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# Platform Economy, Data Asset Valuation, and Risk Governance: A Framework for Analysis and Response

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## ABSTRACT

The platform economy has positioned data as a critical production factor, yet data asset valuation faces systemic risks that remain inadequately governed. This paper develops an integrated framework addressing three questions: What distinctive risks characterize platform-based data valuation? How do these risks originate? How can an effective governance framework respond? The coupling of platform characteristics—network effects, multi-sided markets, data-driven operations—with data asset features—non-rivalry, value uncertainty, property ambiguity—generates a distinctive risk spectrum across the valuation process. These risks stem from interacting technological, economic, and institutional factors that reinforce one another. Drawing on collaborative governance theory, we propose a multi-actor framework engaging government, platforms, users, and third parties in differentiated but coordinated roles. Game-theoretic analysis reveals that incentive-compatible mechanisms are essential for aligning private interests with public goals. The framework integrates risk diagnosis with governance response, offering theoretical contributions and practical implications for stakeholders navigating data-driven value creation.

## KEYWORDS

Platform economy; Data asset valuation; Risk governance; Collaborative governance; Data risks

## 1. INTRODUCTION

The digital economy has positioned data as a critical factor of production, fundamentally reshaping business models. Platform economies—characterized by network effects, multi-sided markets, and data-driven operations—have emerged as the dominant organizational form for data asset valuation (Roitman et al., 2025). As platforms amass user data and transform them into valuable assets through internal utilization, external transactions, and financialization, data asset valuation has become central to contemporary capitalist accumulation (Alexander, 2025).

However, the pathway from raw data to realized value is fraught with systemic risks. High-profile incidents—privacy breaches, algorithmic discrimination, data monopolization, valuation bubbles—expose vulnerabilities in platform-based data valuation. These risks threaten individual rights, undermine sustainable digital development, and challenge regulatory frameworks. The economic stakes are substantial: Sun et al. (2024) demonstrate through a large-scale field experiment that disabling personalized recommendations reduces transaction values by 86%, with disproportionate impacts on small merchants and new customers—revealing both data's immense value and the high stakes of its governance.

Existing literature addresses various dimensions of these challenges. Scholars have examined data as a market signal, explored regulatory ambiguities surrounding user-data as assets, analyzed constraints on data's value-driving role, modeled evolutionary dynamics between platform development and government supervision, and investigated how platforms "mystify" the relationship between user-

data and AI outputs to realize financial value (Alexander, 2025). Yet these contributions remain fragmented across disciplinary boundaries. What is lacking is an integrated analytical framework that systematically connects the identification of distinctive risks arising from platform-based data valuation with a coherent response framework addressing their underlying causes.

This paper addresses this gap by asking three interconnected questions: (1) What systemic risks characterize data asset valuation in the platform economy? (2) How do these risks originate from technological, economic, and institutional interplay? (3) How can an effective response framework govern these risks? By answering these questions, the paper develops an integrated framework bridging risk diagnosis and governance response, offering theoretical contributions to understanding platform-based data valuation and practical implications for policymakers, platform operators, and users.

The paper proceeds as follows. Section 2 identifies the distinctive risk spectrum of data asset valuation. Section 3 develops a multi-level analytical framework uncovering root causes. Section 4 proposes a collaborative governance framework for risk response. Section 5 concludes with theoretical contributions, practical implications, and future research directions.

# 2. RISK IDENTIFICATION: THE DISTINCTIVE RISK SPECTRUM

## 2.1. The Coupling of Platform Characteristics and Data Asset Features

Platform economies exhibit three defining features that shape data valuation processes. First, network effects create self-reinforcing dynamics that can amplify both positive outcomes and negative externalities. Second, multi-sided markets involve platforms mediating interactions between distinct user groups, where data flows create complex risk transmission mechanisms. Third, data-driven operations position data as the core input for algorithmic decision-making and competitive advantage (Roitman et al., 2025).

Data assets possess unique features distinguishing them from traditional assets: non-rivalry (multiple simultaneous use without depletion), value uncertainty (context-dependent value difficult to determine ex ante), reusability (application across multiple use cases), and property ambiguity (contested legal status of ownership and control).

The coupling of platform characteristics and data asset features generates distinctive risk configurations. Network effects magnify data-related risks across user bases at unprecedented speed and scale. Multi-sided market structures create transmission channels where risks originating on one side cascade to others. The inherent ambiguities of data assets—compounded by platforms' strategic exploitation of these ambiguities—create fertile ground for novel forms of value extraction that evade regulatory scrutiny (Alexander, 2025).

## 2.2. A Process-Based Risk Taxonomy

Collection Stage Risks. Platforms face excessive collection risks, gathering data beyond necessary purposes through opaque terms of service. This connects to informed consent failures, as users frequently consent without genuine understanding. The foundational risk is privacy leakage, where personal information becomes exposed through inadequate security or intentional sharing with third parties.

Processing and Analysis Stage Risks. Algorithmic opacity creates black-box problems where decision-making becomes inscrutable. This opacity enables algorithmic discrimination and bias, where data-driven decisions systematically disadvantage certain user groups. Security vulnerabilities at the processing stage can expose massive datasets to breaches.

Application and Transaction Stage Risks. For internal applications, decision-making errors arise from flawed data or misinterpretation. For external transactions, pricing risks emerge from the fundamental difficulty of valuing data assets without standardized methodologies. Compliance risks intensify as data transactions cross jurisdictional boundaries. The economic significance is stark: Sun et al. (2024) find that disabling personalized recommendations reduces e-commerce transaction values by 86%, demonstrating the immense value—and corresponding risk concentration—at the application stage.

Value Realization Stage Risks. Data monopolization occurs when platforms leverage accumulated data advantages to entrench market power, creating barriers to entry and "winner-takes-all" market structures. Valuation bubble risks emerge when speculative expectations drive inflated valuations disconnected from fundamentals. Most distinctively, platforms engage in user "securitization"—treating users and their data as assets packaged, leveraged, and traded in financial markets through processes of "mystification" that obscure connections between user-data and AI products marketed to investors (Alexander, 2025).

### 2.3. A Synthetic Risk Map

Integrating these process-based risks yields a comprehensive risk map organized along two dimensions: risk nature (technical, economic, social, regulatory) and risk source (internal operations, external environment). This map reveals three critical insights. First, risks are interconnected—technical failures can trigger regulatory interventions affecting economic valuations. Second, many risks are endogenous to platform business models, suggesting the need for structural rather than merely corrective responses. Third, the most distinctive risks arise precisely at the intersection of platform characteristics and data asset features, requiring analytical frameworks that capture these interactions.

## 3. ROOT CAUSE ANALYSIS: A MULTI-LEVEL ANALYTICAL FRAMEWORK

### 3.1. Technological Roots

Three interconnected factors drive technological risk generation. First, algorithmic incompleteness and bias are inherent in AI systems learning from historical data that may encode social inequalities. Second, the "value-neutrality" myth in technology design obscures how design choices embed particular values—privacy, fairness, and transparency become secondary to commercial optimization. Third, asymmetric evolution between security and attack technologies creates persistent vulnerabilities, compounded by the scale of platform data operations where minor gaps expose millions.

### 3.2. Economic Roots

Valuation difficulties arise because data lacks stable characteristics of traditional assets—its value is context-dependent, decays over time, and is difficult to verify independently. Sun et al. (2024) provide compelling evidence of this context-dependency: user data generates vastly different economic returns depending on whether platforms deploy it for personalization. The finding that small merchants and new customers suffer most when personalization is removed reveals how information asymmetries between established platforms and new entrants compound over time, reinforcing monopolistic tendencies.

Network effects generate natural monopolization tendencies, concentrating data resources in few hands and amplifying dominant platforms' social power while reducing competitive constraints. Information asymmetries pervade platform-user relationships, enabling adverse selection (users

cannot distinguish protective from exploitative platforms) and moral hazard (platforms have limited incentives for care once data is collected).

### 3.3. Institutional Roots

Data property ambiguity remains unresolved across jurisdictions. Unlike physical property with clear ownership rules, data's legal status is contested. Reimers and Guo (2024) demonstrate how institutional design can reconcile privacy protection and competition policy through ownership-based approaches making platform data saleable—yet implementation challenges persist.

Regulatory lag characterizes most jurisdictions, where rule-making struggles to keep pace with technological innovation. By the time regulations are formulated, platform practices have evolved. Krämer and Shekhar (2025) analyze how different regulatory approaches—data sharing versus data siloing—affect innovation and welfare, finding that optimal policy requires careful calibration rather than one-size-fits-all mandates.

Platform power without accountability creates governance gaps. As platforms accumulate infrastructural and informational power over users, merchants, and public discourse, traditional accountability mechanisms prove inadequate. Alexander (2025) documents how platforms exploit institutional ambiguities to avoid accountability while realizing financial value through "mystified assets."

### 3.4. An Integrated Framework: Technology-Economy-Institution Interactions

These root causes interact in mutually reinforcing ways. Technology-economy interactions: technological capabilities enable new economic extraction forms, while economic incentives shape technology development priorities. Economy-institution interactions: economic concentration creates political power shaping institutional development, while institutional rules structure economic opportunities. Technology-institution interactions: technological change outpaces institutional adaptation, while institutional frameworks shape technology trajectories.

At the triple interaction, the most intractable risks emerge: technological capabilities enable data collection at scale, economic incentives drive monetization, and institutional ambiguities are strategically exploited to avoid accountability. This multi-level framework reveals that effective risk response cannot focus on any single dimension but must address interconnected drivers simultaneously.

## 4. RISK RESPONSE: A COLLABORATIVE GOVERNANCE FRAMEWORK

### 4.1. The Logic of Collaborative Governance

Effective risk response requires engaging multiple actors in coordinated action. Governance objectives center on balancing innovation and regulation, efficiency and fairness, security and development. Three principles guide this framework: dynamic adaptation to evolving conditions, multi-actor participation recognizing no single entity possesses complete control, and prevention-oriented design embedding risk considerations from the outset.

As Nabben (2025) argues, data possesses no inherent value; value emerges through socio-technical practices and relational exchanges that must be governed through participatory mechanisms.

### 4.2. Multi-Actor Roles and Strategies

Government-Level Strategies. Government provides institutional infrastructure by clarifying data property rights and establishing legal frameworks enabling market transactions while protecting

legitimate interests. Regulatory innovation is critical—adopting agile governance, regulatory sandboxes, and algorithmic filing requirements to address opacity. Krämer and Shekhar (2025) demonstrate that data sharing policies (without mandated silos) optimally balance innovation and competition, while poorly calibrated regulations may inadvertently entrench incumbents—as Sun et al. (2024) show regarding heterogeneous impacts on small versus large merchants.

Platform-Level Strategies. Platforms bear direct responsibility for integrating risk management into operations. This requires internal governance mechanisms—data ethics committees, chief data security officers, algorithmic accountability frameworks—and process-embedded risk management throughout the data lifecycle: minimum necessary collection, regular algorithmic audits, security testing, and clear policies with user recourse.

User and Societal Strategies. Users contribute when properly empowered through digital literacy and enforceable rights—access, correction, deletion, and crucially, data portability—reducing lock-in and enhancing competition. Innovative governance models expand participation. Nabben's (2025) study of the Superset ecosystem illustrates a "middle-out" approach combining market incentives, a data trust regulatory framework, and member-driven enforcement, integrating data contributors into governance processes.

### 4.3. Dynamic Interactions: A Game-Theoretic Perspective

Strategic interaction among users, platforms, and government shapes outcomes. Each actor's choices can produce either "race to the bottom" equilibria (weak enforcement, eroded trust) or "virtuous cycle" equilibria (credible enforcement incentivizing platform investment, user confidence). Xiao et al. (2025) model data transaction compliance through a collaborative co-governance approach, demonstrating that buyer accurate feedback can promote compliance while reducing platform and government regulatory burdens. The implication is clear: mechanisms must be incentive-compatible, aligning private interests with public goals through credible sanctions and recognition for compliant actors.

## 5. CONCLUSION AND FUTURE PROSPECTS

### 5.1. Summary of Findings

This paper has developed an integrated analytical framework for understanding and responding to data asset valuation risks in the platform economy.

First, regarding risk identification, the coupling of platform characteristics (network effects, multi-sided markets, data-driven operations) with data asset features (non-rivalry, value uncertainty, property ambiguity) generates a distinctive risk spectrum across the valuation process—from collection-stage privacy risks through processing-stage algorithmic discrimination to value realization-stage monopolization and user "securitization." These risks are interconnected and often endogenous to platform business models.

Second, regarding root causes, risks emerge from dynamic interaction of technological factors (algorithmic incompleteness, security asymmetries), economic factors (valuation difficulties, network-driven monopolization, information asymmetries), and institutional factors (property ambiguity, regulatory lag, platform power without accountability). Sun et al. (2024) empirically demonstrate how information asymmetries compound over time, while Alexander (2025) reveals how institutional ambiguities are strategically exploited for value extraction.

Third, regarding response, effective governance requires a collaborative framework engaging government, platforms, users, and third parties in differentiated but coordinated roles. Government provides institutional infrastructure and regulatory innovation calibrated to heterogeneous impacts

(Krämer & Shekhar, 2025). Platforms embed risk management throughout operations. Users exercise empowered rights and participate in innovative governance models such as data trusts (Nabben, 2025). Game-theoretic analysis reveals that incentive-compatible mechanisms—where buyer feedback promotes compliance (Xiao et al., 2025)—are essential for aligning private interests with public goals and shifting dynamics toward virtuous equilibria.

### 5.2. Limitations and Future Research

This study has limitations suggesting future directions. First, the framework requires empirical validation through case studies or quantitative testing of its propositions—for instance, examining how platforms implement risk governance mechanisms and with what effects.

Second, significant variation exists between transactional, social media, and service platforms. Comparative studies examining how risk configurations and governance needs differ across platform categories would enable more tailored recommendations.

Third, rapid AI evolution—particularly generative AI—introduces new dimensions to data valuation and associated risks that this framework captures only partially. Emerging issues around synthetic data and model collapse warrant dedicated investigation.

Finally, governance mechanisms operate within national contexts, but data flows are increasingly transnational. Future work should examine how collaborative governance can function across borders, addressing jurisdictional conflicts and enabling international cooperation in risk response.

### 5.3. Concluding Remarks

As data continues its ascent as a critical economic resource and platform organizations extend their reach across economic and social life, the stakes of effective risk governance grow ever higher. The framework developed here suggests that success requires moving beyond reactive, single-actor, or single-instrument approaches toward proactive, multi-actor, and multi-level governance architectures. By integrating risk identification, root cause analysis, and collaborative response, this paper provides a foundation for such architectures and a roadmap for their continued development. The challenge ahead is translating these analytical insights into institutional designs and practical actions that enable the sustainable realization of data's value while safeguarding against its systemic risks.

## REFERENCES


[1] Alexander, A. W. (2025). Data and AI mystification: Ownership, control, and financialization in the platform. Big Data & Society, 12(3). https://doi.org/10.1177/20539517251355617.

[2] Krämer, J., & Shekhar, S. (2025). Regulating digital platform ecosystems through data sharing and data siloing: Consequences for innovation and welfare. MIS Quarterly, 49(1), 123-154.

[3] Nabben, K. (2025). Value from data? A decentralized approach. Platforms & Society, 2. https://doi.org/10.1177/29768624251358645.

[4] Roitman, J., Moon, A., & Lin, L. (2025). Digital platform economies: Value from data? Platforms & Society, 2. https://doi.org/10.1177/29768624251358643.

[5] Sun, T., Yuan, Z., Li, C., Zhang, K., & Xu, J. (2024). The value of personal data in internet commerce: A high-stakes field experiment on data regulation policy. Management Science, 70(4), 2645-2660.

[6] Xiao, F., Sun, X., Shen, J., & Yi, W. (2025). Research on data transaction compliance: A collaborative and co-governance approach considering buyer erroneous feedback. Plos one, 20(10), e0335037.