

Institutional Governance, Digital Transformation, and Sustainable Industrial Competitiveness: A Comparative Analysis of Indonesian MSME Digitalization and Vietnam's Platform-Driven Manufacturing Ecosystem

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Abstract (English)

This article examines how institutional governance structures shape digital-economic transformation, business resilience, and sustainable development outcomes through a comparative analysis of Indonesia's MSME digitalization ecosystem and Vietnam's platform-integrated manufacturing economy. The study argues that digital transformation in emerging economies is not determined solely by technological adoption, but by the interaction between institutional coordination, regulatory governance, innovation ecosystems, financial intermediation, and industrial policy coherence. Drawing on comparative institutional economics, business systems theory, and innovation governance frameworks, the article investigates how state capacity, digital infrastructure, fintech expansion, platform governance, and industrial coordination influence economic competitiveness and socio-economic resilience.

Using comparative economic analysis supported by data from BPS Statistics Indonesia, Bank Indonesia, OJK, the World Bank, OECD, ASEAN, IMF, and industrial competitiveness datasets, the findings reveal substantial divergence between Indonesia and Vietnam in the governance architecture of digital transformation. Indonesia demonstrates stronger digital consumption growth and fintech inclusion, particularly among MSMEs, but continues to face fragmentation in innovation coordination, uneven regional digital capacity, and institutional asymmetry across local governments. Vietnam exhibits more centralized industrial coordination and export-oriented

technological integration, enabling greater manufacturing productivity and supply-chain upgrading, although with weaker MSME-oriented digital inclusivity.

The article contributes to the literature by integrating institutional governance analysis with comparative digital business systems in Southeast Asia. It proposes a conceptual model linking institutional coherence, innovation coordination, business adaptability, and sustainable economic resilience. The study further demonstrates that sustainable digital-economic transformation requires coordinated governance mechanisms that integrate technological innovation, financial inclusion, industrial upgrading, and socio-economic equity within emerging-market development trajectories.

Keywords: *digital economy; institutional governance; MSMEs; industrial transformation; innovation policy; fintech; sustainability; comparative business systems; Indonesia; Vietnam*

Abstrak (Indonesia)

Artikel ini mengkaji bagaimana struktur tata kelola kelembagaan membentuk transformasi ekonomi digital, ketahanan bisnis, dan hasil pembangunan berkelanjutan melalui analisis komparatif ekosistem digitalisasi UMKM Indonesia dan ekonomi manufaktur terintegrasi platform Vietnam. Studi ini berpendapat bahwa transformasi digital di negara berkembang tidak hanya ditentukan oleh adopsi teknologi, tetapi oleh interaksi antara koordinasi kelembagaan, tata kelola regulasi, ekosistem inovasi, intermediasi keuangan, dan koherensi kebijakan industri. Dengan menggunakan ekonomi kelembagaan komparatif, teori sistem bisnis, dan kerangka kerja tata kelola inovasi, artikel ini menyelidiki bagaimana kapasitas negara, infrastruktur digital, ekspansi fintech, tata kelola platform, dan koordinasi industri memengaruhi daya saing ekonomi dan ketahanan sosial-ekonomi.

Menggunakan analisis ekonomi komparatif yang didukung oleh data dari Badan Pusat Statistik Indonesia (BPS), Bank Indonesia, OJK, Bank Dunia, OECD, ASEAN, IMF, dan dataset daya saing industri, temuan menunjukkan perbedaan substansial antara Indonesia dan Vietnam dalam arsitektur tata kelola transformasi digital. Indonesia

menunjukkan pertumbuhan konsumsi digital dan inklusi fintech yang lebih kuat, khususnya di kalangan UMKM, tetapi terus menghadapi fragmentasi dalam koordinasi inovasi, kapasitas digital regional yang tidak merata, dan asimetri kelembagaan di seluruh pemerintah daerah. Vietnam menunjukkan koordinasi industri yang lebih terpusat dan integrasi teknologi berorientasi ekspor, yang memungkinkan peningkatan produktivitas manufaktur dan peningkatan rantai pasokan, meskipun dengan inklusivitas digital yang lebih lemah bagi UMKM.

Artikel ini berkontribusi pada literatur dengan mengintegrasikan analisis tata kelola kelembagaan dengan sistem bisnis digital komparatif di Asia Tenggara. Artikel ini mengusulkan model konseptual yang menghubungkan koherensi kelembagaan, koordinasi inovasi, adaptabilitas bisnis, dan ketahanan ekonomi berkelanjutan. Studi ini lebih lanjut menunjukkan bahwa transformasi ekonomi digital berkelanjutan membutuhkan mekanisme tata kelola terkoordinasi yang mengintegrasikan inovasi teknologi, inklusi keuangan, peningkatan industri, dan kesetaraan sosial-ekonomi dalam lintasan pembangunan pasar negara berkembang.

Kata kunci: ekonomi digital; tata kelola kelembagaan; UMKM; transformasi industri; kebijakan inovasi; fintech; keberlanjutan; sistem bisnis komparatif; Indonesia; Vietnam

Pendahuluan

The global economy is currently undergoing a profound structural transition characterized by digital transformation, platform-based economic coordination, industrial automation, artificial intelligence integration, and sustainability-oriented governance reforms. These transitions are reshaping production systems, labor markets, financial intermediation, corporate governance structures, and state-market relations across both advanced and emerging economies. The World Bank (2024) and OECD (2023) indicate that digital technologies increasingly function not merely as productivity-enhancing instruments but as institutional infrastructures that redefine market coordination, economic inclusion, and long-term developmental capacity. Simultaneously, the rise of ESG-oriented governance, industrial decarbonization

pressures, and digital-financial integration has intensified the strategic importance of institutional adaptability in emerging economies.

Within Southeast Asia, Indonesia and Vietnam represent two of the most significant cases of digital-economic transformation. Indonesia has emerged as the largest digital economy in ASEAN, with the gross merchandise value of its digital economy surpassing USD 80 billion in 2023 and projected to exceed USD 130 billion by 2025 (Google, Temasek, & Bain, 2023). Digital payment penetration, fintech lending, e-commerce expansion, and platform-based MSME integration have expanded rapidly, supported by policy initiatives such as Making Indonesia 4.0, the National Digital Literacy Movement, and financial inclusion programs coordinated by Bank Indonesia and OJK. According to Bank Indonesia (2024), digital transaction values increased by more than 40 percent annually between 2021 and 2023, while QRIS-based payment adoption accelerated across urban and semi-rural commercial ecosystems.

However, Indonesia's digital transformation remains institutionally uneven. Significant disparities persist between Java and outer-island regions in broadband infrastructure, innovation ecosystems, digital skills, and MSME productivity integration (BPS, 2024). The OECD (2023) further notes that Indonesia's digital economy remains consumption-oriented, with weaker industrial integration and limited interoperability between technological innovation systems, industrial upgrading mechanisms, and regional governance coordination. These institutional asymmetries generate structural constraints that limit long-term productivity transformation and sustainable competitiveness.

In contrast, Vietnam has pursued a more manufacturing-centered digital transformation model closely integrated with export-oriented industrial policy and centralized state coordination. Vietnam's rapid integration into global value chains, particularly in electronics manufacturing, smart industry systems, and digitalized production networks, has strengthened industrial productivity and export competitiveness (IMF, 2024). Government-led industrial coordination and strategic

foreign direct investment management have enabled technological spillovers in sectors such as semiconductors, electronics assembly, and advanced manufacturing. Nevertheless, Vietnam's model also reveals limitations associated with concentrated industrial dependency, labor-intensive manufacturing exposure, and uneven digital inclusivity among smaller enterprises and informal sectors.

These developments raise critical theoretical and policy questions regarding how institutional governance systems shape digital-economic transformation trajectories in emerging economies. Existing scholarship has extensively examined digital transformation, innovation ecosystems, and industrial policy independently, yet significant analytical fragmentation remains regarding the interaction between institutional structures, business systems, and sustainable development outcomes.

Previous studies on digital transformation largely emphasize technological adoption and platform expansion. Brynjolfsson and McAfee (2014) argue that digital technologies fundamentally alter productivity structures and labor-market dynamics, while Schwab (2017) highlights the systemic implications of Industry 4.0 for industrial competitiveness. Other scholars focus on innovation ecosystems and entrepreneurial adaptation in emerging economies (Mazzucato, 2021; Audretsch & Belitski, 2022). Within Southeast Asia, ASEAN-oriented research frequently concentrates on e-commerce growth, digital financial inclusion, and startup ecosystems (ASEAN Secretariat, 2023).

While these studies contribute important insights, they often insufficiently address institutional coordination mechanisms and comparative governance structures. Existing literature tends to conceptualize digital transformation as primarily technology-driven rather than institutionally mediated. North (1990) emphasizes that institutions shape economic performance through formal and informal governance arrangements, yet contemporary digital-economy scholarship often neglects how institutional coherence affects technological adaptation and economic resilience. Similarly, Hall and Soskice (2001) demonstrate that business systems and varieties of capitalism generate different innovation capacities, but Southeast Asian digital-economy studies rarely

integrate comparative business systems analysis into emerging-market digital transformation.

Other scholars argue that industrial policy and state coordination remain central to technological upgrading in emerging economies. Rodrik (2021) contends that productive transformation requires active state-market coordination rather than passive liberalization, while Wade (2018) highlights the importance of institutional capacity in industrial upgrading. In the Indonesian context, studies by Tambunan (2022) and Hill and Narjoko (2020) indicate that MSME digitalization has expanded market access but remains constrained by fragmented governance systems, financing asymmetry, and weak technological capability development. Similarly, research on Vietnam emphasizes export-oriented industrial success but identifies growing risks related to technological dependency and uneven domestic value creation (Nguyen & Tran, 2023).

However, current scholarship remains limited in at least five important respects. First, there is a theoretical gap concerning the integration of institutional economics, digital governance, and business systems analysis within emerging Southeast Asian economies. Second, empirical studies often isolate fintech, MSMEs, manufacturing, or innovation ecosystems without examining systemic institutional interactions. Third, comparative institutional analysis between Indonesia and other ASEAN economies remains underdeveloped despite significant structural variation across regional development models. Fourth, the sustainability implications of digital-economic transformation—particularly regarding inequality, labor adaptation, and socio-economic resilience—remain insufficiently integrated into business and economic governance research. Fifth, policy-oriented analyses frequently prioritize technological acceleration without adequately examining institutional coordination failures and governance fragmentation.

This article addresses these gaps through a comparative analysis of Indonesia's MSME-oriented digital economy and Vietnam's platform-integrated manufacturing ecosystem. The study argues that digital-economic transformation outcomes are shaped

not merely by technological adoption rates but by institutional coherence across governance systems, industrial coordination mechanisms, financial infrastructures, and innovation ecosystems. In particular, the article demonstrates that sustainable competitiveness in emerging economies depends on the alignment between institutional capacity, technological coordination, business adaptability, and socio-economic inclusion.

The novelty of this article lies in three principal contributions. First, it integrates comparative institutional economics with digital business systems analysis in the Southeast Asian context. Second, it develops an interdisciplinary analytical framework linking institutional governance, innovation coordination, digital transformation, and sustainable economic resilience. Third, it advances comparative evidence explaining why Indonesia and Vietnam exhibit divergent trajectories despite both operating within rapidly expanding ASEAN digital economies.

The analytical framework of this study conceptualizes institutional capacity as the mediating variable between technological transformation and sustainable development outcomes. Institutional coherence influences innovation coordination; innovation coordination shapes business competitiveness and adaptive capability; business adaptability affects economic resilience and sustainable socio-economic outcomes. In this framework, digital transformation operates not as an isolated technological phenomenon but as an institutional-economic process embedded within governance architectures, industrial systems, financial infrastructures, and labor-market adaptation mechanisms.

Accordingly, this study seeks to analyze how institutional governance structures shape digital-economic transformation, business competitiveness, and sustainable development outcomes through a comparative examination of Indonesia's MSME digitalization ecosystem and Vietnam's platform-integrated manufacturing model.

Metode

This study employs a comparative institutional-economic research design integrating business systems analysis, digital political economy, and comparative innovation governance frameworks to examine how institutional structures shape digital transformation and sustainable economic outcomes in emerging Southeast Asian economies. The comparison between Indonesia and Vietnam was selected based on their shared regional integration within ASEAN, comparable demographic-economic trajectories, rapid digital expansion, and contrasting institutional governance architectures. Indonesia represents a decentralized, market-driven, consumption-oriented digital economy characterized by extensive fintech penetration and MSME digitalization, whereas Vietnam reflects a more centralized and manufacturing-oriented digital-industrial governance model integrated into global production networks. The analytical framework combines institutional economics derived from North (1990), comparative business systems theory from Hall and Soskice (2001), and innovation-state perspectives advanced by Mazzucato (2021). The study operationalizes institutional capacity through variables including regulatory coherence, digital governance coordination, industrial-policy integration, fintech supervision, innovation infrastructure, MSME support systems, and technological adaptation mechanisms. Economic performance variables include productivity growth, MSME integration rates, export competitiveness, digital transaction growth, financial inclusion indicators, and regional inequality dynamics, while sustainability-oriented dimensions include labor adaptation, socio-economic inclusion, governance accountability, and resilience capacity.

Empirically, the study utilizes comparative secondary data analysis derived from BPS Statistics Indonesia, Bank Indonesia, OJK, Vietnam General Statistics Office, IMF databases, World Bank development indicators, OECD digital economy reports, ASEAN economic integration datasets, ESG-related governance assessments, and peer-reviewed academic literature published between 2020 and 2026. Analytical techniques include comparative policy analysis, institutional process interpretation, cross-case economic comparison, and governance-structure mapping to identify causal institutional mechanisms linking policy implementation with business-system performance. Triangulation procedures were conducted through cross-validation between national

datasets, international institutional reports, and sectoral productivity indicators to strengthen reliability and analytical consistency. Ethical considerations were addressed through exclusive reliance on publicly verifiable institutional data and peer-reviewed evidence, thereby avoiding fabricated field interviews or unverifiable stakeholder claims. Limitations primarily relate to the dynamic evolution of digital economies and potential temporal inconsistencies across international statistical reporting systems; however, comparative analytical validity is maintained through consistent variable operationalization and institutional-context interpretation across both national cases.

Findings and Discussion

1. Institutional Governance and Divergent Digital-Economic Architectures

The comparison between Indonesia and Vietnam reveals substantial divergence in the institutional governance structures underlying digital-economic transformation. Indonesia's digital economy has evolved through decentralized market expansion driven by platform ecosystems, fintech growth, e-commerce acceleration, and consumer-oriented digitalization. By contrast, Vietnam's digital transformation has been more closely integrated with industrial modernization and export-oriented production systems.

Indonesia's institutional architecture reflects a hybrid governance model involving multiple regulatory authorities, including Bank Indonesia, OJK, Kominfo, Bappenas, and sectoral ministries. This institutional plurality has enabled rapid market experimentation and private-sector innovation, particularly within fintech and e-commerce sectors. According to Bank Indonesia (2024), digital banking transactions exceeded IDR 70,000 trillion in 2023, while QRIS transactions expanded significantly among micro-enterprises. OJK (2024) similarly reports rapid fintech lending growth among previously underserved economic groups.

Nevertheless, the findings indicate that Indonesia's governance fragmentation generates coordination inefficiencies. Regional governments display uneven digital-administrative capacities, while interoperability between innovation policy, industrial upgrading, and MSME capability development remains inconsistent. This reflects what

North (1990) characterizes as institutional asymmetry, where formal policy expansion is not accompanied by equivalent administrative coordination capacity.

Vietnam demonstrates a more centralized governance structure emphasizing industrial coordination and export competitiveness. State-led industrial planning, foreign-investment integration, and manufacturing ecosystem management have enabled stronger coordination between technological adoption and industrial upgrading. IMF (2024) data indicate that Vietnam's manufacturing exports continue to outperform regional averages, particularly in electronics and technology-intensive sectors.

However, Vietnam's model also reveals institutional rigidity. Smaller enterprises often experience limited access to innovation financing and platform integration compared with Indonesia's more open digital ecosystem. Thus, while Vietnam exhibits stronger industrial coherence, Indonesia demonstrates greater digital-market dynamism and entrepreneurial experimentation.

The comparison suggests that governance coherence influences not only economic efficiency but also the direction of technological transformation. Indonesia's decentralized ecosystem facilitates rapid market inclusion but weakens long-term industrial coordination, whereas Vietnam's centralized model strengthens manufacturing competitiveness while limiting entrepreneurial diffusion. These findings support Hall and Soskice's (2001) argument that institutional complementarities shape economic coordination capacities differently across political-economic systems.

2. MSME Digitalization, Financial Inclusion, and Economic Resilience

MSMEs constitute a central pillar of Indonesia's economy, contributing more than 60 percent of GDP and absorbing approximately 97 percent of national employment (BPS, 2024). Consequently, digital transformation within the MSME sector has significant implications for economic resilience, social inclusion, and regional development.

Indonesia has experienced rapid expansion in MSME digitalization through e-commerce integration, mobile-payment systems, and platform-based market access. Government initiatives such as Gerakan Nasional Bangga Buatan Indonesia and digital-financial inclusion programs have accelerated technological participation among smaller enterprises. Bank Indonesia (2024) reports substantial growth in digital payment

utilization among micro-businesses, particularly in food services, retail trade, and informal commerce.

Despite these achievements, important structural constraints remain evident. MSME digital participation remains concentrated in low-value commercial activities rather than productivity-enhancing technological upgrading. Many enterprises use digital platforms primarily for transactional purposes without integrating advanced inventory management, data analytics, logistics optimization, or production innovation. This reflects limited technological capability formation within Indonesia's MSME ecosystem.

Regional inequality further intensifies these limitations. Java-based enterprises possess significantly higher access to digital infrastructure, venture financing, and innovation networks than enterprises located in eastern Indonesia. OECD (2023) identifies persistent disparities in broadband accessibility and digital-literacy capacity across Indonesian provinces, constraining inclusive digital transformation.

Vietnam presents a contrasting pattern. MSME digitalization is less expansive in consumer-platform ecosystems but more integrated within industrial supply chains. Smaller manufacturing firms frequently participate in subcontracting arrangements connected to export-oriented production networks. Consequently, technological adaptation in Vietnam often occurs through industrial integration rather than platform entrepreneurship.

However, Vietnam's industrial integration model also generates dependency risks. Smaller firms remain highly vulnerable to external demand fluctuations and multinational supply-chain restructuring. Indonesia's more diversified domestic digital-consumption ecosystem provides stronger internal market resilience during periods of global uncertainty.

These findings indicate that MSME digitalization contributes to economic resilience only when supported by broader institutional ecosystems involving financing access, technological capability development, logistics integration, and innovation coordination. Digital inclusion without productive transformation risks generating low-productivity digital commercialization rather than sustainable competitiveness.

Table 1. Analytical Matrix of Comparative Indonesian Economic and Business Development

Variable	Case 1:	Case 2:	Empiri	Analyti
	Indonesia	Vietnam	cal Evidence	cal
	MSME	Manufacturing		Interpretation
	Digitalization	Digital Integration		
Governance Structure	Decentralized multi-agency governance	Centralized industrial coordination	Multiple Indonesian regulatory agencies versus centralized Vietnamese industrial planning	Institutional coordination influences policy consistency and implementation efficiency
Digital Economy Orientation	Consumption and platform-driven	Manufacturing and export-driven	Rapid e-commerce expansion in Indonesia; manufacturing export growth in Vietnam	Different business systems produce distinct technological trajectories
MSME Integration	Broad digital participation	Industrial supply-chain integration	Higher Indonesian fintech penetration; stronger Vietnamese industrial	Market inclusion differs from productive technological upgrading

				subcontractin g	
Financial Inclusion	Strong fintech ecosystem	Bank-centered industrial financing	OJK	Financi al architecture shapes business adaptability	
Innovati on Coordination	Fragmen ted innovation governance	Integrate d industrial- technological planning	Indone sia's regional disparities versus Vietnam's manufacturin g clusters	Institut ional coherence affects innovation diffusion	
Sustaina bility Implications	Inclusive digital access but unequal productivity	Industrial efficiency but labor vulnerability	Indone sian regional digital gaps; Vietnamese export dependency risks	Sustain able development depends on balanced governance coordination	
Economi c Resilience	Strong domestic digital demand	Strong export competitiveness	Indone sian internal market resilience versus Vietnamese	Resilie nce pathways differ structurally	

manufacturin
g integration

The comparative matrix reveals that institutional divergence fundamentally shapes economic adaptation pathways. Indonesia's digital transformation prioritizes market inclusivity and entrepreneurial expansion, whereas Vietnam prioritizes coordinated industrial upgrading. Both systems generate advantages and vulnerabilities. Indonesia's decentralized architecture supports innovation diversity but weakens policy coherence, while Vietnam's centralized coordination strengthens industrial integration but risks adaptive rigidity.

The evidence further suggests that digital-economic success in emerging economies cannot be evaluated solely through growth indicators or technological adoption rates. Rather, long-term sustainability depends on the alignment between governance systems, innovation coordination, financial architectures, and socio-economic inclusivity. This finding contributes to comparative institutional economics by demonstrating that digital transformation outcomes are institutionally embedded rather than technologically deterministic.

3. Innovation Ecosystems, Industrial Policy, and Technological Competitiveness

The comparative evidence indicates that innovation ecosystems operate differently across Indonesia and Vietnam because of institutional variation in industrial-policy coordination, technological governance, and state-market interaction. Indonesia's innovation ecosystem is characterized by entrepreneurial dynamism and startup proliferation. Jakarta, Bandung, Surabaya, and several emerging regional hubs have experienced significant digital-enterprise growth supported by venture-capital inflows and expanding platform ecosystems.

Nevertheless, Indonesia's innovation ecosystem remains fragmented across ministries, universities, regional governments, and private-sector actors. According to the Global Innovation Index (2024), Indonesia continues to lag behind several ASEAN economies in research commercialization, industrial innovation capacity, and advanced technological integration. University-industry collaboration remains inconsistent, while research and development expenditure remains below regional industrial competitors.

Vietnam's innovation ecosystem demonstrates stronger integration between industrial policy and manufacturing upgrading. Government-led coordination mechanisms facilitate technology transfer within export-oriented sectors, particularly electronics and advanced assembly industries. This coordination has enabled Vietnam to strengthen industrial competitiveness despite lower domestic market scale than Indonesia.

However, the Vietnamese model remains heavily dependent on multinational corporations and external technological ecosystems. Domestic innovation autonomy remains relatively limited, particularly in advanced technological research and indigenous intellectual-property development. Thus, Vietnam's industrial competitiveness reflects successful integration into global production systems rather than fully autonomous innovation capacity.

These differences reveal important theoretical implications. Mazzucato (2021) argues that innovation-driven development requires mission-oriented institutional coordination rather than isolated market incentives. The Indonesian case demonstrates that entrepreneurial expansion without institutional integration limits systemic technological upgrading. Conversely, Vietnam demonstrates that centralized coordination can strengthen industrial competitiveness but may constrain broader entrepreneurial diversification.

The findings also indicate that industrial policy remains critical within digital economies despite narratives emphasizing market-led technological transformation. Rodrik (2021) contends that strategic state coordination remains necessary for productive transformation in emerging economies. The evidence from both Indonesia and Vietnam supports this perspective. Digital transformation alone does not automatically generate productivity upgrading; institutional coordination determines whether technological adoption becomes economically transformative.

4. Sustainability, Labor Transformation, and Socio-Economic Development

Digital-economic transformation produces important sustainability implications concerning labor adaptation, regional inequality, environmental governance, and socio-economic resilience. Indonesia's platform economy has expanded employment flexibility

and entrepreneurial participation, particularly among younger populations and informal workers. Ride-hailing platforms, online commerce systems, and fintech applications have generated alternative income opportunities within urban and peri-urban areas.

However, platform expansion also generates labor precarity. Informal digital workers frequently experience weak social protection, income volatility, and limited long-term employment security. The International Labour Organization (2023) highlights growing concerns regarding algorithmic management and labor informality within Southeast Asian digital-platform economies. Indonesia's institutional framework has struggled to adapt labor governance systems to rapidly evolving digital employment structures.

Regional inequality also remains a major sustainability challenge. Provinces with stronger digital infrastructure attract disproportionate investment and technological capacity accumulation, reinforcing developmental asymmetry. This pattern reflects uneven institutional capacity across local governance systems.

Vietnam's industrial-centered transformation generates different sustainability dynamics. Manufacturing integration has strengthened export revenues and industrial productivity, yet labor-intensive sectors remain vulnerable to automation pressures and external market fluctuations. Environmental sustainability concerns also emerge from industrial expansion and energy-intensive production systems.

The comparison demonstrates that sustainable digital transformation requires balancing productivity growth with socio-economic inclusivity and institutional adaptability. ESG-oriented governance increasingly influences investment flows, corporate behavior, and industrial legitimacy within global markets. Consequently, emerging economies must integrate sustainability governance into digital and industrial policy frameworks.

The evidence further indicates that economic resilience is institutionally mediated. Indonesia's broad domestic digital market provides internal demand stability during external economic shocks, whereas Vietnam's export-oriented manufacturing system provides productivity advantages but higher exposure to global supply-chain disruptions. Thus, resilience is not solely determined by economic growth rates but by

the structural composition of governance systems, industrial architectures, and market coordination mechanisms.

The findings contribute to sustainability-transition literature by demonstrating that digital-economic transformation in emerging economies involves complex trade-offs between innovation acceleration, institutional inclusivity, labor governance, and environmental sustainability. Effective governance therefore requires integrated policy coordination across industrial policy, digital governance, labor regulation, financial inclusion, and sustainability frameworks.

Conceptual Model

**Institutional Coherence → Innovation Coordination → Business Adaptability
→ Economic Resilience → Sustainable Development**

This article proposes a conceptual model explaining how institutional structures mediate digital-economic transformation outcomes in emerging economies. Institutional coherence constitutes the foundational variable shaping the effectiveness of innovation governance, regulatory coordination, financial integration, and industrial-policy implementation. High institutional coherence strengthens innovation coordination through interoperability between state agencies, business systems, universities, financial institutions, and technological ecosystems.

Innovation coordination subsequently influences business adaptability by enabling technological upgrading, digital capability development, productivity transformation, and market integration. Business adaptability strengthens economic resilience by improving firms' capacity to respond to technological disruption, global-market volatility, supply-chain shifts, and sustainability pressures.

Finally, economic resilience contributes to sustainable development through inclusive growth, labor adaptation, socio-economic stability, regional competitiveness, and environmentally responsible industrial transformation. The comparative evidence from Indonesia and Vietnam indicates that institutional fragmentation weakens the transition from digital expansion to sustainable competitiveness, whereas coordinated governance systems strengthen long-term developmental capacity.

The model contributes theoretically by integrating institutional economics, comparative business systems analysis, and sustainability-transition frameworks into a unified explanation of digital-economic transformation in emerging economies. It further demonstrates that technological transformation is institutionally embedded rather than technologically autonomous.

Kesimpulan

This study examined how institutional governance structures shape digital-economic transformation, business competitiveness, and sustainable development outcomes through a comparative analysis of Indonesia's MSME digitalization ecosystem and Vietnam's platform-integrated manufacturing model. The findings demonstrate that digital transformation in emerging economies is fundamentally mediated by institutional coherence, governance coordination, innovation ecosystems, financial architectures, and industrial-policy integration rather than by technological adoption alone.

The comparative evidence indicates that Indonesia possesses significant advantages in digital-market dynamism, fintech expansion, entrepreneurial participation, and domestic consumption resilience. Its decentralized digital ecosystem has enabled rapid MSME integration and financial inclusion across diverse socio-economic groups. However, institutional fragmentation, uneven regional governance capacity, limited industrial coordination, and productivity asymmetry constrain the transition from digital expansion toward sustainable competitiveness.

Vietnam, by contrast, demonstrates stronger industrial-policy coordination, manufacturing integration, and export-oriented technological upgrading. Centralized governance structures have facilitated industrial competitiveness and integration into global value chains. Nevertheless, Vietnam's development model remains vulnerable to external dependency, concentrated industrial exposure, and relatively weaker entrepreneurial inclusivity.

Theoretically, this article contributes to comparative institutional economics and business systems scholarship by integrating digital transformation analysis with institutional governance frameworks. The study advances the argument that digital economies are institutionally embedded systems in which governance structures

determine the developmental consequences of technological change. This contribution extends existing literature that often conceptualizes digital transformation primarily as a technological phenomenon rather than a governance-mediated economic process.

Empirically, the article contributes comparative Southeast Asian evidence demonstrating how institutional variation produces different trajectories of economic resilience, innovation coordination, and sustainability outcomes. The findings further reveal that MSME digitalization alone does not guarantee productivity upgrading or inclusive development unless accompanied by coordinated institutional support involving financing systems, technological capability formation, industrial integration, and labor adaptation policies.

From a business and public-policy perspective, the study suggests that Indonesia requires stronger institutional interoperability between digital governance agencies, industrial-policy frameworks, regional governments, universities, and financial systems. Sustainable digital transformation should prioritize not only market expansion but also productive technological upgrading, regional capability equalization, labor protection reform, and innovation-system integration. Policymakers should therefore strengthen digital infrastructure beyond Java, improve MSME technological capability development, integrate ESG-oriented industrial governance, and enhance coordination between fintech regulation and productive-sector financing.

The sustainability implications are equally significant. Emerging economies must ensure that digital transformation contributes to inclusive development, labor resilience, and environmentally responsible industrial modernization rather than reinforcing inequality and economic vulnerability. Long-term competitiveness increasingly depends on governance systems capable of integrating technological innovation with socio-economic inclusivity and sustainability-oriented institutional adaptation.

Several limitations remain within this study. The analysis primarily relies on macro-institutional comparative evidence and secondary datasets, limiting micro-level sectoral differentiation. Future research should therefore explore firm-level adaptive behavior, regional governance variation, AI-driven industrial transformation, and longitudinal digital-policy evolution within ASEAN economies. Additional comparative studies involving Thailand, Malaysia, or the Philippines may further deepen

understanding regarding alternative institutional pathways toward sustainable digital-economic development.

Ultimately, this article argues that sustainable competitiveness in emerging economies depends not merely on technological acceleration but on the institutional capacity to coordinate innovation, governance, inclusion, and industrial transformation within an increasingly complex global digital economy.

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