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Digital Economy Reconstruction: Public-Cooperative Partnership Model in Online Transportation Sector Under Article 33, 1945 Constitution

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Abstract: Platform capitalism practices in Indonesia's digital transportation sector trigger structural market failures and systemic labor precarity, violating the economic democracy mandate of Article 33 of the 1945 Constitution. This study analyzes the Public-Cooperative Partnership (PCP) model as a novel constitutional reconstruction framework to reclaim digital sovereignty. Employing a normative-qualitative approach through constitutional hermeneutics and socio-technical transition perspectives, this research proposes a radical structural decoupling of platform architecture. Under this model, the state controls the core digital infrastructure layer (APIs, cloud networks, and payment gateways) as a digital public utility, while independent worker-owned cooperatives autonomously govern daily service delivery. Empirical validation from the JakLingko initiative confirms that public digital integration interfaces are institutionally feasible within the domestic landscape. By extracting JakLingko's unified clearing capabilities without replicating its regional fiscal deficits, the PCP model provides an original legal-economic pathway to eliminate extractive algorithmic rents (15–25%), guarantee subsidy transparency via digital ledgers, and systematically embed micro-enterprise logistics. This study concludes that the PCP model serves as a definitive constitutional blueprint to align digital innovation with equitable macroeconomic efficiency and democratic wealth distribution.

Keywords: Platform Capitalism, Economic Democracy, Constitutional Hermeneutics, Public Digital Infrastructure, Public-Cooperative Partnership.

INTRODUCTION

The digital transformation in the global transportation sector creates a fundamental paradox between technological efficiency and economic justice. The global existence of platform capitalism has sparked a critical academic debate regarding data extractivism and algorithmic hegemony, prompting various transnational counter-movements. Globally, resistance toward the monopolistic nature of app-based transportation (ride-hailing) giants has manifested in the emergence of platform cooperativism, which attempts to re-center digital economy ownership around workers and users (Scholz, 2016). In Barcelona, municipal backing enabled the growth of cooperative digital ecosystems like Mensakas to challenge food-delivery monopolies through the institutionalization of fair labor standards (Fuster Morell & Espelt,

2022). Similarly, in New York, the driver-owned Drivers Cooperative proved that worker-centric digital architectures can achieve operational viability while mitigating labor exploitation (Pentzien, 2021).

However, the regulatory frameworks designed to curb platform capitalism across different jurisdictions have yielded highly polarized outcomes. In Western Europe, regulatory interventions have primarily relied on top-down legal mandates, such as the European Union's Platform Work Directive, focusing on reclassifying gig workers as formal employees (Prassl, 2021). While legally robust, this defensive approach often triggers aggressive corporate lobbying, algorithmic obfuscation, and capital flight, thereby failing to alter the underlying extractive infrastructure of digital monopolies (Murillo et al., 2021). Conversely, a more developmental, state-driven approach can be observed in India's Open Network for Digital Commerce (ONDC), which unbundles the digital value chain to enable interoperability among small vendors (Van Alstyne & Schmedders, 2023). Nevertheless, market-driven interventions like ONDC harbor systemic flaws due to their free-market nature, leaving them highly vulnerable to co-optation by large tech conglomerates that quickly capture control of open protocols and perpetuate new power asymmetries (Singh & Vipra, 2025).

In Southeast Asia, the structural failures of market-reliant regulatory interventions are equally mirrored within Malaysia's industrial dynamics. Malaysia's macro transportation and app-based parcel or food delivery (parcel-hailing) sectors are heavily dominated by transnational corporations like Grab, triggering parallel concerns regarding work precarity and the externalization of social risks (Katta et al., 2024). Malaysia's regulatory response, driven by guidelines from the Malaysia Digital Economy Corporation (MDEC) and various digital funding schemes, has proven ineffective, as it focuses exclusively on upgrading the digital capacities (up-skilling) of gig workers rather than restructuring platform ownership (Murillo et al., 2021). Consequently, these policies remain confined within free-market capitalist boundaries that sustain corporate unilateral algorithmic control, underscoring that regulatory reforms without structural redistribution of digital infrastructure ownership fail to resolve systemic market failures (Srnicek, 2017).

In the Indonesian context, this universal tension manifests through a stark clash between the dominant operational mechanisms of capitalist ride-hailing and constitutional economic principles. Platforms such as Gojek and Grab have revolutionized urban mobility, yet their digital governance models raise critical ambiguities regarding economic sovereignty, value distribution, and compliance with the mandate of Article 33 of the 1945 Constitution (Aziz et al., 2025). This sector, governing the livelihoods of millions of driver-partners, is controlled by private corporate entities with dominant foreign ownership structures, triggering capital outflow and the loss of national data sovereignty (Kenney & Zysman, 2023). As extractive intermediaries, platform corporations exploit data through systematic algorithmic mediation; furthermore, when ride-hailing dominance operates without oversight, it generates chronic information asymmetries that culminate in structural market failures (Srnicek, 2017). Conversely, driver-partners are classified as "independent contractors" to evade statutory social security obligations while operationally facing strict subordination under algorithmic control (Alkhatib et al., 2023a; Riemer & Peter, 2021).

Such exploitative conditions fundamentally contradict the principles of economic democracy mandated by Article 33 of the 1945 Constitution. In response to this persistent work precarity, studies demonstrate that online motorcycle-taxi drivers are compelled to develop spatial adaptation strategies by consolidating physical base camps to circumvent algorithmic bias, alongside establishing grassroots, self-reliant social safety nets (Frey, 2020). Beyond spatial adaptations, gig workers consolidate collective resistance strategies ranging from covert infrapolitical actions to mass strikes against algorithmic gamification control (Novianto, 2025). Although the government has signaled a regulatory pivot through the recently announced policy direction for the forthcoming Presidential Regulation (Perpres) on the Protection of Digital

Platform Driver Partners, as articulated in the latest presidential address, this anticipated framework still operates within the defensive regulatory paradigm of platform capitalism. Based on its conceptual trajectory, it fails to address the root issue of monopolistic digital architecture ownership (Solechan et al., 2026)

This regulatory and operational dichotomy reveals a critical theoretical and empirical gap within the scientific literature. Existing global models either rely on micro-level cooperative initiatives that struggle with financial scalability (Pentzien, 2021) or depend on macro-level anti-trust regulations that fail to displace the extractive infrastructure of digital platforms (Prassl, 2021). There is a profound scarcity of structural solutions that systematically marry the active role of the State as a public sector provider with Cooperatives as the representation of the people's economic entity. Through a constitutional hermeneutics approach tailored for the digital economy, Article 33 of the 1945 Constitution offers a novel theoretical framework by asserting that data and digital infrastructure constitute vital branches of production that must be controlled by the state to guarantee distributive justice (Pulungan et al., 2021). Concurrently, cooperatives are positioned as the primary vehicle for organizing economic activities based on the family principle (Rizaldi, 2022; Sukardi et al., 2024). The logical justification for state intervention in infrastructure reconfiguration is further strengthened by the socio-technical transitions theory, wherein market failures within a capitalistic digital *regime* can be deconstructed through public-sector interventions at a niche level that achieve sustainable adoption, as empirically validated by the success of the JakLingko initiative in Jakarta (Truffer et al., 2024).

This study addresses the literature gap by proposing a Public-Cooperative Partnership (PCP) model, anchored in the constitutional reconstruction of Article 33 of the 1945 Indonesian Constitution. By decoupling the digital infrastructure layer (state-managed as a public utility) from the service delivery layer (democratically managed by driver cooperatives), this transformative architecture theoretically and empirically transcends the limitations of Western defensive regulations, conglomerate-biased open-market interventions in India/Malaysia, and fragmented micro-scale platform cooperativism. The proposed PCP model stands as a direct, non-capitalistic antithesis to the conventional Public-Private Partnership model that inherently prioritizes private profit accumulation over public welfare. Through the dissection of its theoretical-constitutional foundations, operational mechanics, and tactical implementation strategies, this research contributes an original theoretical framework as well as a universal blueprint for developing nations striving to achieve digital sovereignty and economic democracy in the era of platform capitalism.

METHOD

This study applies a normative-qualitative legal research method with an interdisciplinary approach that systematically integrates constitutional hermeneutics and comparative policy analysis. Grounded in the normative legal methodology developed by Marzuki (2019) as well as Soekanto and Mamudji (2001), this study operationalizes three primary pillars: the statutory approach, the case approach, and the conceptual approach. These three approaches are critically synthesized to analyze the synchronization of legal norms and doctrines relevant to the constitutional economic landscape in Indonesia. This analytical step aligns with the theoretical frameworks of Baskoro (2025) and Hariri et al. (2025) in mapping the legal politics of the welfare state. To avoid generic normative descriptions and ensure replicable methodological transparency, the entire operational sequence of this research is designed through a coherent narrative flow. The first stage begins with the reconstruction of constitutional meaning through Hans-Georg Gadamer's philosophical hermeneutics to bridge the historical text of Article 33 of the 1945 Constitution with the contemporary realities of the digital platform economy. As emphasized by Ahmad and Kurnia (2024), this philosophical hermeneutics approach allows for a legal interpretation that does not merely rely on textual-grammatical aspects, but rather

uncovers the deep historical, philosophical, and contextual dimensions of constitutional norms to objectively respond to contemporary cyber socio-economic dynamics.

This constitutional hermeneutics process is executed rigidly through four continuous steps, beginning with the identification of the researcher’s *Vorhabe* (pre-understanding) regarding the existence of structural market failures caused by the algorithmic monopoly of private ride-hailing corporations. This phenomenon is theoretically mapped by Kuang (2025) and Ogunde (2024) as a form of algorithmic governance that represses the rights of platform workers. The research trajectory then moves toward the analysis of *Traditions* (textual historicity) by tracing the minutes of the 1945 meetings of the Investigating Committee for Preparatory Work for Independence (BPUPK) and the Preparatory Committee for Indonesian Independence (PPKI) (Sekretariat Negara Republik Indonesia, 1995). The investigation focuses on Mohammad Hatta’s conceptualization of the phrases "common endeavor" (*usaha bersama*) and the "family principle" (*asas kekeluargaan*) contained within the Original Text and Elucidation of Article 33 of the 1945 Constitution, the Fourth Amendment of the 1945 Constitution of the Republic of Indonesia, and the People's Consultative Assembly Decree No. XVI/MPR/1998 concerning Economic Politics in the Context of Economic Democracy. This analysis is reinforced by the arguments of Butt and Lindsey (2008) and Pratama (2018), which affirm that the jurisprudence of the Indonesian Constitutional Court consistently demands state control over vital branches of production through direct management to guarantee distributive justice, rather than passive market regulation. Through this dialogical process, a *Horizontverschmelzung* (fusion of horizons) is achieved to bring together the historical dimension of Article 33 with the cutting-edge reality of data sovereignty, cloud infrastructure, and commercial algorithms as modern branches of production. As analyzed by Atmaja and Erliyana (2024) and Tobing et al. (2025), this interpretive cycle culminates in a *Spirale Hermeneutika* (hermeneutic spiral) that extracts theoretical novelty, namely the assertion that the state bears a constitutional obligation to control the foundational digital infrastructure architecture to halt the practices of extractive platform capitalism.

This constitutional interpretive framework is then empirically reinforced and validated through the second stage, which entails a macro comparative policy analysis of regulatory documents from four jurisdictions representing three approach models of global digital economy governance. In this context, the analysis adopts the theses of Thelen (2018) as well as Muldoon and Sun (2024) regarding how political institutions and varieties of capitalism shape the ways states respond to global platform disruption. This cross-jurisdictional comparative analysis enables the identification of regulatory patterns, functional limitations, and best practices to expand the theoretical horizon beyond domestic jurisdictions by examining how international legal instruments respond to the dynamics of work precarity and data centralization by private platform capitalism. The institutional frameworks and specific legal documents of the compared nations are strictly detailed in Table 1 below:

Table 1. Specification of Cross-Jurisdictional Policy Documents and Regulations in the Comparative Analysis

Jurisdiction / Country	Policy & Regulatory Documents Analyzed	Digital Economy Approach Model
European Union	Proposal for a Directive of the European Parliament and of the Council on improving working conditions in platform work (2021/0414 COD).	Defensive-Formal Regulatory Model (Top-Down Employment Reclassification)
India	Open Network for Digital Commerce (ONDC) Strategy Paper (January 2022) by the Ministry of Commerce and Industry of India.	Open Digital Commerce Interoperability Model (Developmental State-Driven)
Malaysia	National E-Commerce Strategic Roadmap (NESR) 2.0 and MDEC Digital Gig Economy Framework (2021-2025).	Free-Market Capacity Enhancement Model (Market-Enhancement Gig Policy)

<p>Indonesia</p>	<p>Official Policy Declaration for the Forthcoming Presidential Regulation (Perpres) on the Protection of Digital Platform Driver Partners (2026 Executive Address Portfolio) on the Protection of Digital Platform Driver Partners; and JakLingko Jakarta Public Transportation Integration Blueprint (2020-2024).</p>	<p>Contemporary Sectoral Protection Regulatory Model & Public Transport Niche</p>
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The data obtained from the aforementioned cross-national policy documents are subsequently analyzed using the Qualitative Comparative Synthesis technique to map the functional limitations of each jurisdiction. This comparative qualitative approach allows for an in-depth analysis of the institutional, political, and socio-economic contexts that shape differing regulatory responses to platform economic phenomena across countries (De Blasio & Selva, 2019; Muldoon & Sun, 2024; Thelen, 2018). Deep criticism is directed at the European Union’s purely defensive policies, India’s ONDC model which remains vulnerable to co-optation by tech conglomerates due to its open-market nature (George & George, 2022; Sahu et al., 2025), and Malaysia’s MDEC policy framework which proves ineffective as it merely focuses on the digital up-skilling of workers without addressing the restructuring of platform ownership (Muldoon & Sun, 2024). In alignment with the findings of Niebler et al. (2023), ride-hailing platform regulations across various jurisdictions yield contradictory outcomes; despite aiming to protect workers, their implementation frequently results in "bogus employment" or pseudo-employment statuses that fail to provide substantive protections. All these functional limitations are then evaluated against the success criteria of Indonesia's constitutional economy and deconstructed through the lens of Socio-Technical Transitions Theory developed by Gomez-Morantes et al. (2021) and Emmanuel et al. (2023).

Through this socio-technical transitions perspective, the analysis is classified into three systemic levels using the Multi-Level Perspective (MLP) framework. First, the macro *landscape* level manifests as the global pressure of platform capitalism, as theoretically formulated by Srnicek (2017). Second, the meso *regime* level is characterized by the institutional dominance of monopsonistic ride-hailing corporations like Gojek and Grab, which has been longitudinally analyzed by Kenney and Zysman (2023). Third, the micro *niche* level encompasses the global initiatives of platform cooperativism (such as the *Drivers Cooperative* in New York and *Mensakas* in Barcelona) as well as domestic public integration initiatives (*JakLingko* in Jakarta). Drawing upon the insights of Verma et al. (2024), the socio-technical contestation among actors vying for the developmental direction of digital transportation is adopted to abstract the best elements from each jurisdiction—the strict labor rights protection of the European Union, the open protocol architecture of India’s ONDC, and the technical feasibility of transport integration from Indonesia’s *JakLingko*—which are then reassembled into the Public-Cooperative Partnership (PCP) model. The platform cooperativism model advanced by Schneider (2018) and Arcidiacono and Pais (2018) is integrated because it offers a democratic alternative to platform capitalism, emphasizing collective ownership, participatory governance, localism, worker autonomy, and highly competitive alternative financing strategies.

As a methodological conclusion, the architecture of this PCP model explicitly decouples the digital infrastructure layer (managed by the state as a public utility) at the *regime* level from the service delivery layer (democratically managed by driver cooperatives) at the *niche* level (Gomez-Morantes et al., 2021; Schneider, 2018). This architectural separation is empirically supported by Stocker and Takara (2019) as well as Cañada Mullor et al. (2024), who prove that decentralized cooperative models can achieve high responsiveness and superior working conditions in practice. This structural division allows the state to ensure universal access, interoperability, distributive justice, and the enforcement of platform sovereignty for the national interest, as advocated by Tobing et al. (2025). On the other hand, it grants full

autonomy to driver cooperatives in operational management, the mitigation of governance challenges, and the inclusive distribution of economic value, thereby neutralizing the institutional anxieties raised by Seo and Ammari (2025). The integration between the principle of state control over strategic infrastructure as mandated by Article 33 of the 1945 Constitution and the principle of collective democratic participation of worker cooperatives serves as the ultimate prerequisite for achieving an equitable digital economy governance framework (Atmaja & Erliyana, 2024; Christiaens, 2024).

RESULTS AND DISCUSSION

Constitutional Analysis: Article 33 of the 1945 Constitution and the Digital Economy

Within the purview of the digital economy, the application of constitutional hermeneutics to Article 33 of the 1945 Constitution demonstrates that state intervention must be transformative-structural rather than merely confined to cosmetic regulation over platform capitalism. The three core pillars of this article—the principle of mutual cooperation (*asas kekeluargaan*), state control over essential branches of production, and the utilization of resources for the greatest prosperity of the people—must be aggressively reinterpreted to dismantle the extractive mechanisms operating within the digital gig economy (Pulungan et al., 2021). This contextualization demands a systematic deconstruction of digital economic governance, which has historically positioned workers and small business enterprises merely as objects of value extraction by corporate cyber-giants through the lens of all-pervasive algorithmic management (Alkhatib et al., 2023a).

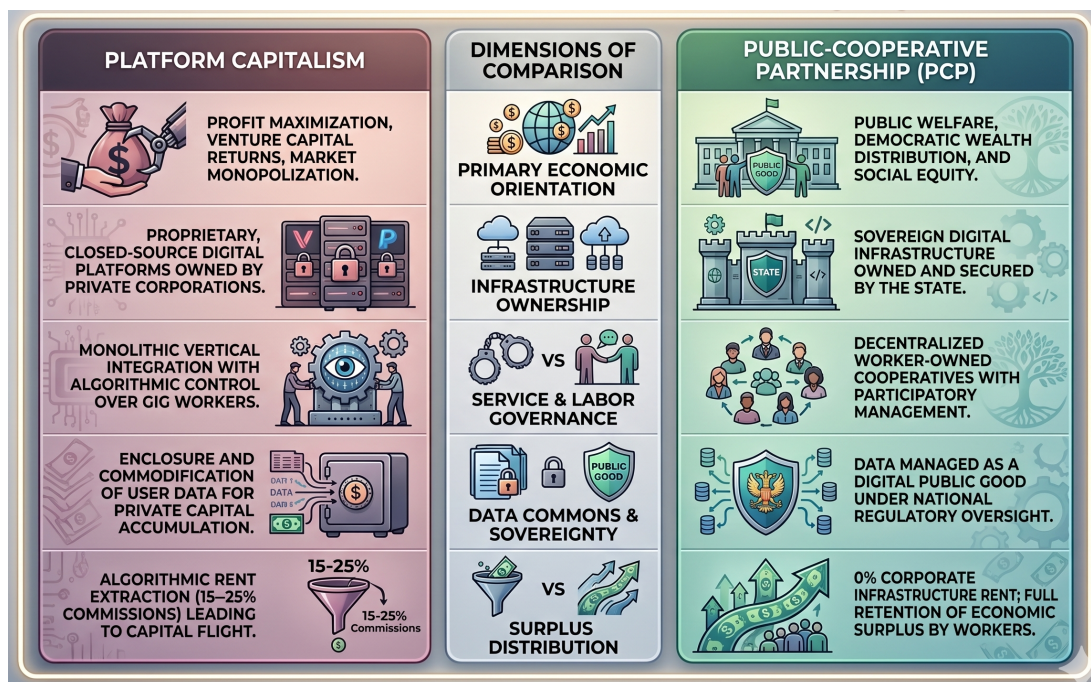
The principle of mutual cooperation within the national economy mandates an egalitarian governance model through the affirmation of collective decision-making and the equitable distribution of economic surpluses (Rizaldi, 2022). These cooperative values stand in stark contrast to the model of platform capitalism, wherein decision-making authority is centralized within a handful of private corporations that exploit information asymmetries to dominate both driver-partners and consumers. The implementation of a public-cooperative partnership model directly rectifies this distortion by positioning cooperatives as the primary vehicle for labor organization. Through the institutionalization of cooperatives, the value of economic democracy ceases to be mere political rhetoric and is instead operationally manifested within the circulation of digital capital (Pulungan et al., 2021).

Concurrently, the mandate of state control over branches of production that are vital to the state and affect the livelihood of the masses must be translated into an obligation for the state to control core digital infrastructure. Because online transportation platforms act as monopolistic digital gateways controlling market access for millions of citizens, this sector has inherently transformed into a vital branch of production regulating public welfare.

The fulfillment of this constitutional mandate is achieved not through the forced nationalization of existing private platforms, but through the state-led provision of a sovereign, non-profit public digital infrastructure (Tobing et al., 2025; Winarsasi et al., 2023). The development of this infrastructure breaks the extractive logic of exploiting informal labor that has long burdened motorcycle taxi drivers in major Indonesian urban centers (Frey, 2020).

Public sector control over this technological infrastructure ensures that data—as the primary instrument of economic power in the digital era—is managed as part of the digital commons. This pattern disrupts the reliance on the private property rights of foreign corporations that have historically exploited user data, a practice that ultimately culminates in capital accumulation and capital flight abroad (Plantin & De Seta, 2019). The political economy of unchecked platformization and datafication must be countered by state-driven protocols to secure national data architecture (Noak et al., 2024). Consequently, the public-cooperative partnership model offered in this study provides a precise legal-economic pathway to reclaim national data sovereignty while restoring the mandate of public prosperity outlined in the constitution. To provide a comprehensive conceptual framework for this paradigm shift, the

fundamental structural bifurcations between platform capitalism and the proposed public-cooperative model are grounded in the structural bifurcations delineated in Figure 1.



Source: Author’s design (2026)

Figure 1. Structural Comparison of Platform Capitalism and Public-Cooperative Partnership

Theoretical Justification of Layer Decoupling: Infrastructure as a Digital Public Good and Service Delivery as a Democratic Utility

Grounded in the structural bifurcations delineated in Figure 1, the structural decoupling of the Public-Cooperative Partnership (PCP) model into a state-controlled digital infrastructure layer and a worker-managed service delivery layer represents a fundamental paradigm shift in digital economic governance. In contemporary platform capitalism, core digital assets such as Application Programming Interfaces (APIs), centralized cloud servers, and integrated payment gateways can no longer be viewed merely as proprietary software belonging to the private sector. Instead, these components have mutated into essential facilities or digital public goods that dictate the socio-economic survival of the modern workforce (Schneider, 2018; Srnicek, 2017). Under the mandate of Article 33 of the 1945 Constitution, these infrastructural components constitute modern branches of production crucial to the state and influential to public life. Therefore, state control over this foundational layer is a constitutional imperative to prevent the monopolistic extraction of economic surpluses by private digital monopolies.

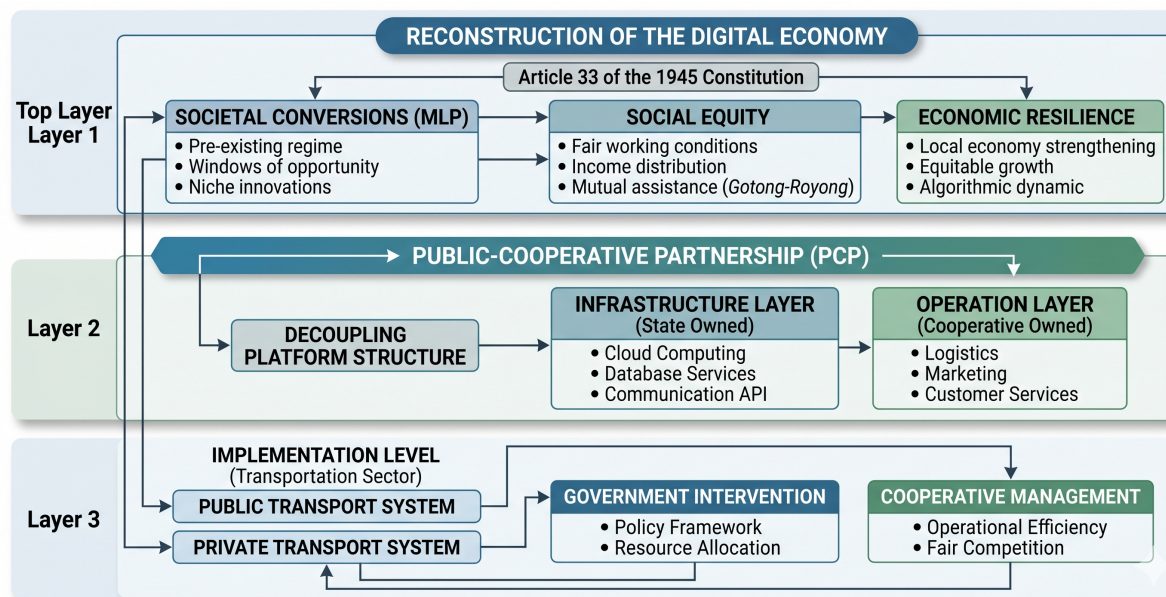
Nonetheless, public choice theory and the political economy of the digital realm suggest strict boundaries on state intervention: the state must operate strictly as a non-extractive utility provider at the infrastructure level and refrain from entering the service delivery layer as an operator. If state agencies or State-Owned Enterprises (SOEs) attempt to directly manage a practical ride-hailing application, it introduces several structural risks. First, it triggers severe bureaucratic rigidity, as public administrative bodies lack the technological agility required to manage dynamic matching algorithms and real-time customer service. Second, direct operation by the state creates a conflict of interest wherein the state simultaneously acts as the market regulator and a market competitor (Thelen, 2018). Most crucially, the total absorption of the service layer by the state risks extinguishing grassroots digital solidarity initiatives, transforming what should be a democratic economic ecosystem into a state-monopolized, authoritarian apparatus (Christiaens, 2024; Seo & Ammari, 2025).

Crucially, this structural intervention must not be conflated with state capitalism or the emergence of a monopolistic state-owned enterprise competing in the commercial arena (Thelen, 2018). Under the PCP paradigm, the state's role is strictly delimited to that of an institutional facilitator and a provider of non-profit public digital infrastructure (Tobing et al., 2025; Winarsasi et al., 2023). The state operates exclusively at the foundational utility layer—managing the open-source APIs, core cloud sovereign networks, and unified payment gateways—without extracting digital rent or transactional surpluses from end-users or workers (Schneider, 2018; Srnicek, 2017). By treating this digital architecture as a non-excludable, non-rivalrous public good, the state abdicates any commercial profit-seeking motives (Atmaja & Erliyana, 2024). This administrative boundary ensures that market-clearing activities and daily service delivery remain entirely within the autonomous, democratic governance of worker-owned cooperatives, thereby neutralizing the risk of bureaucratic overreach or market distortion often inherent in state-led economic models (Christiaens et al., 2024; Seo & Ammari, 2025).

By delegating the service delivery layer to worker-owned digital cooperatives, the PCP model achieves an optimal equilibrium between state sovereignty and citizen autonomy. The state provides the underlying ecosystem—such as the National Data Center for secure cloud hosting and the National Payment Gateway for financial clearing—at zero or near-zero marginal cost to the cooperatives. By neutralizing the infrastructure overhead burdens typically imposed by private platforms on users, the algorithmic rent or standard commission fees of 15–25% typical of private platforms can be eliminated (Muldoon & Sun, 2024). This structural reorganization diverts the economic surplus directly back to the upstream economy: drivers enjoy maximized net earnings, micro-enterprises avoid predatory logistics margins, and consumers receive stable, non-extractive pricing (Arcidiacono & Pais, 2018).

Architecture of the Public-Cooperative Partnership Model

The public-cooperative partnership model proposed in this study is designed as an integrated three-layer architecture to disrupt the monopolistic vertical integration of platform capitalism. This sovereign model strictly decouples the ownership of core digital infrastructure from daily service management, placing them respectively under the public and cooperative domains. This functional separation aims to erode the dominance of global technology corporations that routinely monopolize both layers unilaterally, a phenomenon highly driven by corporate media framing in emerging Southeast Asian markets (Yuana et al., 2019). Binding these two operational layers together is the regulatory framework layer, which provides formal legal protection at the highest level by enforcing public sector accountability in big data governance (Solechan et al., 2026). This conceptual framework serves as a preemptive legal architecture, filling the structural voids left by the government's current policy discourse, which remains bounded by conventional gig-economy parameters (Novianto, 2025). The three-layer architecture is schematically illustrated in Figure 2 below:



Source: Author's design (2026)

Figure 2. Architecture of the Public-Cooperative Partnership Model for the Digital Transportation Sector

Operational Mechanisms: Data Governance and Subsidy Transparency

The operational success of the public-cooperative partnership model rests upon a radical restructuring of data governance and financial subsidy allocation. Under the extractive paradigm of platform capitalism, data generated by drivers and passengers is treated as the exclusive asset of private corporations, exploited to train opaque algorithms for investor capital gains (Plantin & De Seta, 2019). This model deconstructs that monopoly by deploying a dual data governance architecture: individual performance and operational data are legally owned by the drivers' cooperative, whereas macro aggregate data from the core infrastructure is managed by the state as a public asset. This dual data framework empowers driver-partners with unhindered access to their own performance metrics, thereby liberating them from algorithmic manipulation. Simultaneously, cooperatives can leverage this membership data to design self-sustaining financial instruments, such as low-interest credit lines via decentralized securities crowdfunding models (Ulum et al., 2024).

In parallel, the subsidy transparency mechanism within this public model dismantles the predatory pricing strategies that characterize private platform corporations. Private platform operators routinely weaponize opaque and discretionary subsidies to distort the market, unilaterally adjusting driver incentives to eliminate competition and engineer structural dependence (Tang et al., 2023). Conversely, within the public-cooperative model, subsidies are structurally positioned as transparent instruments of public welfare and macroeconomic policy. Funded by the state and equitably distributed through a public digital ledger, these subsidies are directly funneled to enhance transportation accessibility for marginalized communities and integrate ride-hailing drivers into the government's mass transit network. This framework enables real-time auditing of state policy efficiency and mitigates the risk of subsidy capture by corporate interests (Zhang et al., 2025).

MSME Logistics Integration

Within the ecosystem of platform capitalism, the digital integration of Micro, Small, and Medium Enterprises (MSMEs) has failed to manifest economic democratization; instead, it has triggered incidental, discriminatory, and extractive relations. Beyond being burdened with exorbitant commissions, MSMEs face an inherent algorithmic bias that prioritizes massive retail chains backed by extensive capital capacity (Kenney & Zysman, 2023). Through premium advertising mechanisms (*pay-to-play*), large retailers effortlessly dominate the first page of

search results. In contrast, local MSMEs suffering from capital constraints automatically experience algorithmic marginalization, relegated to the back pages of the digital hierarchy and stripped of market visibility. This structural inequality is compounded by market manipulation, where technology corporations deploy capital-intensive predatory pricing strategies (*burning cash*) during initial phases to secure market lock-in, before unilaterally escalating commission rates to 15–25% per transaction (Khan, 2017; Vallas & Schor, 2020).

As a structural intervention, the public-cooperative partnership architecture offers a distinct advantage through systematic and non-extractive integration by embedding MSME logistics access as a foundational, non-profit component within the platform's code to guarantee permanently fair last-mile delivery rates. This structural integration operates linearly across three primary levels to dismantle private capitalistic dominance. At the infrastructure level, the state-designed platform is coded from inception to support decentralized logistics through transparent inventory tracking features and cooperative-based supply chain coordination (Zhang et al., 2025). At the cooperative level, drivers utilize their local geographical expertise and community trust networks to build efficient delivery corridors that eliminate corporate overhead costs (Thomas et al., 2017). Finally, at the policy level, the government utilizes this public infrastructure to channel direct affirmative programs, such as subsidized flat-rate logistics for rural MSMEs and visibility prioritization for traditional merchants (Hidayat et al., 2025).

Empirical Evidence and Critical Comparative Analysis of the JakLingko Model

The institutional feasibility of this public digital infrastructure architecture has been solidly validated by empirical evidence from the JakLingko initiative in DKI Jakarta. As a digitally integrated urban transit ecosystem managed by a Regional Government-Owned Enterprise (BUMD), JakLingko provides definitive empirical proof that public sector digital infrastructure can be successfully constructed, operated, and maintained within the Indonesian socio-technical landscape (Truffer et al., 2024). The JakLingko precedent offers vital lessons for national-scale replication, where the unification of fragmented transport operators under a single public digital interface was proven to optimize structural efficiency. The state governance over the platform also enables transparent public subsidy management while proving that open platforms can successfully integrate non-state operators into a unified network without profit extraction by private corporations (Plantin & De Seta, 2019).

Nonetheless, a rigorous comparative analysis reveals profound institutional and operational boundaries when using a mass transportation framework like JakLingko as a direct analogy for the on-demand ride-hailing sector, as deconstructed through Table 2.

Table 2. Structural Distinctions Between Mass Transit Integration (JakLingko) and On-Demand Ride-Hailing

Operational Dimension	Mass Transit Integration (JakLingko Model)	On-Demand Ride-Hailing (PCP Model)
Route Network Architecture	Static and predetermined; fixed corridors and scheduled lines.	Highly dynamic; point-to-point routes instantly generated by real-time user demand.
Pricing Mechanism	Fixed fare structures supported by rigid regional fiscal subsidies (APBD).	Variable and real-time matching based on spatial-temporal dynamic parameters.
Employment Relations	Fleet drivers formally employed with fixed shifts and guaranteed base salaries.	Autonomous cooperative members utilizing flexible and independent working hours.
Infrastructure Character	Dominated by physical public assets (dedicated lanes, railways, physical stations).	Dominated by virtual public assets (cloud data centers, public API protocols, open networks).

Source: Author’s analysis (2026)

As deconstructed through Table 2, the core operational mechanisms of ride-hailing rely on total route flexibility and dynamic balancing, which stand in stark contrast to static, subsidy-dependent mass transit architectures. Establishing and safeguarding a high-frequency transactional digital platform demands extensive public capital allocation and the readiness of advanced domestic software engineering talent. Furthermore, coordinating a massive network of stakeholders—comprising ministries, state banks, drivers' cooperatives, and private technology providers—requires a decisive, centralized governance framework to prevent institutional gridlock (Solechan et al., 2026). To mitigate these technical and institutional risks, the PCP model does not blindly replicate JakLingko's rigid route planning. Instead, it selectively extracts JakLingko's digital architecture—specifically the unified API gateway and data clearing capabilities—while delegating route allocation to open-source matching algorithms managed autonomously by the drivers' cooperative, thereby securing long-term financial equilibrium without relying on permanent operational fiscal deficits (Truffer et al., 2024; Verma et al., 2024).

Implementation Strategy

Executing the transition from extractive platform capitalism toward a public-cooperative partnership model demands a disciplined and phased implementation strategy, systematically engineered to consolidate existing institutional and technical constraints. The first phase centers on foundation building, prioritizing the creation of the necessary legal, institutional, and technical architectures required to institutionalize the Regulatory Framework Layer as well as the Public Digital Infrastructure Layer as visualized in Figure 2. This foundational step involves establishing a formal national framework mandating the provision of public digital infrastructure for the gig economy, appointing a centralized public body to oversee the platform architecture, and drafting open-source technical blueprints. In parallel, the state must deploy massive capacity-building programs to upgrade digital financial literacy, data management systems, and democratic governance protocols within driver cooperatives (Sukardi et al., 2024).

The second phase necessitates a pilot deployment across heterogeneous representative locations to evaluate platform scale stability, cooperative operational resilience, and regional MSME logistics integration metrics within the Cooperative Service Management Layer (see Figure 2) via data-driven active optimization (Hidayat et al., 2025). Finally, the third phase introduces national scaling, systematically deploying this sovereign public platform across Indonesia's major economic corridors to fully actualize the downstream functionalities of domestic logistics integration. This macro phase entails sustained public capital investment in national sovereign cloud infrastructure, the aggressive enforcement of cooperative digital rights, and the continuous iterative updating of platform source codes to align with evolving market dynamics (Nugroho et al., 2026).

Challenges and Mitigation Strategies

Efforts to execute a structural shift against deeply entrenched corporate monopolies will inevitably encounter massive technical, institutional, and political-economic challenges, which must be mitigated through decisive state policies. On the technical front, operating a national-scale platform capable of processing millions of real-time transportation transactions daily presents an inherent risk of system failure. Any disruption to platform reliability would instantly corrode user trust and become highly vulnerable to politicization by a skeptical public looking to discredit the initiative. To mitigate such infrastructure risks, the state must undertake comprehensive investments in sovereign cloud architectures, recruit top-tier domestic software engineering talent, and mandate strict, decentralized disaster-recovery protocols (Nugroho et al., 2026).

Institutionally, the risks of bureaucratic inertia and inter-agency friction must be aggressively countered by establishing a single public coordination body equipped with robust

executive authority to harmonize the policies of state banks, local governments, and driver cooperatives (Solechan et al., 2026). Beyond technical and institutional complexities, the most critical challenge lies in the political-economic domain, given that this model directly confronts the market interests of global corporate entities that currently dominate the sector. These multinational conglomerates possess extensive networks of influence and robust capital structures, which could potentially trigger regulatory resistance or complex legal challenges against domestic digital economic governance reforms.

To mitigate these political-economic complexities, the state must formulate a solid, non-distorting legal foundation that explicitly positions public digital infrastructure as a legitimate actualization of national economic sovereignty under the umbrella of Article 33 of the 1945 Constitution (Tobing et al., 2025). This structural legal approach must be carefully balanced with an inclusive and educational public dissemination strategy detailing the concrete efficiency gains and value-added welfare metrics yielded by this partnership model for the domestic ecosystem. Through strategic consolidation involving professional driver associations, trade unions, academia, and civil society organizations, the state can minimize systemic conflicts of interest while securing a peaceful, consensus-based, and sustainable democratic transition for Indonesia's digital economy (Aziz et al., 2025).

CONCLUSION

This study has successfully demonstrated that the Public-Cooperative Partnership (PCP) model serves as a novel constitutional reconstruction framework capable of disrupting the economic-political dependencies of platform capitalism in Indonesia. Unlike previous scholarship that tends to be trapped in cosmetic regulatory approaches or merely demands corporate compliance, the theoretical originality of the argument in this research lies in its radical reconceptualization of Article 33 of the 1945 Constitution within the cyber era. This study proves that the emancipatory mandate to control "branches of production vital to the state" is no longer achieved through the physical nationalization of private platforms, but rather through the structural decoupling of platform architecture. The novel theoretical contribution offered by this research shifts the paradigm of digital economic governance by positioning the core digital infrastructure layer (core APIs, national cloud servers, and unified payment gateways) as part of the digital commons under state control, while fully delegating the service delivery layer to the autonomy of democratic worker-owned cooperatives (Srnicsek, 2017).

Through a rigid socio-technical transition lens, the synthesis of these findings reaffirms that systemic precarity and extractive algorithmic rents (ranging from 15–25%) that routinely burden driver-partners and local MSMEs can be absolutely neutralized through this structural intervention (Alkhatib et al., 2023a; Muldoon & Sun, 2024). The critical investigation of the JakLingko initiative in DKI Jakarta within this study does not merely serve as an empirical validation of public sector digital capabilities, but functions as an analytical tool to map the institutional boundaries between static mass transit systems and dynamic on-demand ride-hailing ecosystems (Truffer et al., 2024). By extracting JakLingko's unified API gateway and data clearing functionalities without replicating its regional fiscal deficits, the PCP model formulated herein offers an original legal-economic pathway to reclaim national data sovereignty, guarantee subsidy transparency via public digital ledgers, and embed MSME logistics non-profitably (Plantin & De Seta, 2019; Tang et al., 2023).

Practically, the policy blueprints developed in this research provide tangible contributions that can be directly executed by macroeconomic policymakers through a coordinated inter-ministerial operational roadmap. First, the Ministry of Communication and Information Technology must operationalize the practical contribution of this model by allocating infrastructure capacity within the National Data Center to facilitate secure cloud hosting for verified digital worker cooperatives at zero marginal cost. Second, the Ministry of Cooperatives must formalize a distinct legal entity for "Digital Platform Cooperatives," backed by seed

capital injections from financial institutions to finance autonomous software development (Sukardi et al., 2024). Third, the Ministry of Transportation must legally legitimize two-wheeled vehicles as part of authorized public micro-mobility, while directly embedding national floor-and-ceiling tariff controls into the public API node to permanently eradicate the predatory pricing tactics of transnational tech monopolies (Hidayat et al., 2025; Solechan et al., 2026).

Although this architectural blueprint offers a transformative solution, this research acknowledges specific institutional limitations, given that the empirical validation derived from the JakLingko model is heavily reliant on Jakarta's established and centralized metropolitan fiscal capacity. Consequentially, the replicability of this decentralized PCP model across regional jurisdictions with limited fiscal capacity and technical readiness demands further localized empirical testing. To bridge these structural limitations, future research agendas should be directed toward longitudinal quantitative assessments to meticulously measure the direct impacts of this model on driver-partner net earnings and the profitability indices of real-sector MSMEs. Furthermore, subsequent scholarly investigations need to dissect the macro-level political economy of regulatory resistance likely to be engineered by transnational tech monopolies during the legislative reform process. Ultimately, expanding comparative legal-economic studies to encompass parallel platform cooperativism movements across other Global South nations will significantly enrich the global theoretical discourse surrounding the democratic reclamation of the digital commons (Gomez-Morantes et al., 2021).

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