

## THE DYNAMICS OF INDUSTRIAL AND TRADE LAW IN THE DIGITAL ECONOMY ERA: COMPETITION REGULATION, CONSUMER PROTECTION, AND THE TRANSFORMATION OF THE NATIONAL INDUSTRY

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### Abstract

The digital economy has transformed the legal landscape of industry and trade in Indonesia, necessitating the adaptation of competition law, consumer protection regulations, and the transformation of national industries. This study analyses two key aspects: firstly, the effectiveness of Law No. 5 of 1999 on Competition and Law No. 8 of 1999 on Consumer Protection in addressing the dominance of digital platforms, predatory pricing, and the risk of data breaches; second, the role of Making Indonesia 4.0, the Job Creation Law, and the Government's Digital Master Plan 2025–2045 as catalysts for the transformation of manufacturing towards Industry 4.0. Using a legal-normative literature review approach, it was found that the KPPU is actively addressing digital monopolies (the Google Play Billing System case), but regulatory revisions are required regarding algorithmic discrimination and the gig economy. Industrial transformation faces the digital divide and the need for harmonisation with the ASEAN Digital Economy Framework. The conclusion emphasises the need for holistic economic legislation that balances innovation, healthy competition, and inclusivity towards Indonesia Emas 2045.

**Keywords:** digital economy law, competition, consumer protection, Making Indonesia 4.0, industrial transformation, KPPU, Job Creation Law, digital divide, platform economy, Industry 4.0

### Introduction

The development of the digital economy has fundamentally transformed the way society produces, transacts, and interacts within the global economic system. Digital technology enables new efficiencies in industrial value chains, accelerates product distribution, and drives unprecedented data-driven innovation (Ramello, 2006). In this context, economic law is required not only to protect businesses and consumers, but also to ensure that digital transformation proceeds fairly and sustainably (Abyan, 2025).

Indonesia is one of the countries with the fastest-growing digital economies in Southeast Asia. The *e-Economy SEA* report by Google and Temasek (2023) notes that the value of Indonesia's digital economy has exceeded USD 80 billion and is projected to continue growing. This phenomenon demonstrates that digitalisation has become a new backbone for the trade and industrial sectors. However, this acceleration gives rise

to significant legal consequences, including issues of regulation, liability, and the protection of the public interest (Gomes et al., 2022).

Economic law essentially serves as a regulatory instrument and a guardian of the balance between market efficiency and social justice. In the context of the digital economy, the law must be able to adapt to new dynamics characterised by information asymmetry, the dominance of large platforms, and cross-border jurisdictional divergences (Meidyasari, 2024). The law's inability to adapt can lead to inequality and distortions of competition within the national digital industry sector. One of the key issues in digital economic law is competition regulation. Giant digital platforms such as marketplaces, online transport services, and *financial technology* often become dominant actors that control the market through their control of data and algorithms (Law et al., 2016). This situation gives rise to *monopolistic tendencies* that have the potential to sideline small and medium-sized enterprises.

On the other hand, consumer protection faces complex challenges in the digital age. E-commerce introduces non-face-to-face transaction models, personal data as an economic asset, and an increased risk of digital fraud. Consumer protection law needs to explicitly regulate the liability of digital businesses for losses arising from data security breaches or misleading commercial practices (Suryati et al., 2021).

Digital economy regulations in Indonesia have sought to respond to these dynamics through various legal instruments, such as Law No. 5 of 1999 on the Prohibition of Monopolistic Practices and Unfair Business Competition, and the Consumer Protection Law (Law No. 8 of 1999). However, the implementation of both has often failed to adapt to the dynamic and cross-border nature of the digital economy (Weiner, 2012).

The transformation of national industry driven by digital disruption is giving rise to new patterns in economic relations, spanning from the manufacturing sector to the service sector. Digitalisation opens up opportunities for automation and *data-driven industries*, but also demands legal policies that are responsive to shifts in employment relationships, intellectual property rights, and the protection of innovation (Romer, 2002). In this regard, the law acts as both a facilitator of structural change and a guardian of legal certainty.

From a macro perspective, digital economic integration requires harmonisation between national laws and international trade regimes. New standards such as the *ASEAN Digital Economy Framework* and *WTO e-commerce* policies require member states to adapt their regulatory frameworks (Santoso, 2021). Indonesia faces the need to formulate regulations that are both competitive and protective of national interests amidst the tide of digital globalisation. Beyond regulatory aspects, the dynamics of economic law also reflect shifts in the state's legitimacy as a controlling actor. The state is no longer the sole regulator of the economy but acts as a partner in a multi-stakeholder governance framework involving global corporations and the digital

community (Wijaya, 2003) . Consequently, the principles of transparency, accountability, and inclusivity are key to the formulation of digital economic policy.

Empirically, the dynamics of the national industry indicate that small and medium-sized enterprises (SMEs) still face regulatory barriers in accessing digital markets. The digital divide between large and small businesses has created a new disparity in the national economic structure (Berg et al., 2022) . This unequal access has the potential to undermine the ideals of economic equality and social justice as mandated by the constitution.

Within the framework of economic law policy, there is a need to reinterpret fundamental principles, particularly those relating to efficiency, fair competition and the protection of the public interest. The law must play an active role in promoting innovation whilst ensuring that digital technology is utilised responsibly. Thus, digital economic justice should not only favour large players, but also society as consumers and micro-economic actors (Erdem & Swait, 2016) .

Building on this premise, this study aims to provide an in-depth analysis of the dynamics of economic law within the industrial and trade sectors in the digital economy era. The discussion focuses on two main aspects: firstly, how competition and consumer protection regulations are being adapted to the digital economy; and secondly, how the transformation of national industries is influencing the design of future economic policy. An understanding of these two aspects is crucial to ensuring that the law functions not only as a regulator but also as a catalyst for national economic progress.

## **Research Methodology**

The research method employed in this study is a literature review, which involves the retrieval, analysis and synthesis of various primary and secondary sources relevant to the topic of digital economic law. This approach was carried out through the collection of data from textbooks, scientific journals, legislation, and policy reports discussing business competition regulation, consumer protection, and national industrial transformation( Hiebl, 2023) ; (Eliyah & Aslan, 2025) . The analysis was conducted qualitatively by examining theories of economic law and the practical implementation of regulations within the context of the digital economy. Through this approach, the research seeks to map the conceptual and empirical dynamics of economic law in the digital age, in order to produce a comprehensive understanding grounded in academic evidence.

## **Results and Discussion**

### **Economic Regulation in the Digital Age (Competition and Consumer Protection)**

Economic regulation in the digital age marks a paradigm shift from conventional regulation based on physical assets towards dynamic regulation oriented towards data, algorithms, and digital platforms. In Indonesia, Law No. 5 of 1999 on the Prohibition of

Monopolistic Practices and Unfair Competition (Competition Law) serves as the primary foundation, yet it now faces modernisation challenges due to the dominance of digital platforms that control *two-sided* markets. The Competition Supervisory Commission (KPPU) is actively pushing for the third revision of this Act to accommodate new risks such as algorithmic discrimination and data misuse (Prasetyo et al., 2024).

The digital economy has created an asymmetrical market structure, in which large technology companies such as marketplaces and fintech firms dominate consumer access through their control of behavioural data. This has given rise to anti-competitive practices such as *predatory pricing* and exclusive agreements that are detrimental to small businesses. The KPPU highlights that Law No. 5/1999 has not fully regulated the dual role of platforms as both market providers and business operators, thus requiring a market analysis that is more adaptable to digital dynamics (Sengge et al., 2024).

Consumer protection in e-commerce transactions is governed by Law No. 8 of 1999 on Consumer Protection (Consumer Protection Law), supplemented by Government Regulation No. 80 of 2019 on Electronic Commerce (PMSE). These regulations guarantee consumers' rights to accurate information, product safety, and compensation for digital losses; however, their implementation is often hindered by cross-border transactions and the anonymity of business operators. Studies indicate that the Consumer Protection Act provides a strong foundation, but adjustments are needed to address the risk of *data breaches* on digital platforms (Winn & Wright, 2000).

The KPPU has demonstrated its supervisory role in the digital business sector through enforcement actions against anti-competitive practices in the e-commerce sector, such as discrimination against suppliers and the abuse of a dominant position. The KPPU's Deputy for Prevention is responsible for monitoring exclusive agreements and the abuse of dominance, as mandated by Law No. 5/1999. These cases illustrate that the KPPU's oversight is crucial for maintaining healthy competition in the digital ecosystem (Xiaying, 2019).

In the fintech sector, competition regulations are becoming increasingly complex due to integration with digital payment systems regulated by Bank Indonesia (BI) and the Financial Services Authority (OJK). Bank Indonesia Regulation No. 19/12/PBI/2017 on Financial Technology Providers governs payment innovations, whilst the Job Creation Law No. 11 of 2020 introduces Electronic System Operators (ESOs) for fintech. However, the dominance of large platforms has the potential to stifle new innovation without strict anti-monopoly regulations (Gladden & Atalim, 2020).

Consumer protection in fintech emphasises product transparency, data security and the prevention of money laundering, as set out in the OJK and BI regulatory framework. These regulations include registration and monitoring obligations, aimed at maintaining consumer confidence in services such as P2P lending and financial

aggregators. However, the main challenge is the regulatory gap regarding global fintech firms operating across jurisdictions (Puschmann, 2017).

The KPPU is prioritising the digital sector as a key focus of its oversight in 2026, given the rapid growth of the digital economy and market concentration amongst major platforms. International reports such as those from UNCTAD and the OECD emphasise the need for regulatory updates to enhance Indonesia's competitiveness. This modernisation is expected to prevent barriers to entry for new businesses and ensure that innovation is not hindered by the dominance of tech giants (Hardiyansyah et al., 2024).

The KPPU's 2025 ruling against the Google Play Billing System (GPBS) sets an important precedent, with a fine of Rp202.5 billion and an order to cease the mandatory use of the dominant system. This ruling mandates fundamental changes to create a fair app ecosystem, highlighting the risks of digital monopolies in the app market. It strengthens the enforcement of the Competition Law against global companies (Press Council, 2025).

The Electronic Information and Transactions Act (EITA) No. 1 of 2024 complements the regulatory framework with provisions on the protection of personal data in e-commerce transactions. Platforms are required to ensure the security of consumer data and the validity of transactions, whilst violations may be subject to administrative or even criminal sanctions. The integration of the EITA with the Competition Act strengthens the position of consumers in the digital era (Winn & Wright, 2000).

Regulatory challenges include digital taxation under Minister of Finance Regulation (PMK) No. 37/2025, which designates marketplaces as collectors of Article 22 Income Tax for cross-border online transactions. This safeguards the sustainability of state revenue without hindering innovation, whilst ensuring legal certainty for digital businesses. This regulation serves as a bridge between the dynamics of the digital economy and the principles of fiscal justice (Directorate General of Taxes, 2025).

The revision of the Competition Law being drafted by the KPPU focuses on three key areas: market structure oversight, analysis of the technology sector, and national policy coordination. Legislators have emphasised the protection of SMEs and consumers from digital dominance, ensuring that regulations remain adaptable to the prevailing digital economy. These efforts are crucial to addressing the challenges that have arisen over the past 25 years since the original law was enacted. (Kholis, 2024).

Consumer protection in e-commerce is also governed by Government Regulation No. 80/2019, which updates the rules to reflect modern developments, including platforms' obligations regarding product quality and compensation. However, its effectiveness depends on enforcement by the National Consumer Protection Agency (BPKN) and the Competition Commission (KPPU). Studies indicate the need for regulatory harmonisation to address harmful practices (Xiaying, 2019). In the context

of transformation, regulation must act as a facilitator of innovation whilst safeguarding healthy competition. The KPPU emphasises the prevention of abuse of dominant positions in strategic sectors such as fintech and e-commerce. This approach aligns with the national development agenda for an inclusive economy (Kholis, 2024). Regulatory gaps regarding global platforms demand international coordination, such as the ASEAN Digital Economy Framework. Indonesia requires competitive regulations to protect domestic consumers from anti-competitive foreign practices. This harmonisation is essential for national competitiveness (Prasetyo et al., 2024).

Overall, economic regulation in the digital age requires a holistic approach that integrates the Competition Law, the Consumer Protection Law, and sector-specific regulations such as those governing fintech. Modernisation by the KPPU and relevant agencies will ensure a balance between innovation, healthy competition, and consumer protection. Without such adaptation, the digital economy has the potential to create structural inequalities in Indonesia.

### **National Industrial Transformation and the Legal Implications of the Digital Economy**

The transformation of the national industry in the digital economy era is characterised by the adoption of Industry 4.0 technologies such as AI, IoT, big data and automation, which are shifting production structures from conventional to *data-driven manufacturing*. The Indonesian government launched ‘*Making Indonesia 4.0*’ in 2018 as a strategic roadmap to enhance manufacturing competitiveness through digitalisation, with the target of the industry’s contribution to GDP reaching 25% by 2045 (Coordinating Ministry for Economic Affairs, 2026).

The ‘*Making Indonesia 4.0*’ initiative aims to transform 10 priority sectors—such as food and beverages, automotive, textiles and electronics—through the *Indonesia Industry 4.0 Readiness Index* (INDI 4.0), which measures industrial readiness. The programme is supported by pilot projects and training for transformation managers; however, the main challenge is the digital infrastructure gap between regions (Ministry of Industry, 2020). The National Digital Government Master Plan (RIPDN) 2025–2045 serves as the foundation for integrated digital governance transformation, aligning with the National Medium-Term Development Plan (RPJPN) 2025–2045 to achieve Indonesia Emas 2045. This document reduces duplication of digital initiatives and ensures cross-ministerial data interoperability, with a focus on data-driven public services (Bappenas, 2026).

The Job Creation Law No. 11 of 2020 (Job Creation Law) plays a central role in industrial transformation through business facilitation, the empowerment of MSMEs, and the investment ecosystem for Industry 4.0. This law regulates job creation through national strategic projects and the adaptation of labour regulations to automation, although it has drawn criticism regarding the flexibility of workers’ rights (State Audit Agency, 2020).

Digital economy law requires regulatory transformation to support innovation whilst maintaining legal certainty, as emphasised in the legal-normative study on the Personal Data Protection Act and the Electronic Information and Transactions Act. Adaptive regulation is needed to balance legal certainty with flexibility in order to drive the digital economy (Widyawati et al., 2025). The Deputy Minister of Law emphasised the urgency of digital transformation in the legal sector for the sake of justice and legal certainty, with six indicators: integration, reliability, accountability, efficiency, inclusivity, and security. This encompasses the SPBE and inter-agency coordination for digital legal services (Ministry of Law and Human Rights, Jakarta, 2025).

Digital transformation is driving Indonesia's economic growth, but faces legal challenges such as data protection and online dispute resolution. Government policies are strengthening digital infrastructure and literacy, but regulations such as Law No. 8/1999 are not yet fully responsive to complex digital transactions (Mulyati, 2025).

The role of legal theory in the Fourth Industrial Revolution emphasises the speed of information through the pillars of AI, IoT and robotics, which necessitates the adaptation of intellectual property regulations and smart contracts. Law must serve as the foundation of the national digital civilisation. PID1 4.0 and Startup4industry have accelerated the digital transformation of manufacturing since the launch of Making Indonesia 4.0, with *start-ups* acting as problem solvers for the Industry 4.0 ecosystem. The Ministry of Industry is promoting the adoption of cutting-edge technologies to enhance global competitiveness (Fang & Liu, 2024).

The legal implications for SMEs include protection from the dominance of digital platforms through inclusive regulation, as set out in the CK Act, which facilitates access to e-commerce markets. However, *the digital divide* remains a barrier to transformation (Mulyati, 2025). The integration of national law with the ASEAN Digital Economy Framework is necessary for cross-border digital trade, aligning WTO e-commerce standards with industrial transformation. This ensures national interests are protected in the digital age (Widyawati et al., 2025). Labour challenges in the era of automation require upskilling regulations through Industry 4.0 training, as mandated by the CK Law. Protection for gig economy workers is a crucial issue in this transformation (Ministry of Industry, 2020).

Digital intellectual property rights (software patents, blockchain) require reforms within the Directorate General of Intellectual Property Rights to support national industrial innovation. These regulations are essential to ensure Indonesia does not fall behind in the technological race. Policy recommendations include harmonising regulations across agencies, strengthening rural digital infrastructure, and promoting digital legal literacy to ensure an inclusive transformation. Coordination between Bappenas and the Ministry of Law and Human Rights is crucial for the implementation of the RIPDN (Bappenas, 2026).

Overall, the transformation of the national industry through the digital economy requires proactive economic laws to act as catalysts for innovation and guardians of justice. The integration of Making Indonesia 4.0, the RIPDN, and the CK Law will ensure sustainable growth towards Indonesia Emas 2045, with adaptive regulations as the key to success.

## Conclusion

The dynamics of industrial and trade law in the digital age highlight the need for dynamic regulatory adaptation to the characteristics of digital platforms that dominate the market. Competition regulation through Law No. 5 of 1999 and the supervision of the KPPU have been able to address cases of digital monopolies such as the Google Play Billing System; however, the third revision currently being drafted by the KPPU is crucial to tackling algorithmic discrimination, predatory pricing, and the misuse of consumer data. Consumer protection under Law No. 8 of 1999 and Government Regulation No. 80 of 2019 provides a strong foundation, but its implementation remains hampered by cross-border transactions and the anonymity of digital businesses.

The transformation of the national industry through ‘Making Indonesia 4.0’ and the Digital Government Master Plan 2025–2045 positions the law as both a catalyst for innovation and a guardian of justice. The Job Creation Law No. 11 of 2020 facilitates ease of doing business and the Industry 4.0 investment ecosystem; however, key challenges include the digital divide, protection of gig economy workers, and the harmonisation of regulations with the ASEAN Digital Economy Framework standards. Digital economy law must play a proactive role in promoting the inclusivity of SMEs and national digital literacy.

Overall, striking a balance between innovation, healthy competition and consumer protection is key to the success of Indonesia’s digital economic transformation towards Indonesia Emas 2045. The integration of sectoral regulations (KPPU, OJK, BPKN) with macro policies such as the RIPDN and Making Indonesia 4.0 requires cross-agency coordination that is adaptable to technological dynamics. Without holistic modernisation of economic law, the potential of the digital economy risks creating structural inequalities that hinder the goal of national economic equality.

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