of scholarship. First, it extends institutional theory by reconceptualizing regulation as architecture rather than pressure. Second, it enriches ecosystem research by embedding governance decisions within institutional structures. Third, it advances nonmarket strategy literature by illustrating how market and regulatory strategies become structurally intertwined (Baron, 1995).

Understanding regulatory architectures as market-structuring devices is particularly salient in emerging digital economies, where institutional frameworks are evolving in parallel with platform growth. The ASEAN region provides a theoretically fertile context because regulatory experimentation, cross-border coordination, and platform expansion occur simultaneously, generating variation in institutional configurations and strategic responses.

The remainder of this article proceeds as follows. Section 2 develops the theoretical foundations underpinning the conceptual model. Section 3 presents the proposed framework and articulates key mechanisms linking regulatory architectures to ecosystem outcomes. Section 4 outlines methodological pathways for empirical examination. Section 5 discusses theoretical and managerial implications, followed by concluding remarks.

2. Theoretical Foundations

Understanding how regulatory systems shape digital platform ecosystems requires theoretical integration. Existing scholarship tends to isolate regulation within institutional theory and competition within platform strategy research. However, emerging digital markets—particularly in Southeast Asia—demonstrate that regulatory design and ecosystem configuration co-evolve. This section develops the conceptual foundations for linking regulatory architectures to market structuring mechanisms.

We begin by clarifying the notion of regulatory architectures as institutional infrastructures. We then define market structuring as a performative process through which rules, standards, and governance arrangements configure competition. Next, we situate digital platforms within ecosystem theory. Finally, we integrate institutional work and nonmarket strategy to explain how actors actively shape regulatory fields.

2.1 Regulatory Architectures as Institutional Infrastructures

Regulation is often conceptualized as an external constraint imposed upon firms. However, institutional theory suggests that rules, norms, and cognitive frames constitute the very structure within which organizations operate (Scott, 2014). Institutions provide stability and meaning, but they also define boundaries of legitimate action. In digital markets, regulatory systems extend beyond formal laws to include licensing regimes, supervisory technologies, compliance protocols, and enforcement logics.

Recent scholarship on regulatory capitalism argues that contemporary markets are increasingly organized through complex regulatory regimes rather than direct state ownership or laissez-faire competition (Levi-Faur, 2005). Regulation diffuses globally, but it adapts locally, generating hybrid governance structures. In emerging digital economies, this diffusion often produces layered regulatory systems—combining sandbox experimentation, risk-based supervision, interoperability mandates, and data governance standards.

Rather than viewing regulation as episodic intervention, we conceptualize regulatory architectures as structured configurations of institutional devices that organize market participation. These architectures typically include:

1) entry and licensing thresholds,
2) operational standards and interoperability rules,
3) data governance and reporting requirements, and

4) enforcement intensity and supervisory capacity.

This architectural perspective shifts the analytical focus from compliance costs to structural consequences. Regulatory systems define who may participate, under what conditions, and with what degree of strategic discretion. They therefore shape not only firm behavior but also ecosystem topology.

2.2 Market Structuring as a Performative Process

If regulatory architectures provide institutional scaffolding, how do they influence market structure? Market studies literature offers an important insight: markets are not natural arenas of exchange but are continuously produced and reproduced through practices, devices, and standards (Kjellberg & Helgesson, 2006). Rules, classifications, metrics, and infrastructures participate in the construction of markets.

From this perspective, regulation is performative—it actively configures the conditions under which exchange occurs. Licensing regimes segment participants into categories. Interoperability mandates redefine switching costs. Data localization policies reshape infrastructural boundaries. These interventions do not simply constrain strategy; they reorganize competitive relations.

Market structuring, therefore, refers to the process through which institutional arrangements reorganize competitive segmentation, alter interdependencies, and redefine value capture possibilities. This approach resonates with strategic management scholarship emphasizing that industry structure is partially shaped by nonmarket forces (Baron, 1995). Regulatory architectures influence entry barriers, bargaining power, and differentiation opportunities, thereby shaping competitive dynamics at the ecosystem level.

By integrating market practice theory with institutional analysis, we treat regulation as a structural device that reconfigures ecosystem interactions rather than as an external shock.

2.3 Platform Ecosystems as Structured Interdependence

Digital platforms operate within ecosystems characterized by interdependent actors coordinated around a focal orchestrator (Adner, 2017; Jacobides et al., 2018). Ecosystems differ from traditional supply chains because complementarities are non-hierarchical and value creation depends on aligned participation across multiple sides.

Adner (2017) conceptualizes ecosystems as structural arrangements defined by actors, activities, positions, and links. This structural view moves beyond metaphor and enables analytical mapping of how changes in one component affect the whole configuration. Similarly, Jacobides et al. (2018) argue that ecosystems emerge when complementarities are non-generic and coordination is required across independent actors.

Governance choices within ecosystems—such as openness versus control, modular versus integrated architectures, and rules governing access—shape value creation and capture (Tiwana, 2014; Boudreau, 2010). Platforms strategically calibrate access to developers, merchants, or service providers depending on innovation incentives and risk exposure.

However, governance decisions are not purely endogenous. Regulatory architectures condition the feasible set of governance choices. For example, stricter supervisory requirements may incentivize tighter control over complementors. Interoperability mandates may reduce lock-in strategies and increase multi-homing. Thus, ecosystem governance and regulatory design are structurally intertwined.

Understanding this interdependence is essential for explaining how market structure evolves in digitally mediated industries.

2.4 Institutional Work and the Agency of Platform Actors

While institutional theory emphasizes structural pressures, more recent research highlights the agency of actors engaged in shaping institutions (Lawrence & Suddaby, 2006). Institutional work refers to purposive actions aimed at creating, maintaining, or disrupting institutions. Firms, regulators, and professional communities participate in such work.

Gawer and Phillips (2013) demonstrate how platform leaders engage in institutional work to shift industry logics and legitimize new business models. This insight is particularly relevant in digital ecosystems where regulatory fields are fluid. Platforms do not merely adapt; they interact with regulators, participate in consultations, redefine standards, and reshape expectations.

In emerging digital economies, institutional work often unfolds in parallel with ecosystem development. Regulatory sandboxes, consultation processes, and cross-border coordination forums create arenas where platform actors influence rule formation. Consequently, regulatory architectures are co-produced rather than unilaterally imposed.

This co-evolution perspective prevents deterministic interpretations of regulation. Instead, it highlights dynamic interaction between field-level institutions and firm-level strategy.

2.5 Integrated Market and Nonmarket Strategy

The intersection between regulation and competition has long been addressed within nonmarket strategy literature. Baron (1995) argues that firms operate simultaneously in market and nonmarket environments. Integrated strategy requires aligning competitive positioning with regulatory engagement.

In digital ecosystems, this integration becomes structural. Compliance capabilities influence ecosystem trust. Regulatory legitimacy affects partnership formation. Supervisory alignment determines scalability across jurisdictions. Thus, nonmarket strategy is not peripheral—it shapes the architecture of ecosystem governance.

By situating regulatory architectures within integrated strategy, we move beyond the binary view of regulation as cost versus innovation. Instead, regulation becomes a strategic variable influencing ecosystem configuration and long-term competitive advantage.

Taken together, these theoretical lenses provide the foundation for a mechanism-based explanation of market structuring in ASEAN digital platform ecosystems. Regulatory architectures constitute institutional infrastructures. Through performative mechanisms, they reorganize competitive segmentation, governance control, complementarities, and legitimacy dynamics. Platform actors engage in institutional work within these evolving fields, while integrated market–nonmarket strategies determine how effectively firms navigate regulatory complexity.

3. Conceptual Framework

Building on the theoretical foundations, this section develops a mechanism-based framework explaining how regulatory architectures shape digital platform ecosystems. Rather than treating regulation as a contextual variable, we conceptualize it as an architectural configuration that operates through identifiable structuring mechanisms. These mechanisms alter ecosystem topology, governance distribution, and competitive outcomes.

The framework proceeds in three layers:

1) **Regulatory Architectures (R)** – institutional design elements.
2) **Market Structuring Mechanisms (M)** – processes through which architecture reorganizes interaction.

3) **Ecosystem Outcomes (O)** – structural consequences at the field level.

This layered approach avoids conflating institutional conditions with strategic effects and enables analytical precision.

A structured visualization is necessary to clarify the layered logic of the framework. The model articulates how regulatory design elements operate through mediating mechanisms to shape ecosystem-level outcomes. Presenting this architecture explicitly strengthens analytical transparency and prevents conflation between institutional conditions and structural consequences.

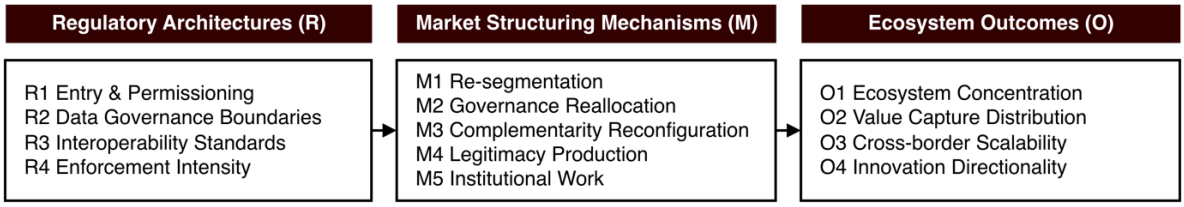

Figure 1. Layered Framework of Regulatory Architectures and Ecosystem Structuring
Source: Developed by the authors

The framework articulated in Figure 1 clarifies the article's core analytical architecture. Regulatory design elements (R) do not directly generate ecosystem outcomes; instead, they operate through identifiable structuring mechanisms (M) that reorganize competitive segmentation, governance control, complementarities, legitimacy dynamics, and institutional work. By separating institutional architecture from mediating processes and field-level consequences, Figure 1 reinforces the mechanism-based logic underpinning the theoretical contribution and prevents conflation between regulatory conditions and ecosystem structure.

3.1 Regulatory Architectures: Structural Design Elements

Regulatory architectures refer to structured configurations of institutional devices that define participation, coordination, and enforcement conditions within digital markets. Drawing from institutional theory (Scott, 2014) and regulatory capitalism (Levi-Faur, 2005), we identify four analytically distinct dimensions.

The table below consolidates the four dimensions of regulatory architecture into analytically precise constructs and clarifies how each can be operationalized in empirical research. By aligning conceptual definition, institutional devices, structural consequences, and observable indicators, the table prevents construct slippage and supports mechanism-based empirical design.

Table 1. Dimensions of Regulatory Architecture: Conceptual Clarification and Operationalization

Dimension	Conceptual Definition	Core Institutional Devices	Structural Consequence at Ecosystem Level
R1 Entry and Permissioning Structures	The degree to which regulatory design stratifies market access through differentiated licensing tiers and participation thresholds.	Tiered licenses; capital requirements; sandbox participation; activity-based permissions; scope limitations.	Competitive re-segmentation; stratified legitimacy; tier-based rivalry; concentration around high-compliance actors.
R2 Data Governance and Infrastructural Boundaries	The extent to which regulatory rules define data location, transferability, auditability, and	Data localization mandates; reporting obligations; consent frameworks; audit	Governance centralization incentives; constrained modularity; increased coordination risk across complementors.

Dimension	Conceptual Definition	Core Institutional Devices	Structural Consequence at Ecosystem Level
	access conditions within the ecosystem.	trails; cross-border transfer rules.	
R3 Standards and Interoperability Mandates	The degree to which regulators impose standardized interfaces or cross-platform compatibility requirements.	Mandatory APIs; shared identity systems; open banking protocols; interoperability directives; technical standard-setting.	Reconfiguration of complementarities; reduced lock-in; increased multi-homing; redistribution of bargaining power.
R4 Enforcement Intensity and Supervisory Technology	The rigor and technological sophistication of monitoring, auditing, and sanctioning mechanisms embedded in regulatory architecture.	Risk-based supervision; automated reporting systems; real-time monitoring; penalty gradation; audit frequency.	Incentives for governance centralization; compliance-driven innovation; increased barriers to low-capability entrants.

Source: Developed by the authors

Table 1 anchors the conceptual architecture in precise construct definitions and separates institutional design from strategic response. By aligning each regulatory dimension with identifiable devices and observable indicators, Table 1 supports empirical testing of the proposed mechanisms and reduces the risk of conceptual inflation or tautological inference. It clarifies that regulatory architecture refers strictly to institutional design features, while structural consequences and indicators are analytically distinct outcomes and measurements.

R1. Entry and Permissioning Structures

Licensing regimes, capital requirements, tiered permissions, and operational thresholds define who may enter and at what scale. Such arrangements segment actors into categories (e.g., full license, restricted license, sandbox participant), thereby pre-structuring competitive tiers.

Institutional theory suggests that entry barriers produce stratified legitimacy (Scott, 2014). Actors possessing higher regulatory status gain symbolic authority and ecosystem trust.

R2. Data Governance and Infrastructural Boundaries

Data localization mandates, consent requirements, audit trails, and reporting obligations define infrastructural boundaries of digital ecosystems. These mechanisms determine where data reside, how it may be transferred, and which actors access it.

Rather than purely technical compliance requirements, these policies reshape ecosystem modularity. Data constraints affect platform integration strategies and complementor access conditions.

R3. Standards and Interoperability Mandates

Interoperability requirements, standardized APIs, shared identity infrastructures, and cross-platform protocols alter coordination logic across actors. Market studies literature emphasizes that standards are performative devices that structure exchange (Kjellberg & Helgesson, 2006).

Mandated interoperability reduces exclusive lock-in potential and redefines switching costs. It can expand ecosystem boundaries while simultaneously intensifying competitive differentiation on service quality rather than access control.

R4. Enforcement Intensity and Supervisory Technology

Regulatory architectures differ in supervisory rigor. Risk-based supervision, automated reporting systems, real-time monitoring requirements, and graduated penalties alter governance incentives.

Enforcement intensity influences the strategic calculus of platform openness. Higher monitoring costs increase incentives for centralized control and risk containment, shaping ecosystem governance (Baron, 1995).

3.2 Market Structuring Mechanisms

Regulatory architectures do not directly determine outcomes. Instead, they operate through identifiable mechanisms that reorganize ecosystem relations. Drawing from ecosystem theory (Adner, 2017; Jacobides et al., 2018), institutional work (Lawrence & Suddaby, 2006), and platform governance research (Tiwana, 2014), we specify five mechanisms.

The theoretical contribution of the article rests not only on identifying regulatory dimensions but on specifying the mechanisms through which institutional architecture restructures ecosystems. To enhance analytical precision, the following table systematizes the five market-structuring mechanisms, clarifies their internal logic, and differentiates their structural effects at the ecosystem level.

Table 2. Market Structuring Mechanisms and Their Ecosystem-Level Effects

Mechanism	Core Institutional Trigger	Structural Process at Ecosystem Level	Primary Level of Operation	Observable Ecosystem Reconfiguration
M1 Re-segmentation of Competitive Space	Stratified entry regimes (R1)	Reclassification of actors into regulatory tiers; restructuring of rivalry patterns	Field-level competitive structure	Tier-based competition; concentration around licensed incumbents; reduced lateral rivalry
M2 Reallocation of Governance Control	Data governance constraints (R2) and enforcement intensity (R4)	Shift from distributed to centralized coordination to reduce compliance risk	Platform governance architecture	Increased platform oversight; tighter complementor access; internalization of high-risk functions
M3 Reconfiguration of Complementarities	Interoperability mandates (R3)	Reduction of exclusivity; transformation of dependency asymmetries	Inter-firm relational structure	Higher multi-homing rates; reduced switching costs; redistribution of bargaining power
M4 Legitimacy Production and Trust Recalibration	Formal licensing and regulatory recognition (R1)	Symbolic and institutional differentiation among actors	Institutional field dynamics	Compliance capability as competitive asset; partner alignment around legitimate orchestrators

Mechanism	Core Institutional Trigger	Structural Process at Ecosystem Level	Primary Level of Operation	Observable Ecosystem Reconfiguration
M5 Institutional Work and Field Reconfiguration	Ongoing regulatory consultation and standards evolution	Strategic engagement to stabilize or reshape regulatory interpretation	Actor-field interaction level	Standard-setting influence; reinforcement of governance models aligned with dominant actors

Source: Developed by the authors

Table 2 clarifies that market structuring in digital ecosystems does not occur automatically as a direct function of regulatory design. Instead, it unfolds through distinct mechanisms operating at different analytical levels—field structure, governance architecture, inter-firm relations, institutional legitimacy, and actor-driven institutional work. By differentiating triggers, processes, and observable reconfigurations, Table 2 strengthens the mechanism-based explanation advanced in the article and prevents conflation between institutional architecture and ecosystem outcomes. A more granular mapping is required to clarify how specific regulatory dimensions activate distinct structuring mechanisms. Rather than implying a diffuse or uniform effect, this visual isolates patterned linkages between architectural elements and mediating processes. The mapping strengthens analytical precision by distinguishing differentiated causal pathways within the framework.

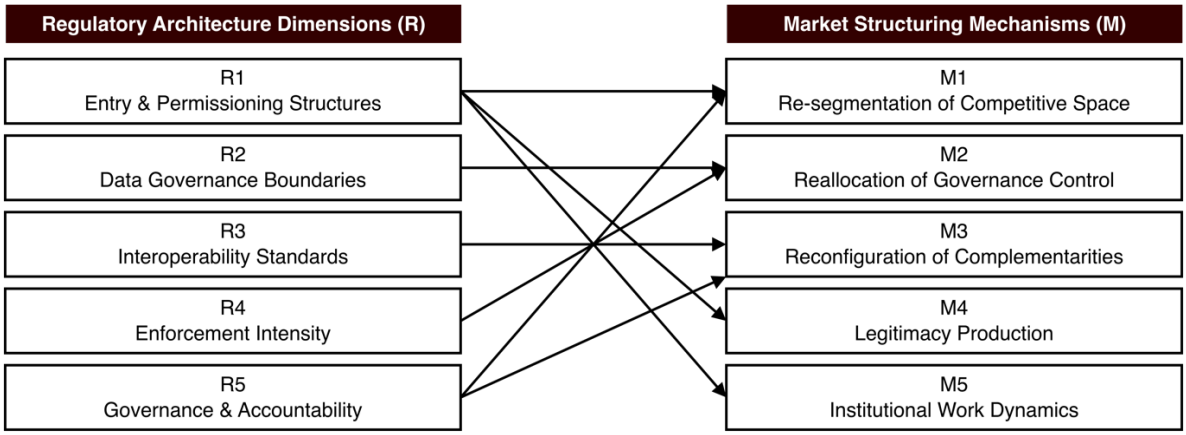

Figure 2. Mapping Regulatory Architecture Dimensions to Market Structuring Mechanisms
Source: Developed by the authors

As illustrated in Figure 2, regulatory architectures do not exert uniform effects across the ecosystem. Entry and permissioning structures activate both competitive re-segmentation and legitimacy production, while data governance boundaries and enforcement intensity jointly influence governance centralization. Interoperability standards specifically reshape complementarities, and institutional work dynamics emerge from strategic positioning within stratified regulatory fields. By disaggregating architectural dimensions and linking them to distinct mediating mechanisms, Figure 2 sharpens the causal logic of the framework and reinforces the mechanism-based contribution of the study.

M1. Re-segmentation of Competitive Space

Entry rules and licensing tiers divide markets into stratified segments. Some actors gain nationwide or cross-border operating rights, while others are confined to limited scopes.

This segmentation restructures rivalry patterns. Competition shifts from horizontal peer rivalry to vertical tier competition. Regulatory status becomes a positional asset.

Proposition 1:
The greater the stratification embedded in entry and permissioning structures (R1), the greater the segmentation of competitive tiers within the platform ecosystem.

M2. Reallocation of Governance Control

Data governance requirements and enforcement intensity affect the balance between openness and control. Platforms operating under stricter compliance regimes face higher coordination risk and therefore may centralize governance (Boudreau, 2010; Tiwana, 2014).

Conversely, more flexible architectures may permit distributed innovation models.

Proposition 2:
Stricter data governance (R2) and higher enforcement intensity (R4) increase the likelihood of centralized ecosystem governance structures.

M3. Reconfiguration of Complementarities

Interoperability mandates alter complementor dependency structures. When exclusive access is reduced, complementarities become less proprietary and more contestable (Adner, 2017).

This shifts bargaining power within the ecosystem and can lower switching barriers.

Proposition 3:
The introduction of interoperability standards (R3) reduces complementor dependency asymmetry and redistributes value capture within the ecosystem.

M4. Legitimacy Production and Trust Recalibration

Institutional legitimacy is a resource (Scott, 2014). Regulatory compliance signals reliability to partners and users. In tightly supervised environments, compliance capability becomes a differentiating asset rather than merely a cost center.

This mechanism reframes compliance from constraint to strategic infrastructure.

Proposition 4:
Higher regulatory legitimacy embedded in formal licensing structures (R1) enhances ecosystem trust, increasing partner alignment and reinforcing platform centrality.

M5. Institutional Work and Field Reconfiguration

Regulatory architectures are not static. Platform leaders engage in institutional work to shape interpretations, influence standards, and align field-level norms (Lawrence & Suddaby, 2006; Gawer & Phillips, 2013).

Through participation in consultations, standard-setting bodies, and cross-border coordination forums, dominant platforms may shape how architectures evolve.

Proposition 5:
Platform actors possessing central ecosystem positions are more likely to engage in institutional work that stabilizes regulatory architectures in ways aligned with their governance model.

3.3 Ecosystem Outcomes

The interaction of these mechanisms produces structural consequences observable at the ecosystem level.

O1. Ecosystem Concentration vs. Fragmentation

When regulatory stratification favors actors capable of absorbing compliance costs, ecosystems may consolidate around well-capitalized orchestrators (Jacobides et al., 2018). Conversely, interoperable architectures may enable niche specialization.

Proposition 6:
Highly stratified regulatory architectures increase ecosystem concentration around actors with superior compliance capabilities.

O2. Redistribution of Value Capture

Governance centralization and reconfigured complementarities alter surplus distribution. Control over data access and compliance infrastructure becomes a value capture lever (Tiwana, 2014).

O3. Cross-Border Scalability

Harmonized regulatory architectures across jurisdictions reduce institutional friction and facilitate regional scaling. Fragmented regimes increase adaptation costs.

Proposition 7:
Greater alignment of regulatory architectures across jurisdictions enhances cross-border ecosystem scalability.

O4. Directionality of Innovation

Under stricter supervision, innovation may shift toward risk-mitigating services rather than boundary-expanding experimentation. Institutional constraints channel innovation trajectories.

Proposition 8:
Increased enforcement intensity redirects innovation from expansive ecosystem experimentation toward compliance-enhancing and risk-reduction solutions.

3.4 Integrative Summary of the Framework

The proposed framework conceptualizes regulatory architectures as institutional infrastructures that operate through five structuring mechanisms: re-segmentation, governance reallocation, complementarity reconfiguration, legitimacy production, and institutional work dynamics. These mechanisms collectively determine ecosystem concentration, value capture patterns, scalability, and innovation direction.

This mechanism-based approach extends ecosystem scholarship by embedding governance decisions within institutional architectures. It also reframes regulatory environments as endogenous components of competitive strategy.

The following section outlines methodological pathways for empirically examining these propositions within ASEAN digital platform ecosystems.

4. Methodological Pathways

Developing a mechanism-based explanation of regulatory architectures and market structuring requires methodological approaches capable of capturing structural variation, institutional dynamics, and ecosystem configuration. The conceptual framework articulated earlier lends itself to multi-level empirical strategies that examine regulatory design at the field level, governance choices at the firm level, and structural outcomes at the ecosystem level. Methodological alignment is therefore essential to avoid reductionism—either collapsing institutional complexity into firm-level compliance or abstracting away strategic agency.

4.1 Research Design and Level of Analysis

A comparative, multi-case research design is particularly suited to examining regulatory architectures in emerging digital economies. Ecosystem structures are field-level

phenomena (Adner, 2017; Jacobides et al., 2018), while regulatory architectures operate at the institutional level (Scott, 2014). Capturing variation across jurisdictions enables the identification of how differences in entry thresholds, data governance regimes, interoperability mandates, and enforcement intensity shape ecosystem configuration.

Cross-national comparison within ASEAN provides natural variation in regulatory alignment and supervisory approaches. Such variation allows for analytical generalization rather than statistical generalization. The unit of analysis should therefore be defined at multiple levels: regulatory field, focal platform ecosystem, and complementor network. This layered design ensures that structural mechanisms are observable rather than inferred indirectly.

Where feasible, longitudinal case analysis would enhance explanatory depth. Regulatory architectures evolve incrementally through consultation rounds, supervisory refinements, and cross-border harmonization efforts. Observing ecosystem configuration before and after regulatory shifts would allow examination of the proposed structuring mechanisms—particularly re-segmentation, governance reallocation, and complementarity reconfiguration.

4.2 Case Selection Logic

The selection of cases should follow theoretical replication logic rather than convenience sampling. Cases should vary meaningfully along the dimensions of regulatory architecture identified earlier. For example, jurisdictions with tiered licensing regimes can be compared to those with unified licensing structures. Markets with mandated interoperability standards can be contrasted with those relying on voluntary coordination. Similarly, variation in data localization requirements provides an opportunity to observe differences in infrastructural boundaries and governance centralization.

Within each jurisdiction, focal platforms should be selected based on ecosystem centrality and degree of regulatory exposure. Platforms that serve as orchestrators—coordinating multiple complementor groups—offer greater visibility into how governance reconfiguration unfolds. Complementor interviews and archival data can provide insight into dependency shifts and value capture redistribution.

This selection logic aligns with ecosystem theory's emphasis on structural configuration rather than isolated firm performance (Adner, 2017). It also reflects institutional research traditions that treat regulatory fields as analytically bounded arenas (Scott, 2014).

4.3 Data Sources and Collection Strategies

Empirical examination of regulatory architectures requires diverse data sources that capture both formal rule design and practical implementation. Archival regulatory documents, licensing guidelines, consultation papers, supervisory frameworks, and enforcement notices provide insight into architectural design. These documents reveal how entry thresholds, reporting requirements, and interoperability mandates are codified.

Firm-level data can be collected through semi-structured interviews with executives responsible for compliance, ecosystem governance, partnerships, and strategy. Such interviews enable tracing of governance adjustments following regulatory change. Interview protocols should explore how data governance requirements influence platform openness, how interoperability mandates affect partner management, and how enforcement intensity alters risk management practices.

Complementor perspectives are equally critical. Interviews with third-party developers, merchants, or service providers can illuminate shifts in dependency structures and bargaining power. Archival materials such as developer policies, API documentation changes, and partnership agreements can provide additional evidence of governance reallocation.

Where available, secondary datasets—such as market concentration metrics, ecosystem participation rates, and partnership networks—can support triangulation. The objective is not merely to describe regulatory change but to trace mechanisms linking architecture to structural outcome.

4.4 Analytical Strategy

Given the multi-level nature of the framework, qualitative comparative analysis and process tracing are appropriate analytical approaches. Process tracing enables identification of causal sequences linking regulatory shifts to governance reconfiguration and ecosystem outcomes. For instance, a change in data localization rules can be followed by adjustments in platform architecture, subsequent changes in complementor access, and eventual shifts in ecosystem concentration.

Qualitative comparative analysis can further identify patterns across cases, distinguishing configurations of regulatory elements associated with centralized versus distributed ecosystems. Such configurational approaches are consistent with ecosystem scholarship, which emphasizes structural interdependence rather than linear causality (Jacobides et al., 2018).

Coding procedures should differentiate clearly between regulatory design elements (R), observed structuring mechanisms (M), and ecosystem outcomes (O). Maintaining conceptual separation during analysis reduces the risk of tautological inference. For example, ecosystem concentration must be measured independently of regulatory stratification rather than inferred from it.

4.5 Ensuring Theoretical Rigor

To preserve conceptual precision, construct definitions must remain stable throughout analysis. Regulatory architecture should refer exclusively to institutional design features, not firm responses. Market structuring mechanisms should capture observable processes rather than assumed intentions. Ecosystem outcomes should reflect structural properties such as concentration, complementor diversity, governance centralization, and cross-border scalability.

Triangulation across documentary evidence, interviews, and observable ecosystem metrics enhances validity. Reflexivity is particularly important when interviewing regulatory actors or platform executives whose narratives may rationalize strategic decisions. Cross-validation with documentary evidence mitigates retrospective bias.

Finally, analytical generalization should be framed in terms of mechanisms rather than universal laws. The goal is to refine understanding of how regulatory architectures operate under specific institutional conditions, thereby contributing to institutional theory, ecosystem strategy, and nonmarket strategy scholarship.

5. Discussion

The analysis developed in this article challenges a persistent assumption in digital platform research: that competitive outcomes in platform ecosystems are primarily driven by technological architecture and network effects. While such mechanisms remain central (Eisenmann et al., 2006; Boudreau, 2010), the conceptual framework advanced here suggests that regulatory architectures operate as foundational structuring forces that condition ecosystem topology, governance choices, and value distribution. This reframing carries important implications for institutional theory, ecosystem scholarship, and strategic management.

5.1 Reframing Regulation: From Constraint to Architecture

Institutional theory traditionally emphasizes regulatory pressure as a source of conformity and legitimacy (Scott, 2014). Organizations adapt to rules to maintain stability and social acceptance. However, treating regulation solely as pressure underestimates its structural role in shaping markets. By conceptualizing regulatory systems as architectures, this study extends institutional theory beyond isomorphic adaptation toward structural configuration.

Regulatory capitalism literature has argued that contemporary markets are increasingly organized through dense regulatory regimes rather than deregulated competition (Levi-Faur, 2005). The present framework aligns with this perspective but advances it further by specifying mechanisms through which regulatory design reorganizes ecosystem structure. Entry thresholds, interoperability mandates, and data governance rules do not merely limit behavior—they segment participants, alter switching costs, and redefine complementarities.

This interpretation resonates with market practice scholarship, which views markets as continuously performed through rules and devices (Kjellberg & Helgesson, 2006). Regulatory mandates function as performative instruments that "make" certain versions of markets possible while constraining others. In this sense, digital ecosystems in emerging economies are co-constructed by regulatory architecture and strategic orchestration.

Rather than contradicting institutional theory, this perspective deepens it. Institutions do not simply constrain; they organize. The architectural view therefore shifts the analytical lens from compliance reactions to structural consequences.

5.2 Ecosystem Governance Under Institutional Conditioning

Platform ecosystem research emphasizes governance choices—openness versus control, modularity versus integration—as determinants of value capture and innovation (Tiwana, 2014; Jacobides et al., 2018). These choices are often framed as strategic trade-offs internal to the platform firm. However, the framework developed here suggests that governance configurations are institutionally conditioned.

Stricter data governance regimes and enforcement intensity increase coordination risk and compliance exposure. Under such conditions, centralized governance becomes strategically rational, as it reduces uncertainty and limits regulatory liability (Boudreau, 2010). Conversely, more flexible regulatory environments may enable distributed innovation models with greater openness.

This interpretation does not deny the agency of platform leaders. Rather, it situates governance decisions within institutional boundaries. Adner's (2017) structural view of ecosystems emphasizes that ecosystem configuration is a matter of alignment across interdependent actors. Regulatory architectures alter the parameters of alignment, thereby reshaping ecosystem structure.

The implication is significant: ecosystem governance cannot be analyzed independently of regulatory design. In emerging digital economies, governance choices are partially endogenous to institutional architectures. This insight integrates institutional theory and ecosystem strategy in a way that existing literature rarely achieves.

5.3 Institutional Work and Co-Evolution

One potential critique of architectural framing is that it risks institutional determinism. However, institutional work theory reminds us that actors actively participate in shaping regulatory fields (Lawrence & Suddaby, 2006). Platform leaders engage in consultation processes, propose technical standards, and influence interpretations of regulatory requirements. Gawer and Phillips (2013) demonstrate how platform firms can reshape industry logics through strategic institutional engagement.

The interaction between regulatory architectures and platform governance is therefore co-evolutionary rather than unilateral. Regulatory systems stabilize expectations, yet they remain open to reinterpretation and adjustment. Platforms occupying central ecosystem positions possess greater resources to engage in institutional work, potentially reinforcing architectures that favor their governance models.

This dynamic complicates simplistic narratives of regulatory constraint. Institutional architectures are shaped through negotiation, adaptation, and power asymmetries. The ecosystem-level outcomes observed—concentration, fragmentation, or innovation directionality—reflect this interplay.

5.4 Market Structuring and Competitive Stratification

Strategic management literature has long recognized that nonmarket forces shape competitive structure (Baron, 1995). The framework proposed here clarifies how this occurs in digital ecosystems. Tiered licensing regimes, for example, stratify actors into hierarchies of legitimacy and capability. Actors capable of absorbing compliance costs gain structural advantages, potentially leading to ecosystem concentration.

This outcome aligns with ecosystem theory's emphasis on positional advantage within interdependent networks (Jacobides et al., 2018). When regulatory architectures raise entry barriers, complementors may cluster around dominant orchestrators with recognized legitimacy. Conversely, mandated interoperability may reduce lock-in and foster multi-homing, increasing ecosystem fragmentation.

Importantly, these structural effects are not purely financial. They influence governance complexity, innovation pathways, and strategic alliances. By specifying mechanisms such as re-segmentation and complementarity reconfiguration, the framework moves beyond generalized claims about regulatory impact toward analytically grounded explanations.

5.5 Innovation Directionality Under Supervision

Digital platform research frequently celebrates boundary-expanding innovation. Yet increased enforcement intensity and supervisory technology can redirect innovation trajectories toward risk mitigation and compliance enhancement. This does not necessarily suppress innovation; rather, it channels it.

A configurational comparison is needed to show how different mixes of regulatory architecture produce distinct ecosystem structures. Contrasting archetypal pathways avoids overgeneralization by making clear that concentration, fragmentation, and innovation directionality depend on specific architectural combinations rather than on "regulation" in the abstract.

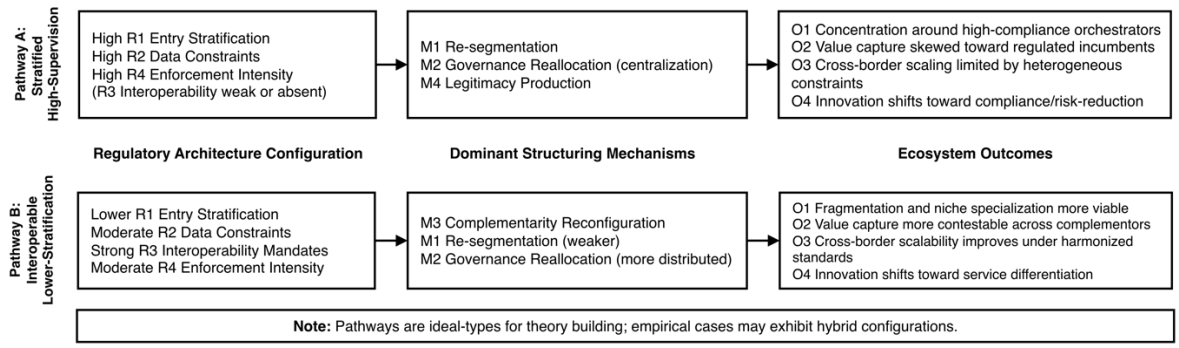

Figure 3. Configurational Pathways Linking Regulatory Architectures to Ecosystem Outcomes
Source: Developed by the authors

Figure 3 reorients the analysis toward configuration-sensitive explanations by contrasting two ideal-type pathways. In the stratified, high-supervision pathway, stringent entry design

and enforcement intensify re-segmentation, legitimacy-based differentiation, and governance centralization, which jointly increase concentration and redirect innovation toward compliance infrastructure. In the interoperable, lower-stratification pathway, mandated standards and reduced entry segmentation make complementarities more contestable, support more distributed governance, and increase the feasibility of niche specialization and cross-border scaling when architectures are aligned. By making these contrasts explicit, Figure 3 supports the article's mechanism-based claim that regulatory architectures structure ecosystems through patterned combinations rather than through uniform "regulatory pressure."

Institutional environments shape organizational attention and resource allocation (Scott, 2014). When regulatory scrutiny intensifies, platforms may invest in fraud detection systems, compliance automation, and governance monitoring tools. Such innovation enhances institutional trust but may reduce experimentation in peripheral domains.

This observation complements but also nuances platform scholarship. Innovation in regulated ecosystems may be more disciplined and infrastructure-oriented rather than expansionary. The strategic question shifts from "how to scale rapidly" to "how to scale responsibly under institutional oversight."

5.6 Theoretical Contributions

The arguments advanced in this discussion yield three core theoretical contributions.

First, the study extends institutional theory by conceptualizing regulatory systems as architectural infrastructures rather than external pressures (Scott, 2014). This shift clarifies how institutions structure ecosystem topology.

Second, it embeds ecosystem governance within institutional design, addressing a blind spot in ecosystem scholarship that often treats governance as internally determined (Adner, 2017; Jacobides et al., 2018).

Third, it advances nonmarket strategy research by illustrating how regulatory engagement and competitive positioning are structurally intertwined in digital economies (Baron, 1995).

Together, these contributions support a more integrated understanding of how emerging digital markets are organized.

6. Managerial and Policy Implications

The conceptualization of regulatory architectures as market-structuring infrastructures carries implications that extend beyond theoretical refinement. If regulation actively shapes ecosystem topology, governance distribution, and innovation trajectories, then strategic decision-making within digital platform ecosystems must incorporate institutional design as a core variable rather than a peripheral constraint.

6.1 Managerial Implications: Strategy Under Regulatory Architecture

The first managerial implication concerns the repositioning of compliance capabilities. Institutional theory emphasizes legitimacy as a prerequisite for sustained operation (Scott, 2014). In regulated digital ecosystems, legitimacy is not symbolic—it is infrastructural. Platforms that internalize regulatory alignment as a strategic capability rather than a reactive cost center are structurally advantaged. Compliance architecture, supervisory interface management, and auditability systems become integral to ecosystem orchestration.

This reframing aligns with integrated market–nonmarket strategy logic (Baron, 1995). Competitive positioning cannot be separated from regulatory engagement. Platforms that treat nonmarket interaction—consultations, standards participation, supervisory dialogue—

as strategic arenas are more likely to stabilize governance models consistent with their ecosystem design.

Second, governance configuration must be recalibrated in light of regulatory intensity. Stricter data governance regimes and supervisory technologies increase coordination risks across complementors. Under such conditions, selective openness becomes strategically rational. Platform leaders may centralize high-risk functions while modularizing lower-risk innovation domains (Tiwana, 2014; Boudreau, 2010). The managerial challenge lies in designing governance structures that balance institutional reliability with ecosystem dynamism.

Third, interoperability mandates require strategic repositioning away from exclusive lock-in strategies toward differentiation through service quality, trust, and integration depth. Ecosystem theory suggests that competitive advantage within structured interdependence depends on positional alignment and bottleneck control (Adner, 2017; Jacobides et al., 2018). When regulatory architectures weaken exclusivity, competitive advantage shifts toward orchestration capability and relational governance.

Fourth, regional scalability requires institutional mapping. Regulatory alignment across jurisdictions determines expansion friction. Platforms operating in multi-country ASEAN contexts must treat regulatory heterogeneity as a structural variable influencing resource allocation, partnership configuration, and data architecture design. Regulatory architecture becomes part of internationalization strategy.

Collectively, these implications suggest that digital platform leadership in emerging economies requires institutional literacy. Strategy formulation must incorporate architectural awareness of entry regimes, interoperability standards, data boundaries, and enforcement intensity.

6.2 Policy Implications: Designing Architectures That Structure Markets Responsibly

For policymakers, recognizing the market-structuring consequences of regulatory design is equally critical. Regulatory capitalism literature underscores that modern markets are shaped through institutional regimes (Levi-Faur, 2005). However, architectural choices have distributive and structural effects.

Tiered licensing regimes may enhance stability but risk concentrating ecosystem power among actors with superior compliance capacity. Interoperability mandates may enhance inclusivity but reduce incentives for proprietary infrastructure investment. Data localization may strengthen sovereignty objectives yet fragment ecosystem integration.

Institutional theory highlights that rules produce patterned behavior (Scott, 2014). Policymakers should therefore evaluate not only risk mitigation outcomes but also ecosystem topology effects. Regulatory experimentation mechanisms—such as sandboxes—should be designed to minimize unintended stratification while preserving oversight.

Moreover, supervisory technologies can influence innovation directionality. Excessive enforcement intensity may channel innovation toward defensive compliance rather than productive expansion. Balanced architectures should encourage responsible experimentation while maintaining systemic integrity.

In emerging digital economies, regulatory harmonization across jurisdictions may enhance cross-border ecosystem development. Alignment reduces institutional friction and enables regional competitive positioning. Fragmented regulatory architectures, by contrast, may inadvertently create localized silos.

The policy challenge is not deregulation but architectural calibration—designing rule systems that structure markets toward inclusivity, resilience, and innovation without entrenching dominance.

6.3 Future Research Agenda

The framework developed in this article opens multiple avenues for empirical and theoretical advancement.

First, comparative empirical research is needed to test how variations in regulatory architecture influence ecosystem concentration and value capture distribution. Configurational approaches may identify combinations of entry stratification and interoperability mandates associated with either centralized or distributed ecosystem structures (Jacobides et al., 2018).

Second, future research could examine institutional work dynamics in regulatory co-evolution. How do dominant platform actors shape interpretive frames during consultation processes? Under what conditions does institutional work reinforce or destabilize architectural arrangements? Institutional work theory provides a foundation for examining such agency-driven dynamics (Lawrence & Suddaby, 2006; Gawer & Phillips, 2013).

Third, innovation directionality under supervision warrants deeper exploration. Research could investigate whether increased enforcement intensity consistently shifts innovation toward compliance-enhancing domains or whether platforms develop hybrid innovation models that reconcile risk mitigation and experimentation.

Fourth, cross-border ecosystem scalability in regionally integrated contexts offers fertile ground for investigation. Scholars may examine how regulatory harmonization interacts with ecosystem modularity and complementor diversity. Adner's (2017) structural framework provides tools for mapping such cross-jurisdictional interdependencies.

Fifth, quantitative studies could operationalize regulatory architecture dimensions—entry thresholds, reporting frequency, enforcement intensity—and test their association with ecosystem metrics such as complementor diversity, governance centralization, and market concentration.

Finally, future research may explore boundary conditions. Do regulatory architectures exert stronger structuring effects in early-stage ecosystems than in mature ones? Does firm size moderate the relationship between compliance capability and ecosystem centrality? Such questions would refine the generalizability of the framework.

Digital platform ecosystems in emerging economies cannot be understood solely through the lens of technological innovation or network externalities. Regulatory architectures function as institutional infrastructures that organize participation, reallocate governance control, and reshape value distribution. Strategy and regulation are not separate domains; they are structurally intertwined.

By integrating institutional theory, ecosystem strategy, and nonmarket strategy, this article provides a mechanism-based account of how markets are structured in digitally mediated environments. The challenge ahead lies in empirically examining these dynamics and refining the theoretical model to capture the evolving interplay between institutional design and platform governance.

7. Conclusion

This article advances a mechanism-based understanding of how regulatory architectures shape digital platform ecosystems in emerging economies. Rather than treating regulation as an external constraint, the analysis reframes it as an institutional infrastructure that structures participation, redistributes governance authority, and reorganizes value capture dynamics. Through entry regimes, data governance boundaries, interoperability mandates, and enforcement intensity, regulatory architectures configure the competitive terrain upon which platforms operate.

By specifying the mechanisms of re-segmentation, governance reallocation, complementarity reconfiguration, legitimacy production, and institutional work, the study clarifies how institutional design translates into ecosystem outcomes. Concentration or fragmentation, centralized or distributed governance, scalable integration or localized constraint, and expansionary or compliance-oriented innovation are not accidental by-products of digital growth. They are structurally conditioned by regulatory architecture.

The analysis also underscores the co-evolutionary relationship between platform strategy and institutional design. Platform actors do not merely adapt to regulatory fields; they participate in shaping them. At the same time, regulatory systems redefine the boundaries within which governance choices are viable. Strategy and regulation thus become mutually constitutive elements of ecosystem development.

For emerging digital economies, this perspective is particularly salient. As regulatory frameworks mature in parallel with platform expansion, institutional design becomes a primary determinant of market structure. The future of digital ecosystems will depend not only on technological advancement or capital accumulation, but on how regulatory architectures are calibrated to balance stability, inclusivity, innovation, and competitive plurality.

Understanding markets as architected rather than spontaneous provides a more nuanced lens for analyzing digital transformation. In digitally mediated industries, institutions do not stand outside the market—they participate in its construction. The challenge for both scholars and practitioners is to recognize and engage with this structural reality.

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