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Application of Essential Facilities Doctrine to Data and Algorithm Access As An Enforcement Instrument for Article 25 of Law No. 5 Of 1999 in The Digital Economy

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Abstract: Dominant digital platforms in Indonesia control strategic assets in the form of massive user data and search/recommendation algorithms that serve as market access gateways. Exclusive control over these assets creates barriers to entry and forecloses competitors in the digital ecosystem. The Essential Facilities Doctrine (EFD), traditionally applied to physical infrastructure such as ports and telecommunications networks, offers a legal framework for identifying when control over digital assets can be qualified as abuse of dominance requiring access sharing with competitors. This article doctrinally examines whether and how EFD can be applied to non-personal data and algorithms under Article 25 of Law No. 5 of 1999, and explores synchronization with Law No. 27 of 2022 on Personal Data Protection, particularly regarding data portability. The research employs a library-based approach with doctrinal-normative analysis of Law No. 5/1999 and the Data Protection Law, conceptual analysis to develop criteria for "digital essential facilities," and comparative doctrinal analysis of EFD application in the European Union and United States. Findings demonstrate that data and algorithms can be qualified as essential facilities if they cumulatively meet four criteria: (1) controlled by a dominant undertaking; (2) cannot be economically and technically duplicated; (3) access is essential for competing in downstream markets; and (4) no objective justification exists for refusing access. The article recommends that KPPU develop specific guidelines on data and algorithm access, considering efficiency defense, intellectual property rights, and privacy protection. The proposed framework balances competition enforcement with innovation incentives and clarifies when data-sharing obligations arise under Indonesian competition law without requiring legislative amendment.

Keywords: Essential Facilities Doctrine; Abuse of Dominance; Data Access; Algorithms; Digital Economy; Article 25 of Law No. 5/1999

INTRODUCTION

The digital economy in Indonesia has witnessed unprecedented growth, with dominant platforms controlling strategic assets that determine market access and competitive dynamics. Digital platforms such as e-commerce marketplaces (Shopee, Tokopedia), ride-hailing and super-apps (Gojek, Grab), and social commerce platforms leverage massive volumes of user

data and sophisticated algorithms as their primary competitive advantages. These platforms accumulate transaction data, user behavior patterns, search queries, location data, and interaction histories that create insurmountable barriers to entry for potential competitors.

The merger of Gojek and Tokopedia in May 2021 to form GoTo, Indonesia's largest technology conglomerate, exemplifies the strategic consolidation of data assets across multiple service verticals including ride-hailing, food delivery, e-commerce, and digital payments (GoTo Company, 2021). The Commission for the Supervision of Business Competition (KPPU) has scrutinized digital platform mergers for potential monopolistic effects, recognizing that such consolidated entities control unprecedented volumes of consumer data and algorithmic infrastructure across Indonesia's digital ecosystem.

Algorithms function as critical gatekeepers in digital markets, determining which products appear in search results, how sellers are ranked, which courier services are prioritized, and how prices are dynamically adjusted. In KPPU Case No. 04/KPPU-I/2024, Shopee and its affiliated courier service Nusantara Ekspres Kilat (SPX) admitted to violating Articles 19(d) and 25(1)(a) of Law No. 5 of 1999 by manipulating their platform algorithm to discriminately prioritize SPX over competing courier services, effectively foreclosing independent logistics providers from the market (KPPU, 2024). This case demonstrates how algorithmic control translates into market power, as third-party sellers on Shopee's platform had no choice but to use the platform's preferred courier, regardless of price, service quality, or consumer preference. The discriminatory algorithm created artificial scarcity in the courier services market, illustrating how exclusive control over recommendation and ranking systems can constitute abuse of dominant position.

The competition concerns arising from exclusive data and algorithm control are multifaceted. First, barriers to entry emerge when new entrants cannot access equivalent data sets necessary to train competitive algorithms or offer comparable personalized services (Santesteban & Longpre, 2020). A startup e-commerce platform competing against Tokopedia cannot replicate years of accumulated transaction data, seller ratings, consumer preferences, and behavioral insights that enable Tokopedia's sophisticated recommendation engine. Second, foreclosure occurs when incumbent platforms deny data access to rivals or use proprietary algorithms to disadvantage competitors operating on their platforms. The Shopee courier case exemplifies this foreclosure mechanism—the platform leveraged its algorithmic gatekeeper position to foreclose independent courier services, thereby extending its dominance from the e-commerce platform market into the downstream logistics market. Third, self-preferencing practices enable platforms to use non-public data generated by third-party users to favor their own services, creating unfair competitive advantages.

These market realities reveal a significant gap between das sollen (what the law requires) and das sein (actual market practice). Article 25 of Law No. 5 of 1999 prohibits abuse of dominant position, mandating that businesses with market power shall not exploit their dominance in ways that eliminate competition or harm public interest. Article 19 prohibits market control activities that result in monopolistic practices or unfair business competition (Republik Indonesia, 1999). However, Law No. 5 of 1999 was enacted in the pre-digital era and does not explicitly address data exclusivity or algorithmic discrimination as forms of abuse (Qinvi & Nurul Laylan Hsb, 2025). KPPU enforcement practice demonstrates growing recognition of these issues, but systematic doctrinal frameworks for analyzing data and algorithm access remain underdeveloped. The challenge is to interpret existing statutory provisions in ways that address digital market realities without requiring legislative amendment, a task that demands careful doctrinal innovation grounded in established competition law principles such as the Essential Facilities Doctrine (Abrahamson, 2015).

Essential Facilities Doctrine: Origins and Traditional Application to Physical Infrastructure

The Essential Facilities Doctrine is a competition law principle requiring that a dominant firm provide access to facilities essential for competition when those facilities cannot be reasonably duplicated and denial of access would eliminate effective competition in related markets. The doctrine emerged from early 20th century United States antitrust jurisprudence, most notably in United States v. Terminal Railroad Association (1912), where the Supreme Court held that a railroad association controlling all bridges across the Mississippi River at St. Louis could not deny competing railroads access to this bottleneck infrastructure. The Court recognized that certain facilities are so critical to market participation that their exclusive control by a dominant firm constitutes an insurmountable barrier to competition, justifying mandatory access obligations despite general principles of property rights and freedom of contract.

The doctrine developed further in European Union competition law under Article 102 of the Treaty on the Functioning of the European Union (TFEU), which prohibits abuse of dominant position. The European Court of Justice established foundational principles in Commercial Solvents v. Commission (1974), where a dominant raw materials supplier was required to continue supplying a downstream competitor. The framework was refined in Bronner v. Mediaprint (1998), which articulated a restrictive four-prong test for essential facilities claims: (1) the facility is controlled by a dominant undertaking; (2) the facility is objectively indispensable for competing in the downstream market, meaning duplication is impossible or economically unfeasible; (3) denial of access is likely to eliminate all effective competition in the downstream market; and (4) no objective justification exists for the refusal(Case C-7/97, 1998). This stringent standard reflects judicial concern that overly broad access mandates could undermine property rights, reduce investment incentives, and interfere with competitive dynamics that normally discipline markets.

Traditional EFD application focused on physical infrastructure characterized by natural monopoly properties—ports, railway networks, electricity grids, telecommunications local loops, and stadium facilities. These assets share common features: high fixed costs and low marginal costs creating economies of scale, geographic or technical constraints making duplication impractical, and network effects where value increases with scope of coverage. For example, in telecommunications, the incumbent operator's local loop was recognized as an essential facility because new entrants could not economically duplicate this infrastructure across an entire service territory, yet access was indispensable for competing in telecommunications services markets (Piropato, 2000).

The doctrine remains controversial even in its traditional domain. Critics argue that mandatory access obligations reduce investment incentives for facility owners, create disincentives for potential competitors to invest in alternative infrastructure, pose significant administrative challenges in determining appropriate access terms and pricing, and risk embedding regulatory authorities in ongoing supervision of business relationships that markets could resolve more efficiently. The US courts have been particularly skeptical, with the Supreme Court in Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP (2004) declining to explicitly recognize the doctrine, and several circuit courts subsequently rejecting or narrowly circumscribing essential facilities claims. Proponents counter that in markets characterized by natural monopoly or extreme network effects, voluntary market mechanisms fail to ensure competitive access, and carefully circumscribed mandatory access obligations promote dynamic competition, innovation, and consumer welfare in downstream markets without significantly impairing infrastructure investment incentives (Frischmann & Waller, 2008).

The application of EFD to digital assets represents a doctrinal frontier that tests the doctrine's adaptability and normative coherence. While physical infrastructure exhibits tangible boundaries and measurable replication costs, data and algorithms present fundamentally different characteristics: they are non-rivalrous, potentially replicable through alternative collection methods, and embedded in competitive dynamics driven more by scale, speed, and network effects than by natural monopoly (Graef, 2019; Guggenberger et al., 2021). The critical question is whether these differences preclude EFD application or instead require conceptual adaptation that preserves the doctrine's core logic while accounting for digital market specifics. Indonesian competition law, through Articles 17, 19, and 25 of Law No. 5 of 1999, provides statutory foundations for addressing refusal to deal and abuse of dominance, but their application to data and algorithms requires systematic doctrinal development informed by both international experience and Indonesia's institutional capacities.

Literature Review and Research Gap

International scholarship increasingly recognizes that data and algorithms can, in specific circumstances, exhibit essential facility characteristics requiring access obligations under competition law. Guggenberger (2021) comprehensively analyzes how the Essential Facilities Doctrine (EFD) can address gatekeeping power of online platforms, arguing that persistent myths about the doctrine's economic justification, administrability, and tendency to entrench monopoly must be dispelled to unlock its potential in digital markets. He demonstrates that data access mandates can be economically justified when network effects and feedback loops create insurmountable entry barriers, that courts can administer access obligations through fair, reasonable, and non-discriminatory (FRAND) licensing frameworks developed in intellectual property contexts, and that carefully designed access remedies promote rather than undermine dynamic competition. Graef (2019) examines how EFD should be rethought for the EU digital economy, noting that recent European Commission enforcement actions against Google have effectively bypassed traditional EFD analysis while addressing similar competitive concerns through alternative Article 102 TFEU theories. She argues for reviving EFD with modifications that better align with economic interests at stake in data-driven markets, including recognition that data indispensability should be assessed functionally rather than absolutely, and that refusal to provide data access can eliminate competition even when alternative data sources theoretically exist.

Chinese competition law scholarship offers relevant comparative insights into data governance frameworks. Recent analysis of China's "Data Twenty Measures" and amended Anti-Monopoly Law demonstrates efforts to construct a "mandatory sharing" paradigm predicated on treating data as "quasi-public facilities" (Li, 2026). Chinese scholars propose tripartite criteria for essential data: ecological non-substitutability, public necessity, and technical interoperability. This framework distinguishes "basic operational data" subject to mandatory sharing from "derivative value-added data" where exclusivity rights are preserved to protect innovation incentives. The Chinese approach explicitly addresses tensions between competition enforcement and intellectual property protection through trade secret defenses and algorithmic supervision mechanisms.

In Indonesian scholarship, substantial literature addresses platform dominance, discrimination, and self-preferencing in digital markets, but systematic application of EFD remains limited. Parluhutan (2021) examines big data and essential facilities doctrine in merger assessments, noting that KPPU's 2019 Merger and Acquisition Assessment Guidelines (Regulation No. 3 of 2019) employ five-factor analysis—market concentration, entry barriers, anti-competitive potential, efficiency, and bankruptcy—but do not specifically address data accumulation as a competitively relevant factor. He argues that German

competition law reforms explicitly incorporating data control into dominance assessments provide a useful model, but Indonesian enforcement remains nascent. Wardhani (2022) analyze indicators of abuse of dominant position under Article 25 of Law No. 5 of 1999, observing that KPPU's enforcement accommodates various forms of abuse beyond those explicitly enumerated in Article 25 itself, creating interpretive flexibility but also legal uncertainty. Comparative analysis reveals that EU and US competition frameworks consolidate abuse of dominance conduct into comprehensive statutory provisions, whereas Indonesia's approach disperses specific abusive practices across multiple articles (Articles 17, 19, 25), creating ambiguity about when dominance must be proven.

The intersection of data protection law and competition law remains significantly under-theorized in Indonesian scholarship. Law No. 27 of 2022 on Personal Data Protection (PDP Law) introduces data portability rights enabling data subjects to obtain and transfer personal data to alternative controllers (Republik Indonesia, 2022). Academic analysis of the PDP Law focuses primarily on privacy protection, cross-border data transfer requirements, and compliance obligations, with minimal attention to competition implications. In the EU context, Graef (2020) argue that GDPR data portability and Article 102 TFEU access obligations function as complementary rather than duplicative mechanisms—portability empowers individual switching but does not address business-to-business data access or non-personal data exclusivity that competition law must tackle. Similar analysis is absent in Indonesian literature despite parallel statutory structures.

The research gap is clear: no systematic doctrinal framework exists for applying Essential Facilities Doctrine to data and algorithms under Indonesian Law No. 5 of 1999, and no analysis examines how data portability provisions in Law No. 27 of 2022 synchronize with competition law access obligations. This gap has practical consequences in KPPU enforcement activities. KPPU confronts digital platform cases like the Shopee courier dispute without clear analytical frameworks for determining when data or algorithm control constitutes essential facility abuse. The GoTo merger between Gojek and Tokopedia raised data concentration concerns that KPPU ultimately concluded did not violate competition law (ANTARA News, 2022), but the analytical methodology for assessing data-driven dominance remains opaque. As Indonesia's digital economy continues rapid expansion, the absence of doctrinally coherent frameworks for data and algorithm access creates legal uncertainty, potentially chilling pro-competitive enforcement while failing to provide clear guidance for business compliance.

METHOD

Type of Research

This research employs library-based normative legal methodology, analyzing legal norms, doctrines, and principles through systematic interpretation of statutory texts, judicial decisions, and scholarly literature. The doctrinal focus centers on interpreting Article 25 of Law No. 5 of 1999 concerning abuse of dominant position, along with related provisions in Articles 17 (refusal to deal) and 19 (market control), to assess their capacity to accommodate Essential Facilities Doctrine in digital contexts. Normative legal research examines *das sollen* (legal norms as they ought to be) in relation to *das sein* (actual market realities), where *das sollen* derives from statutory texts and doctrinal principles while *das sein* is documented through KPPU enforcement decisions, platform business practices, and scholarly accounts of digital market dynamics rather than original empirical data collection. The research boundaries exclude systematic literature review methodologies, quantitative data analysis, and primary empirical research such as surveys or interviews, focusing instead on doctrinal interpretation, conceptual development, and comparative legal analysis (Soekanto & Mamudji, 2010).

Research Approaches

Three approaches structure the analysis. The doctrinal/normative approach uses statutory interpretation to analyze Law No. 5 of 1999 on abuse of dominance, market control, and refusal to deal, assessing if these can support the Essential Facilities Doctrine without legislative change. It also examines Law No. 27 of 2022 on Data Protection, particularly Article 27 on data portability, for competition implications. KPPU decisions on digital platforms, such as Shopee's courier discrimination and the GoTo merger, are reviewed, along with guidelines on digital markets and mergers, to identify enforcement gaps.

The conceptual analysis develops the idea of "digital essential facilities" by adapting traditional EFD criteria—control, indispensability, essentiality, and lack of justification—to intangible assets with network effects, non-rivalrous data, and algorithms. It conceptualizes "data advantage" as a competition factor based on scale, scope, and velocity of data, with algorithms acting as market access infrastructure. Key distinctions include personal versus non-personal data, raw data versus APIs, and exclusivity versus portability, addressing different competitive concerns.

The comparative doctrinal analysis reviews EU and US approaches to EFD. EU case law, including Bronner, Commercial Solvents, and Microsoft, illustrates various tests and enforcement practices, complemented by recent actions against Google. The Digital Markets Act mandates data sharing and interoperability for gatekeepers. US law, as reflected in the Sherman Act, emphasizes consumer welfare and efficiency over essential facilities claims. The aim is to use these insights to inform Indonesian law, respecting institutional differences.

Analytical Procedure

The analysis involves six steps. First, doctrinal mapping interprets Articles 17, 19, and 25 of Law No. 5 of 1999 to determine how refusal to deal and essential facilities fit within existing law, and whether the KPPU can enforce EFD through case-by-case rulings and guidelines. Second, conceptual development adapts traditional EFD criteria to digital assets, creating a "digital essential facilities test" that considers the non-rivalry of data, network effects, algorithmic gatekeeping, and innovation. Third, normative assessment checks if certain data and algorithms meet these criteria, exploring tensions between access mandates and efficiency/innovation. Fourth, comparative synthesis draws principles from EU and US law using analogy, testing whether Indonesian laws can include similar ideas. Fifth, integration analysis examines how PDP Law and Competition Law align, focusing on how personal data rights (Law No. 27/2022) and access obligations (Law No. 5/1999) support one another. Sixth, normative reconstruction suggests an enforcement framework for KPPU, covering decision procedures, proof burdens, defense rights, and remedies.

RESULT AND DISCUSSION

Doctrinal Framework: Abuse of Dominance and Refusal to Deal under Article 25 of Law No. 5 of 1999

Article 25 of Law No. 5 of 1999 serves as the primary statutory basis for addressing abuse of dominant position under Indonesian competition law. The provision states: "A business actor is prohibited from using its dominant position, either directly or indirectly, to: (a) set trade terms with the intention of preventing and/or hindering consumers from obtaining competitive goods and/or services, both in price and quality; or (b) limit the market and technological development; or (c) inhibit other business actors who are potential competitors from entering the relevant market". This tripartite structure identifies exclusionary conduct, exploitative practices, and foreclosure as prohibited forms of abuse. The statutory language focuses on effects—preventing consumer access to competitive

alternatives, limiting market development, inhibiting competitor entry—rather than specifying particular conduct, creating interpretive flexibility that can accommodate evolving business practices including data exclusivity and algorithmic discrimination.

Dominance is not defined in Article 25 itself but is addressed in Article 1(4), which defines "dominant position" as a condition where a business actor has no significant competitors in the relevant market in terms of market share, or has the highest position among its competitors in the relevant market in terms of financial capacity, ability to access supply or sales, and ability to adjust supply or demand for certain goods or services. KPPU practice interprets dominance to require both structural market power (typically evidenced by market share exceeding 50% or highest market position with substantial gap from competitors) and behavioral indicia such as pricing power, ability to exclude competitors, and control over essential inputs (Wardhani, 2022). In digital platform contexts, dominance assessment must account for platform-specific factors including network effects that create self-reinforcing market concentration, multi-sided market dynamics where platform value depends on attracting multiple user groups, data advantages that compound over time as user base grows, and algorithmic sophistication that creates barriers to entry beyond simple market share measures.

The question of whether Article 25 encompasses "refusal to deal" or "denial of access to essential facilities" as forms of abuse requires systematic interpretation. The phrase "set trade terms with the intention of preventing consumers from obtaining competitive goods/services" in Article 25(1)(a) can be read to include refusal to supply as an extreme form of setting trade terms—absolute refusal is the most restrictive trade term possible. Similarly, "inhibit other business actors who are potential competitors from entering the relevant market" in Article 25(1)(c) directly addresses foreclosure effects that characterize essential facilities situations where access denial eliminates competition. While Article 25 does not explicitly use "essential facilities" terminology, its effects-based language focusing on preventing market access, limiting development, and inhibiting competitor entry encompasses the competitive harms that Essential Facilities Doctrine addresses.

Article 19 of Law No. 5 of 1999 prohibits business actors from controlling the production and/or marketing of goods and/or services which may result in monopolistic practices and/or unfair business competition, with Article 19(d) specifically prohibiting market control that creates discriminatory practices against particular business actors. In the Shopee courier case (Case No. 04/KPPU-I/2024), KPPU found violations of both Article 19(d) and Article 25(1)(a), demonstrating how these provisions function complementarily to address platform discrimination (Susanto, 2024).

A systematic reading of Articles 19 and 25 reveals that Indonesian competition law provides multiple doctrinal pathways for addressing essential facilities issues. Article 25's broad prohibition on conduct that prevents market access or inhibits competitor entry supplies the primary foundation. Article 19's prohibition on market control creating barriers to entry and discriminatory practices complements this by addressing structural control over essential inputs and selective access denial. Together, these provisions create interpretive space for KPPU to develop Essential Facilities Doctrine through case-by-case enforcement and guideline formulation without requiring legislative amendment.

KPPU enforcement practice demonstrates nascent but growing application of essential facilities reasoning, particularly in telecommunications infrastructure cases where physical network access has been addressed (Sipayung, 2025). The Shopee courier case represents the first explicit application of abuse of dominance principles to algorithmic gatekeeping, though KPPU did not invoke essential facilities terminology. The case established that platforms controlling market access infrastructure violate Article 25 when they discriminate in favor of affiliated services. This precedent creates doctrinal foundations for arguing that data and

algorithms, like physical infrastructure, can constitute essential facilities when they determine market access and cannot be reasonably duplicated.

The teleological interpretation reinforces this conclusion. Law No. 5 of 1999's purpose, stated in Article 3, is to safeguard public interest and improve national economic efficiency, ensure business opportunity equality for all, prevent monopolistic practices and unfair business competition, and create business conduciveness through fair competition regulation. These objectives support interpreting Article 25 to encompass essential facilities situations where exclusive control over critical assets prevents equality of business opportunity and creates monopolistic structures. The legislative history, while pre-dating digital platforms, reflects concern with infrastructure monopolies in sectors like telecommunications and transportation, suggesting that essential facilities concepts were implicitly contemplated even if not explicitly codified.

Conceptual Framework: Adapting Essential Facilities Doctrine to Data and Algorithms

Criterion 1: Control by Dominant Undertaking

Traditional EFD requires that a single dominant firm own or control the essential facility. In digital markets, this translates to a platform having dominant position in a relevant market and exercising exclusive or significantly superior control over data or algorithms. Control does not require absolute exclusivity—even when competitors can collect some data, dominant platforms may possess data advantages in scale, scope, granularity, or velocity that create insurmountable competitive disparities (Competition and Markets Authority (CMA), 2019). For example, Tokopedia's control over years of accumulated transaction data, seller performance metrics, consumer search and purchase histories, and real-time behavioral signals represents a form of control that new e-commerce entrants cannot quickly replicate even though they can collect data from their own (much smaller) user bases. The question is whether the incumbent's data advantage is so substantial that it effectively controls the data asset for competitive purposes.

Algorithmic control exhibits similar dynamics. While competitors can develop their own recommendation or ranking algorithms, dominant platforms' algorithms benefit from training on massive proprietary datasets, creating performance advantages that compound over time through feedback loops. Google's search algorithm, trained on billions of queries and click-through behaviors, achieves relevance that smaller search engines cannot match despite having access to the same algorithmic techniques. The control criterion should thus focus on effective control that creates competitive asymmetries, not merely legal ownership (Frischmann & Waller, 2008).

Criterion 2: Indispensability and Impossibility of Economic Duplication

Traditional EFD requires that the facility cannot be reasonably duplicated—building a second harbor or railway network is economically infeasible due to enormous capital costs and geographic constraints. Data and algorithms present more complex duplication analysis because they are non-rivalrous (one party's use does not prevent another's use) and potentially collectable through alternative means. However, several factors can render data or algorithms effectively indispensable.

For data, network effects create path dependencies where early entrants accumulate user bases that generate data at scales new entrants cannot match within reasonable timeframes or costs. A ride-hailing platform with millions of historical trips possesses data on traffic patterns, driver behavior, and demand fluctuations that enable superior route optimization and dynamic pricing. A competitor starting with zero rides would require years to accumulate equivalent data, during which the incumbent's data advantage compounds (Hagiu & Wright, 2023). Multi-homing (users participating on multiple platforms) can

mitigate but not eliminate these advantages, particularly when switching costs or exclusive dealing arrangements limit multi-homing. Data portability rights, discussed in Section 3.3, enable individuals to transfer personal data but do not address aggregated, anonymized, or business-generated data that creates competitive advantages (Graef, Husovec, & Purtova, 2018).

Algorithms face duplication challenges related to proprietary training data, trade secret protection, and machine learning scale requirements. While algorithmic techniques are often publicly known, their effectiveness depends on training data access. A recommendation algorithm trained on sparse data performs poorly compared to one trained on rich behavioral data. When dominant platforms refuse to share either the algorithms themselves or the training data necessary to develop competitive algorithms, and when the training data cannot be independently obtained at comparable scale and quality, the algorithmic asset becomes indispensable for effective market competition.

The indispensability assessment must be functional and market-specific rather than absolute (Van Siclen, 1996). The question is not whether any theoretical alternative exists, but whether competitors can achieve effective competition without access to the specific data or algorithms controlled by the dominant platform. If alternative data sources or algorithmic approaches enable meaningful competition, indispensability is not met. But if the dominant platform's data advantages or algorithmic sophistication create such substantial quality or cost disparities that downstream competition is effectively foreclosed, functional indispensability exists even if theoretical alternatives are conceivable.

Criterion 3: Access Essential for Competition in Downstream Markets

Traditional Essential Facilities Doctrine (EFD) requires that denial of access eliminate or severely restrict competition in related markets, establishing that the resource is indispensable for downstream market activities. In digital contexts, this manifests in multiple scenarios. First, same-side market foreclosure occurs when platform data or algorithms are essential for competing in the platform market itself. For example, without access to aggregated marketplace data showing product demand trends, pricing benchmarks, and search patterns, a new e-commerce platform cannot offer comparable seller tools or consumer matching, foreclosing entry into the e-commerce platform market.

Second, complementary market foreclosure occurs when third-party service providers need access to platform data to offer complementary services. Fintech applications require transaction data to provide credit scoring or financial management services to platform users. Analytics services require behavioral data to offer business intelligence. When platforms refuse to provide data access through APIs, these complementary markets are foreclosed. Third, downstream market foreclosure occurs when platform users (sellers, service providers) require algorithmic visibility to compete for consumers. In the Shopee courier case, independent logistics providers required algorithmic inclusion to compete for delivery services, and Shopee's algorithm discriminated against them in favor of the platform's affiliated courier, leading to a violation of Indonesia's competition laws (Min, 2024).

The competitive harm threshold requires careful calibration. Absolute foreclosure is not necessary—the question is whether access denial substantially restricts competition such that consumer welfare, innovation, or market pluralism is significantly impaired (Jacobson, 2002). If competitors can achieve effective presence through alternative means, the essentiality criterion is not met. But if the dominant platform's data or algorithm control creates such profound disadvantages that viable competition becomes impossible or commercially irrational, foreclosure exists.

Criterion 4: No Objective Justification for Refusal

Traditional essential facilities doctrine recognizes that dominant firms can refuse access when justified by legitimate business reasons including capacity constraints, safety concerns, or technical infeasibility. In digital contexts, several justifications merit consideration.

Privacy protection constitutes a potentially valid justification, but its scope must be carefully delineated. Sharing personal data that would violate Law No. 27 of 2022 on Personal Data Protection represents a legitimate justification for refusing access (DLA Piper, 2024). However, this justification does not extend to non-personal data, aggregated and anonymized data, or business-generated data not subject to personal data protection. Moreover, data portability rights under the PDP Law enable personal data sharing with user consent, meaning privacy concerns may be addressable through appropriate consent and anonymization mechanisms rather than absolute refusal.

Intellectual property rights, particularly trade secret protection for proprietary algorithms, represent another potential justification. Algorithms constitute valuable intellectual property, and mandatory disclosure could undermine innovation incentives and competitive advantages that firms legitimately earned through investment and ingenuity. However, IP rights are not absolute. Competition law recognizes that even IP-protected assets can be subject to access obligations when they constitute essential facilities and when access terms can be structured to protect confidentiality and limit use to competitive purposes. In the EU Microsoft case, the Commission required disclosure of interoperability information protected as trade secrets, but imposed safeguards including confidentiality agreements and restrictions on use (Gore & van Rooijen, 2021).

Efficiency defense merits serious consideration. Platforms may argue that exclusive data use enables efficiencies—personalized services, quality improvements, fraud prevention—that sharing would undermine. If data sharing would materially reduce service quality, increase costs, or eliminate efficiencies that benefit consumers, and if these efficiency losses outweigh competitive benefits from increased access, refusal may be justified (International Competition Network, 2011). The burden should lie with the dominant platform to substantiate efficiency claims with credible evidence, and KPPU should apply proportionality analysis weighing efficiency losses against competitive harms.

Technical feasibility and cost concerns are also relevant. If data sharing imposes prohibitive technical burdens, creates cybersecurity risks, or requires investments disproportionate to competitive benefits, these considerations may justify refusal. However, dominant platforms should not be permitted to invoke self-created technical incompatibilities or refuse to invest in data-sharing infrastructure when such investments are feasible and proportionate to their market position.

Synthesis: Digital Essential Facilities Test

Integrating these adaptations yields a four-prong cumulative test for qualifying data or algorithms as essential facilities under Article 25 of Law No. 5 of 1999. The essential facilities doctrine in competition law traditionally requires: (1) control of the essential facility by a monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility. This established framework is adapted to digital markets as follows:

Dominant control: The platform possesses dominant position in a relevant market and exercises exclusive or substantially superior control over data or algorithms such that competitors face material disadvantages.

Economic and technical indispensability: Competitors cannot reasonably replicate the data or algorithms due to network effects, scale requirements, first-mover advantages, or data

generation characteristics, and absence of access creates insurmountable barriers to effective competition (Rubinfeld & Gal, 2016)

Downstream market foreclosure: Denial of access eliminates or substantially restricts competition in the platform market, complementary markets, or downstream markets, resulting in consumer welfare harm, reduced innovation, or market concentration (Crémer, de Montjoye, & Schweitzer, 2019).

No overriding justification: The platform cannot demonstrate that refusal is justified by privacy protection, intellectual property rights, efficiency defense, or technical/cost constraints that outweigh competitive harm, when these justifications are assessed through proportionality analysis.

This test is intentionally stringent, ensuring that EFD application remains exceptional rather than routine (Lipsky & Sidak, 1999). All four criteria must be satisfied cumulatively—failure to meet any single criterion precludes essential facilities classification. The test acknowledges that data and algorithms are not inherently essential facilities but can become so when specific market conditions, structural factors, and competitive dynamics converge. Case-specific analysis is indispensable, precluding blanket rules that all data or all algorithms must be shared.

Synchronization of Data Portability (Law No. 27/2022) and Competition Law Access Obligations

Data Portability under Law No. 27/2022

Article 27 of the PDP Law grants data subjects the right to receive personal data concerning themselves in structured, commonly used, and machine-readable format, and the right to transmit such data to another personal data controller without hindrance from the original controller (Republik Indonesia, 2022). This right applies when processing is based on consent or contractual necessity and is carried out by automated means, mirroring the conditions established in Article 20 of the European Union's General Data Protection Regulation. The Draft Government Regulation on PDP implementation specifies that portability facilitates switching between services, enables multi-homing, and reduces lock-in effects that entrench dominant platforms. However, portability scope is limited to personal data—information relating to identified or identifiable natural persons. It does not extend to aggregated data, anonymized data, business-generated data, or inferred data that platforms derive from personal data through analytics but that does not directly relate to identifiable individuals.

Portability implementation faces several practical challenges. "Technical feasibility" is required but not precisely defined, creating potential for platforms to argue that data transfer is infeasible due to format incompatibilities, system architectures, or technical complexity. Small and medium enterprises may lack the technical infrastructure, IT systems investment, and expertise required to implement robust portability mechanisms. Additionally, interoperability standards remain underdeveloped. Security and privacy risks arise when data is transferred across platforms, particularly regarding authentication, encryption, and unauthorized access prevention. These risks include data leakage during transfer, inadequate identity verification procedures, and increased vulnerability to phishing or credential theft, with research demonstrating that portability mandates can increase data breach probability (Kim, 2025).

Despite these challenges, portability serves crucial competition functions. By reducing consumer switching costs, it eases entry by new market participants and intensifies competitive pressure on incumbent platforms (De Streel, Feasey, Krämer, & Monti, 2021). Portability enables multi-homing behavior that weakens single-platform dominance and

empowers consumers to leverage data as a competitive asset rather than remaining locked into incumbent platforms.

Competition Law Access Mandates under Law No. 5/1999

The essential facilities doctrine is implicitly embedded in Indonesia's competition law through Article 25 of Law No. 5/1999, which prohibits business actors from using their dominant position to restrict market and technology development or hamper potential competitors from entering the relevant market (Republik Indonesia, 1999). This provision operates at the business-to-business level and has been interpreted to address refusal-to-deal scenarios, including potential denials of access to critical business inputs. While the statutory language does not explicitly enumerate data or algorithms as essential facilities, the doctrine's application to these digital assets represents a contemporary extension of Article 25(1)(b)'s prohibition on restricting market and technology development.

The theoretical scope of essential facilities access in digital markets may extend to aggregated market data (such as transaction volumes, pricing trends, and demand patterns), anonymized behavioral data, algorithmic access through APIs enabling recommendation or matching functionalities, and operational data including logistics networks and payment processing systems. However, Law No. 5/1999 was enacted before the emergence of digital platform economies, and Indonesian legal scholarship acknowledges that explicit regulation of essential facilities duties and data access obligations remains underdeveloped in the current statutory framework (Wardhana, 2018).

KPPU's enforcement authority derives from Article 47, which empowers the Commission to impose administrative sanctions when violations are found, including behavioral remedies such as orders to cease anticompetitive activities and structural measures including annulment of mergers or vertical integration arrangements. Where dominant platforms' refusal to provide access to essential facilities is found to violate Article 25, KPPU may theoretically impose access mandates as remedies under its Article 47(2) powers to order business actors to cease abuse of dominant position and take specific actions to restore competition. However, the legal framework for such mandates requires interpretive application of general remedial provisions rather than explicit statutory authorization for data or algorithm sharing requirements.

Complementary Coverage and Coordination

Data portability and competition law access obligations function as complementary governance mechanisms addressing different dimensions of data exclusivity. Personal data portability enables individual data subjects to transfer their data, reducing consumer lock-in effects and facilitating platform switching, though empirical evidence suggests its effectiveness varies considerably depending on market structure and implementation (Zhang, 2023). Data portability theoretically empowers consumers to diversify data across platforms, weakening network effects that entrench single-platform dominance. For example, if consumers can easily transfer their transaction histories, preferences, and social connections from Tokopedia to a competing e-commerce platform, Tokopedia's data advantage may diminish and competitive entry could become more feasible.

However, existing legal mechanisms for data portability are structurally insufficient to overcome barriers related to business-generated data, aggregated market insights, and algorithmic infrastructure that fall outside individual portability rights. Competition law access mandates under Indonesia's Law No. 5/1999 provide legal authority to address anticompetitive practices and market dominance abuse, though the application of essential facilities doctrine to data and algorithms remains evolving rather than a clearly established statutory obligation. This addresses structural barriers that portability alone cannot overcome.

For example, even if individual consumers can port their personal purchase histories, new e-commerce platforms still cannot access the aggregated marketplace data showing overall demand trends, pricing benchmarks, and seller performance metrics that enable effective platform management. Competition law access obligations fill this gap by potentially requiring sharing of non-personal data essential for market entry and effective competition, though mandatory data sharing requires careful governance design that combines economic efficiency with legal necessity (Graef & Prüfer, 2021).

Addressing Self-Preferencing through Synchronized Enforcement

Self-preferencing—platforms using proprietary data and algorithms to favor their own services over third-party competitors—represents a paradigmatic abuse that synchronized data governance can address. In the Shopee courier case, the platform leveraged algorithmic control to preference its affiliated courier (SPX) over independent providers. The Indonesian Business Competition Supervisory Commission (KPPU) concluded that Shopee violated Law No. 5 of 1999 on the Prohibition of Monopolistic Practices and Unfair Business Competition, specifically breaching Article 19(d), which prohibits discriminatory practices against other businesses, and Article 25(1)(a), which prohibits businesses from using a dominant position to prevent or impede consumers from obtaining competitive goods or services (Min, 2024).

Portability rights contribute to addressing self-preferencing by enabling consumers to access their own data, including transaction histories and service preferences, which they can share with alternative platforms. This consumer-side portability weakens platforms' ability to leverage user lock-in as a basis for preferencing their own services—consumers who can easily switch or multi-home are less captive to platform preferences. However, portability does not address the business-to-business dimension of self-preferencing where platforms deny third-party competitors access to algorithms, marketplace data, or operational infrastructure.

Competition law access obligations complement portability by directly addressing platform conduct that forecloses rivals. Non-discrimination obligations under Article 19 prohibit platforms from using algorithmic manipulation to systematically disadvantage third-party services. The essential facilities doctrine, increasingly recognized as applicable to data and digital infrastructure, requires platforms to provide competitors with access to data and algorithms when such access is essential for competition and denial constitutes abuse. The Shopee remedies illustrate this approach—KPPU required Shopee to adjust its courier service practices, and Shopee signed a Behavioral Change Integrity Pact committing to non-discriminatory treatment following the admission of violations (Indonesia Business Post, 2024). These remedies go beyond individual portability rights to address structural market access issues.

Coordination Mechanism: Dual-Track Data Governance Framework

Effective synchronization requires a dual-track framework. Track 1 (Personal Data) operates through the PDP Law, with data portability as a default right exercisable by individuals under Article 13. This track empowers consumer control, reduces switching costs, and promotes contestability through user-driven data mobility. Enforcement responsibility lies with the Ministry of Communication and Digital Affairs (or designated personal data protection authority), focusing on portability implementation, interoperability standards, and privacy safeguards.

Track 2 (Non-Personal Data and Algorithms) operates through competition law, with Essential Facilities Doctrine-based access obligations imposed case-by-case when dominant platforms refuse access in circumstances meeting the four-prong test. This track addresses business-to-business access to aggregated data, algorithmic infrastructure, and operational

data essential for market competition but not covered by personal data portability. Enforcement responsibility lies with KPPU, Indonesia's sole competition law enforcement authority with powers over administrative investigations, dominance assessment, competitive effects analysis, and remedy design.

Coordination between tracks requires inter-agency dialogue to ensure that PDP portability rights are effectively implemented such that they address competitive concerns where applicable (European Data Protection Board (EDPB), 2025). Competition law access mandates must respect privacy protections by focusing on non-personal or adequately anonymized data, distinguishing between individual-level personal data access governed by data protection law and access to aggregated data by third parties governed by competition law. When addressing specific cases, KPPU should assess whether PDP portability rights already resolve the competitive concern—if consumers can port their personal data and this suffices to enable effective competition, additional competition law intervention may be unnecessary. Conversely, when portability proves insufficient because essential data is non-personal or because business users (rather than individual consumers) require access, competition law intervention becomes appropriate.

Comparative Perspectives: EFD Application to Data and Algorithms in EU and US

European Union Approach

The EU applies EFD through Article 102 TFEU, which prohibits undertakings holding dominant positions from abusing such positions. The Bronner test establishes strict criteria: indispensability, elimination of competition, and no objective justification. However, the European Commission has pursued data access issues through alternative Article 102 theories, effectively bypassing traditional EFD analysis while addressing similar concerns.

The Microsoft case (2004) required the dominant operating system provider to disclose interoperability information to competing server software providers, including interfaces and protocols necessary for servers to function within Windows-dominated networks. The Commission found that Microsoft's refusal to provide this information constituted abuse under Article 102, emphasizing that access was indispensable for competitors to remain viable in server operating systems markets (Papademetriou, 2007). Significantly, the Commission required disclosure of information protected as trade secrets, but imposed confidentiality protections and limited use to interoperability purposes, demonstrating that IP rights do not automatically preclude access obligations.

Recent Google Shopping and Google Android cases addressed self-preferencing and tying in digital markets. In Google Shopping, the Commission found that Google's search engine systematically favored its own comparison shopping service while demoting competitors' services in search results, leveraging dominance in general search to extend into comparison shopping (Ahlborn, Lukey, María, & Martí, 2024). The remedy required Google to display competing comparison shopping services with equal prominence, effectively mandating algorithmic neutrality. While not explicitly invoking EFD, the remedy's logic resembles essential facilities reasoning—Google's search algorithm functions as market access infrastructure, and discriminatory algorithmic treatment forecloses competition. In Google Android, the Commission challenged Google's practice of bundling its apps with the Play Store and imposing anti-fragmentation agreements that restricted competing versions of Android, resulting in a €4.34 billion fine.

The Digital Markets Act (DMA) entered into force on November 1, 2022, became applicable on May 2, 2023, and imposed full compliance obligations on designated gatekeepers by March 6, 2024 (European Commission, 2022). The DMA represents a regulatory paradigm shift from case-by-case enforcement to ex ante obligations for designated "gatekeepers." Article 6 DMA imposes explicit data sharing, portability, and

interoperability obligations on gatekeepers, including requirements to provide business users with access to data generated through platform use, ensure real-time data portability for consumers, and grant interoperability for ancillary services. DMA obligations are prophylactic, not requiring proof of abuse or anticompetitive effects, reflecting a policy choice to prevent gatekeepers from leveraging data advantages rather than waiting for harm to manifest. This ex ante approach contrasts with Article 102's ex post enforcement but serves complementary functions—DMA prevents structural data exclusivity while Article 102 remedies specific abuses.

Lessons for Indonesia

EU experience demonstrates that data and algorithm access can be effectively addressed through competition law, but multiple analytical pathways exist. Indonesia can apply Article 25 through essential facilities reasoning (as proposed in this article) or develop alternative abuse theories analogous to EU self-preferencing analysis. The key insight is that access obligations need not be labeled "essential facilities" to achieve similar objectives—what matters is systematic analysis of dominance, indispensability, foreclosure effects, and objective justifications.

EU experience also highlights tensions between case-by-case enforcement and ex ante regulation. Indonesia currently follows ex post enforcement through KPPU investigation and adjudication under Law No. 5/1999 Concerning the Prohibition of Monopolistic Practices and Unfair Business Competition. Whether Indonesia should pursue ex ante regulation analogous to DMA requires separate policy analysis beyond this article's scope, but the EU demonstrates that both approaches can coexist productively. For near-term enforcement, Article 25 provides adequate statutory basis for case-by-case application of essential facilities principles without requiring legislative reform.

United States Approach

US courts have been considerably more skeptical of essential facilities claims under Section 2 of the Sherman Act, which prohibits monopolization and attempted monopolization. While some circuits recognize the doctrine, others have rejected or narrowly circumscribed it. The Supreme Court has never explicitly endorsed the essential facilities doctrine, and in Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP (2004), the Court expressed doubt about mandatory dealing requirements absent antitrust violations beyond mere refusal.

The US emphasis on consumer welfare and efficiency reflects Chicago School influence, with courts requiring clear demonstration of anticompetitive effects on consumer prices, output, quality, or innovation before imposing dealing obligations. This creates high evidentiary burdens that have limited essential facilities enforcement. Academic and policy debates continue regarding data access mandates, with prominent scholars and officials across the political spectrum advocating for stronger intervention against platform gatekeepers, but enforcement precedent remains limited.

Lessons for Indonesia

US caution highlights the importance of balancing access mandates against innovation incentives and property rights. Even advocates of data access regulation in the US emphasize that obligations must be carefully tailored, proportionate, and subject to robust defenses based on efficiency, IP protection, and technical feasibility. Indonesia should adopt similarly rigorous analytical frameworks ensuring that Article 25 enforcement is evidentiary-based, proportionate, and incorporates balancing tests that consider both competitive harms and legitimate business justifications.

Convergent Principles

Despite differences, EU and US experience reveals convergent principles applicable to Indonesian contexts. First, case-specific assessment is essential—blanket rules mandating data sharing are inappropriate; each case requires careful analysis of market power, indispensability, foreclosure, and justifications. Second, balancing tests are indispensable—access mandates must be weighed against efficiency losses, innovation disincentives, and IP protection. Third, procedural safeguards protect dominant firms' rights to present defenses and ensure access terms are fair, reasonable, and non-discriminatory. Fourth, remedy design matters—access obligations should be proportionate, technically feasible, and include confidentiality protections, usage restrictions, and fair pricing mechanisms. These principles should inform Indonesian enforcement under Article 25.

Normative Framework: Enforcement Guidance for KPPU on Data and Algorithm Access

Step 1: Market Definition and Dominance Assessment

KPPU must first define the relevant market and assess whether the platform possesses dominant position. Digital markets require careful market definition accounting for multi-sided platform dynamics, indirect network effects across user groups, and zero-price markets where users pay with data rather than money. This approach aligns with KPPU Chairman Regulation 4/2022, which provides specific guidance on relevant markets for dual and multi-sided platforms (HHP Law Firm, 2023).

Dominance assessment employs traditional factors including market share (typically 50% or higher threshold, or highest position with substantial gap from competitors), barriers to entry (network effects, data advantages, switching costs), financial capacity, and control over supply/distribution. Digital-specific factors must supplement traditional analysis: scale and scope of data accumulation, algorithmic sophistication and performance advantages, user lock-in through proprietary ecosystems, and ability to leverage dominance across related markets.

Step 2: Apply Digital Essential Facilities Test

Once dominance is established, KPPU applies the four-prong cumulative test established in European competition law and adaptable to digital contexts:

1. Dominant control: Does the platform exercise exclusive or substantially superior control over data or algorithms such that competitors face material disadvantages? Evidence includes data volume and velocity comparisons, algorithmic performance disparities, and competitor testimony regarding inability to access equivalent data.
2. Economic and technical indispensability: Can competitors reasonably replicate the data or algorithms? Analysis considers network effects and feedback loops, time and cost required for data accumulation, availability of alternative data sources, technical barriers to algorithm development, and whether multi-homing or data portability mitigates indispensability.
3. Downstream foreclosure: Does access denial eliminate or substantially restrict competition? Analysis examines market entry deterrence (potential competitors unable to enter), existing competitor exclusion (rivals forced to exit or accept marginal positions), consumer harm (reduced choice, quality, innovation), and innovation suppression (new business models or services foreclosed).
4. Objective justification assessment: Can the platform demonstrate valid justifications? Defenses include privacy compliance (sharing would violate PDP Law), IP protection (algorithms are trade secrets requiring confidentiality), efficiency defense (exclusive use

enables quality/cost benefits outweighing competitive harm), and technical/cost infeasibility (sharing imposes disproportionate burdens).

If all four criteria are satisfied affirmatively (dominance and control, indispensability, foreclosure, no valid justification), prima facie abuse under Article 25 exists, and access mandate may be appropriate. If any criterion fails, essential facilities classification does not apply, though other competition law theories may still be relevant.

Step 3: Design Access Remedy

When essential facilities abuse is found, KPPU must design proportionate access remedies addressing several dimensions. Scope specification determines what must be shared—only data and algorithms necessary for restoring competition, avoiding over-inclusive mandates. Terms must be fair, reasonable, and non-discriminatory (FRAND), with pricing (if any) based on reasonable cost recovery, not exploitative monopoly pricing. The FRAND framework, originally developed for standard essential patents, provides established principles for determining fair compensation while preventing the dominant firm from extracting monopoly rents through access pricing.

Privacy safeguards require anonymization, aggregation, or consent mechanisms ensuring personal data protection compliance. The European Data Protection Board has clarified that data protection obligations under laws equivalent to the GDPR can legitimately constrain competition law access mandates, requiring careful balancing of both regulatory objectives (European Data Protection Board (EDPB), 2025). IP protections include confidentiality agreements, usage restrictions limiting data to competitive purposes not free-riding, and trade secret safeguards. Technical implementation specifies data formats, API access protocols, update frequencies, and technical support obligations. Monitoring and review establish periodic assessments of remedy effectiveness and competitive effects.

Defenses Available to Dominant Platforms

Platforms bear the burden of substantiating defenses with credible evidence. Five defenses merit recognition:

1. Efficiency defense: Exclusive data use enables significant efficiencies (personalization, quality, fraud prevention) that sharing would materially undermine, and efficiency benefits outweigh competitive harm. Platform must quantify efficiency gains and demonstrate that data sharing would eliminate them.
2. IP rights: Algorithms constitute protectable trade secrets, and mandatory disclosure would undermine IP protection and reduce innovation incentives. Defense is stronger when algorithms represent substantial R&D investment and when confidentiality protections cannot adequately safeguard proprietary information (Gikay, 2025).
3. Privacy concerns: Sharing personal data violates Law No. 27/2022 or creates unacceptable privacy risks. The EDPB has confirmed that privacy compliance constitutes a valid justification for limiting data access, though this defense is constrained when access can be structured using anonymized or aggregated data, or when portability rights enable sharing with user consent.
4. Technical infeasibility: Data sharing imposes prohibitive technical burdens (incompatible systems, cybersecurity risks, infrastructure investment) disproportionate to competitive benefits. Platform must demonstrate specific technical barriers and cost estimates.
5. Alternative means: Competitors can achieve effective competition through alternative data sources, algorithmic approaches, or business models, meaning the asset is not truly indispensable. Platform must provide concrete evidence of viable alternatives actually available to competitors.

KPPU assesses defenses through proportionality analysis, weighing the magnitude of claimed justifications against competitive harms. Defenses that merely reduce platform profits or convenience are insufficient; defenses must demonstrate material harms to efficiency, innovation, privacy, or technical feasibility that outweigh benefits of restoring competition.

Procedural and Institutional Considerations

Effective implementation requires institutional development. KPPU should issue specific guidelines on Essential Facilities Doctrine application to digital assets, incorporating the framework developed in this article while preserving case-by-case flexibility. Guidelines provide legal certainty for businesses while enabling adaptation to evolving market conditions.

Inter-agency coordination with the Ministry of Communication and Digital Affairs ensures that competition law access mandates respect privacy protections under the PDP Law. Coordination with the Directorate General of Intellectual Property balances access obligations with trade secret and patent protections. International experience demonstrates that effective enforcement of competition law in digital markets requires structured cooperation mechanisms between competition authorities and sector-specific regulators, including formal information-sharing protocols, joint working groups, and coordinated enforcement actions (European Data Protection Board (EDPB), 2025).

KPPU capacity building is essential—commissioners and investigators require training in data science, algorithm analysis, and digital market economics to credibly assess essential facilities claims and defenses. KPPU should consider appointing technical advisors or establishing specialized digital economy units.

Judicial review must apply appropriate standards of review. Courts should defer to KPPU's technical and economic assessments while scrutinizing procedural fairness, evidentiary support, and legal reasoning (United States (U.S. Department of Justice, 2019). This standard recognizes that competition authorities possess specialized expertise in economic analysis and market assessment that courts generally lack, while preserving judicial oversight of legal interpretation and procedural regularity. Given the complexity of digital market analysis, de novo review risks substituting judicial economic judgment for agency expertise, but deferential review must not preclude meaningful correction of legal errors or unsupported factual findings.

CONCLUSION

This article demonstrates that data and algorithms can be classified as essential facilities requiring access sharing under Article 25 of Law No. 5 of 1999 when four cumulative criteria are satisfied: dominant control by a platform with market power, economic and technical indispensability such that competitors cannot reasonably replicate the assets, downstream market foreclosure where access denial eliminates effective competition, and absence of overriding justifications based on efficiency, intellectual property, privacy, or technical constraints. The proposed digital essential facilities test adapts traditional doctrine to account for non-rivalrous data characteristics, network effects, algorithmic gatekeeping, and innovation dynamics that distinguish digital assets from physical infrastructure. Systematic interpretation of Articles 17, 19, and 25 of Law No. 5 of 1999 reveals that Indonesian competition law provides adequate statutory foundations for Essential Facilities Doctrine application without requiring legislative amendment, as these provisions' effects-based language encompassing prevention of market access, limitation of development, and inhibition of competitor entry directly addresses competitive harms that data and algorithm exclusivity create. The framework synchronizes data portability rights under Law No. 27 of

2022 with competition law access obligations, demonstrating that these regimes function as complementary governance mechanisms where portability empowers individual switching and reduces consumer lock-in while competition law addresses business-to-business access to non-personal data and algorithmic infrastructure essential for market competition.

The normative framework proposed for KPPU enforcement balances access mandates with legitimate business justifications through rigorous multi-step analysis encompassing market definition and dominance assessment, application of the four-prong digital essential facilities test, proportionate remedy design incorporating FRAND terms and privacy safeguards, and robust defenses based on efficiency, intellectual property protection, and technical feasibility that platforms can substantiate with credible evidence. Comparative analysis of EU Article 102 TFEU enforcement and US Sherman Act approaches reveals convergent principles applicable to Indonesian contexts: case-specific assessment rather than blanket mandates, balancing tests weighing competitive benefits against efficiency and innovation costs, procedural safeguards protecting dominant firms' defense rights, and remedy design emphasizing proportionality and technical feasibility. Implementation requires institutional development including KPPU guidelines providing legal certainty while preserving analytical flexibility, inter-agency coordination with personal data protection and intellectual property authorities, capacity building enabling KPPU to credibly assess complex digital market economics, and appropriate judicial review standards balancing deference to agency expertise with correction of legal errors. This framework responds to strategic challenges of data exclusivity in Indonesia's AI-driven digital economy while respecting legal traditions, institutional capacities, and the imperative to promote both competition and innovation in markets increasingly defined by data and algorithmic assets that determine who competes, on what terms, and with what prospects for success.

REFERENCES

Abrahamson, Z. (2015). Essential Data. *Yale Law Journal*, *124*(7). Retrieved from https://yalelawjournal.org/comment/essential-data

Ahlborn, C., Lukey, B., María, &, & Martí, M. (2024). *ECJ's Google Shopping Judgment: The End of a Long Saga*. Retrieved from https://www.covcompetition.com/2024/09/ecjs-google-shopping-judgment-the-end-of-a-long-saga/

ANTARA NEws. (2022). KPPU putuskan merger Gojek-Tokopedia tidak langgar persaingan usaha. Retrieved from https://www.antaranews.com/berita/2788973/kppu-putuskan-merger-gojek-tokopedia-tidak-langgar-persaingan-usaha

Case C-7/97. (1998). *Oscar Bronner GmbH & Co. KG v. Mediaprint, ECR I-7791* (Vol. 11).

Competition and Markets Authority (CMA). (2019, July 3). *Online platforms and digital advertising market study*. Retrieved from https://assets.publishing.service.gov.uk/media/5fe495

Crémer, J., de Montjoye, Y.-A., & Schweitzer, H. (2019). *Competition policy for the digital era* (6).

De Streel, A., Feasey, R., Krämer, J., & Monti, M. (2021, May 7). Data portability, interoperability and digital platform competition. *OECD Digital Economy Papers No. 316*. Organisation for Economic Co-operation and Development (OECD). https://doi.org/10.1787/0f79ce1d-en

DLA Piper. (2024). *Data protection laws in Indonesia*. Retrieved 02/10/2026 from https://www.dlapiperdataprotection.com/?t=law&c=ID

European Commission. (2022). *About the Digital Markets Act*. Retrieved from https://digital-markets-act.ec.europa.eu/about-dma_en

European Data Protection Board (EDPB). (2025). *Position paper on Interplay between data protection and competition law*. Brussels, Belgium.

Frischmann, B., & Waller, S. W. (2008). Revitalizing Essential Facilities. *Antitrust Law Journal*, *75*(1), 1–65. Retrieved from http://www.jstor.org/stable/27897568

Gikay, A. A. (2025). Trade secrecy in automated decisions: against the myth of irreconcilability and the imposition of patents. *Journal of Intellectual Property Law and Practice*, *20*(8), 552–561. https://doi.org/10.1093/jiplp/jpaf038

Gore, D., & van Rooijen, A. (2021). *Ex Post Assessment of European Competition Policy: The Microsoft Cases*. *Draft Report for the 2021 Annual Conference of the GCLC*. Bruges, Belgium: Global Competition Law Centre (GCLC), College of Europe. Retrieved from https://www.coleurope.eu/sites/default/files/uploads/page/gclc_report_draft_-_the_microsoft_cases.pdf

GoTo Company. (2021, May 17). *Gojek and Tokopedia combine to form GoTo, the largest technology group in Indonesia and the "go to" ecosystem for daily*. Retrieved from https://www.gotocompany.com/en/news/press/gojek-tokopedia-combine-goto

Graef, I. (2019). Rethinking the Essential Facilities Doctrine for the EU Digital Economy. *Revue Juridique Thémis de l'Université de Montréal*, *53*(1), 33–72.

Graef, I. (2020). *The Opportunities and Limits of Data Portability for Stimulating Competition and Innovation*. Retrieved from https://ssrn.com/abstract=3740185

Graef, I., Husovec, M., & Purtova, N. (2018). Data Portability and Data Control: Lessons for an Emerging Concept in EU Law. *German Law Journal*, *19*(06), 1360–1398.

Graef, I., & Prüfer, J. (2021). Governance of Data Sharing: a Law & Economics Proposal - Discussion Paper. *Tilburg Law and Economy Center*. Retrieved from https://ssrn.com/abstract=3774912Electroniccopyavailableat:https://ssrn.com/abstract=3774912

Guggenberger, N., Balkin, J. M., Duan, C., Martina, R., Nachbar, T., Palka, P., … Zebb, P. (2021). *The Essential Facilities Doctrine in The Digital Economy: Dispelling Persistent Myths*. *Yale Journal of Law & Technology* (Vol. 23). Retrieved from https://promarket.org/2020/12/07/essential-facilities-regulation-platform-

Hagiu, A., & Wright, J. (2023). Data-enabled learning, network effects, and competitive advantage. *The RAND Journal of Economics*, *54*(4), 638–667. https://doi.org/https://doi.org/10.1111/1756-2171.12453

HHP Law Firm. (2023). *Indonesia: Competition authority issues regulations on new approach to defining relevant market and paying administrative fines by instalments*.

Indonesia Business Post. (2024, July 4). *Shopee and Shopee Express sign 'Behavioural Change Integrity Pact.'* Retrieved 02/11/2026 from https://indonesiabusinesspost.com/2277/Politics/shopee-and-shopee-express-sign-behavioural-change-integrity-pact

International Competition Network. (2011). *Competition Enforcement and Consumer Welfare: Setting the Agenda*. International Competition Network. Retrieved from https://www.internationalcompetitionnetwork.org/wp-content/uploads/2019/11/SP_CWelfare2011.pdf

Jacobson, J. M. (2002). Exclusive Dealing, "Foreclosure", and Consumer Harm. *Antitrust Law Journal*, *70*(2), 311–369. Retrieved from http://www.jstor.org/stable/40843558

Kim, J.-Y. (2025). Data Portability and Interoperability Between Digital Platforms. *Journal of Economics & Management Strategy*. https://doi.org/10.1111/jems.12643

KPPU. (2024, June 20). *Shopee Ajukan Perubahan Perilaku pada Sidang Majelis di KPPU*. Retrieved 02/11/2026 from https://kppu.go.id/blog/2024/06/shopee-ajukan-perubahan-perilaku-pada-sidang-majelis-di-kppu/

Li, K. (2026). The Chinese Path to Mandatory Data Sharing among Platform Enterprises: A Perspective on the Localized Reconstruction of the Essential Facilities Doctrine. *International Journal of Social Sciences and Public Administration*, *10*(1), 32–43. https://doi.org/10.62051/ijsspa.v10n1.05

Lipsky, A. B., & Sidak, J. G. (1999). Essential Facilities. *Stanford Law Review*, *51*(5), 1187–1248. https://doi.org/10.2307/1229408

Min, L. (2024, June 27). *JURISTnews: Shopee agrees to adjust courier service practices after admitting to violating Indonesia competition law*. Retrieved from https://www.jurist.org/news/2024/06/shopee-agrees-to-adjust-courier-service-practices-after-admitting-to-violating-indonesia-competition-law/

Papademetriou, T. (2007). *European Union: Infringement of Competition Rules: The Microsoft Case*. Retrieved from http://www.law.gov

Parluhutan, D. (2021). Analisis Hukum Kompetisi terhadap "Big Data" dan Doktrin "Essential Facility" dalam Transaksi Mergerdi Indonesia. *Jurnal Persaingan Usaha*, *1*(1).

Piropato, M. A. (2000). Open Access and the Essential Facilities Doctrine: Promoting Competition and Innovation. *Chicago Legal Forum*, *13*(1), 13.

Qinvi, N. U., & Nurul Laylan Hsb. (2025). Challenges in Competition Law Enforcement Against Data Monopoly in Indonesia's Digital Economy. *Justice Law Review*, *1*(2), 24–35. https://doi.org/10.64317/jlr.v1i2.21

Republik Indonesia. (1999). *Undang-Undang Republik Indonesia Nomor 5 Tahun 1999 Tentang Larangan Praktek Monopoli dan Persaingan Usaha Tidak Sehat*.

Republik Indonesia. (2022). *Undang-Undang Republik Indonesia Nomor 27 Tahun 2022 Tentang Perlindungan Data Pribadi*.

Rubinfeld, D., & Gal, M. (2016). Access Barriers to Big Data. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2830586

Santesteban, C., & Longpre, S. (2020). Effective Interoperability to Enhance Competition in Social Networking: Breaking Down Data-Driven Barriers to Entry. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3733851

Sipayung, G. N. (2025). *Analisis penerapan Essential Facilities Doctrine terhadap pelaku usaha milik negara dalam perspektif hukum persaingan usaha* (Undergraduate Thesis). Medan, Sumatera Utara: Universitas Sumatera Utara.

Soekanto, S., & Mamudji, S. (2010). *Penelitian Hukum Normatif : Suatu Tinjauan Singkat* (1st ed.). Raja Grafindo Persada. Retrieved from http://inlislite.perpusnas.go.id

Susanto, V. Y. (2024, May 29). *KPPU Menyelisik Shopee Soal Diskriminasi Jasa Kurir*. Retrieved 02/10/2026 from https://insight.kontan.co.id/news/kppu-menyelisik-shopee-soal-diskriminasi-jasa-kurir?utm_source=chatgpt.com

United States (U.S. Department of Justice, A. D. (2019, June 4). The standard of review by courts in competition cases – Note by the United States. *Competition Committee – Working Party No. 3 on Co-Operation and Enforcement*. Organisation for Economic Co-operation and Development (OECD). Retrieved from www.oecd.org/daf/competition/standard-of-review-by-courts-in-competition-cases.htm

Van Siclen, S. (1996). The Essential Facilities Concept. *Series Roundtables on Competition Policy No. 5; OCDE/GD(96)113. Organisation for Economic Co-Operation and Development (OECD)*. Paris, France.

Wardhana, N. (2018). Legal Analysis of The Doctrine of Essential Facilities Duties in The Indonesia Competition Law. *Diponegoro Law Review*, *03*, 257–263. Retrieved from https://supreme.justia.com/cases/federal/us/224/383/case.html,

Wardhani, W. E. (2022, March). *Analisis Yuridis Indikator Penyalahgunaan Posisi Dominan Menurut Pasal 25 Undang Undang Nomor 5 Tahun 1999 Dalam Putusan Komisi Pengawas Persaingan Usaha (Kppu)* (Undergraduate Thesis). Universitas Brawijaya.

Zhang, J. (2023). The Paradox Of Data Portability and Lock-in Effects. *Harvard Journal of Law & Technology*, *36*(2). Retrieved from https://www.