

Regulatory Gaps in Protecting Children's Constitutional Rights against Digital Microtransactions in Indonesia's Online Gaming Ecosystem

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ABSTRACT

This article examines regulatory gaps in protecting children's constitutional rights against digital microtransactions in Indonesia's online gaming ecosystem. The study aims to analyze how monetization mechanisms such as loot boxes, gacha systems, pay-to-win designs, and other persuasive interfaces may expose children to risks of digital economic exploitation; to evaluate the adequacy of Indonesia's legal framework in addressing those risks; and to formulate a child-centered regulatory model for online gaming governance. This research employs normative legal methods through doctrinal, comparative, and conceptual approaches. The doctrinal approach is used to examine Indonesian positive law, the comparative approach analyzes regulatory responses in the United Kingdom, the Netherlands, South Korea, and Japan, and the conceptual approach interprets constitutional protection and the principle of the best interests of the child. The findings show that digital microtransactions function as integrated monetization architectures that may exploit children's cognitive, behavioral, and social vulnerabilities. Although Indonesia already possesses relevant legal instruments, including Article 28B paragraph (2) of the 1945 Constitution, the Child Protection Law, the Consumer Protection Law, the ITE Law, and Government Regulation No. 17 of 2025, the current framework remains fragmented, general, and insufficiently responsive to microtransaction-specific risks. The study implies the need for a child-centered regulatory framework based on design protection, transparency obligations, platform accountability, and coordinated institutional supervision. The originality of this article lies in repositioning digital microtransactions from a predominantly psychological and market-based issue into a constitutional child-rights issue within Indonesia's digital legal order.

Keywords: Child protection; constitutional rights; digital microtransactions; online gaming; regulatory gaps.

ABSTRAK

Artikel ini mengkaji kesenjangan regulasi dalam melindungi hak konstitusional anak dari mikrotransaksi digital dalam ekosistem game online di Indonesia. Penelitian ini bertujuan untuk menganalisis bagaimana mekanisme monetisasi seperti loot boxes, sistem gacha, desain pay-to-win, dan antarmuka persuasif lainnya dapat menempatkan anak pada risiko eksploitasi ekonomi digital; mengevaluasi kecukupan kerangka hukum Indonesia dalam merespons risiko tersebut; serta merumuskan model regulasi berperspektif anak bagi tata kelola game online. Penelitian ini menggunakan metode hukum normatif melalui pendekatan doktrinal, komparatif, dan konseptual. Pendekatan doktrinal digunakan untuk menelaah hukum positif Indonesia, pendekatan komparatif digunakan untuk menganalisis respons regulatif di Inggris, Belanda, Korea Selatan, dan Jepang, sedangkan pendekatan konseptual digunakan untuk menafsirkan perlindungan konstitusional dan prinsip kepentingan terbaik bagi anak. Hasil penelitian menunjukkan bahwa mikrotransaksi digital berfungsi sebagai arsitektur monetisasi terintegrasi yang dapat mengeksploitasi kerentanan kognitif, perilaku, dan sosial anak. Meskipun Indonesia telah memiliki sejumlah instrumen hukum yang relevan, termasuk Pasal 28B ayat (2) Undang-Undang Dasar 1945, Undang-Undang Perlindungan Anak, Undang-Undang Perlindungan Konsumen, Undang-Undang ITE, dan Peraturan Pemerintah Nomor 17 Tahun 2025, kerangka hukum yang ada masih terfragmentasi, bersifat umum,

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dan belum cukup responsif terhadap risiko mikrotransaksi yang bersifat spesifik. Penelitian ini menunjukkan perlunya kerangka regulasi berperspektif anak yang berbasis pada perlindungan melalui desain, kewajiban transparansi, akuntabilitas platform, dan pengawasan kelembagaan yang terkoordinasi. Kebaruan artikel ini terletak pada upayanya memosisikan ulang mikrotransaksi digital dari isu yang selama ini lebih banyak dibahas dalam kerangka psikologis dan pasar menjadi isu hak konstitusional anak dalam tatanan hukum digital Indonesia.

Kata kunci: Perlindungan anak; hak konstitusional; mikrotransaksi digital; game online; kesenjangan regulasi.

INTRODUCTION

The expansion of the digital economy has fundamentally reshaped children's interaction with technology, particularly within online gaming ecosystems that increasingly depend on monetization architectures such as digital microtransactions, loot boxes, gacha mechanics, and pay-to-win features. In this setting, gaming no longer operates solely as a recreational activity; it is also embedded in commercial systems designed to induce repeated spending through in-app and in-game purchases using real money. This development is especially significant in Indonesia, where the gaming sector continues to grow rapidly. Indonesia's gaming industry revenue is projected to increase from USD 450.76 million in 2023 to USD 649.83 million by 2027, while regional market data also confirms Indonesia's major position in Southeast Asia's mobile gaming ecosystem (see Figure 1 and Figure 2). Against this background, children are increasingly situated not only as players but also as monetizable digital consumers, despite lacking the maturity to fully understand the economic consequences of their transactional choices (Smith, 2021, 2025). This also confirms that children cannot be treated as miniature adult consumers in digital environments. Susanto and Dwijayanto (2022) demonstrate that school-age children's attachment to gadgets and social media requires intensive parental supervision and assistance, which reinforces the argument that children in online gaming ecosystems should not be presumed to possess adult-level transactional judgment.

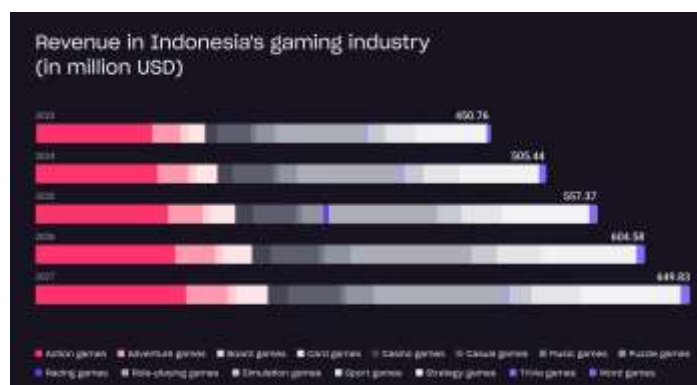


Figure 1. Projected Revenue of Indonesia's Gaming Industry, 2023–2027 (USD million).

Source: Xsolla (2025)

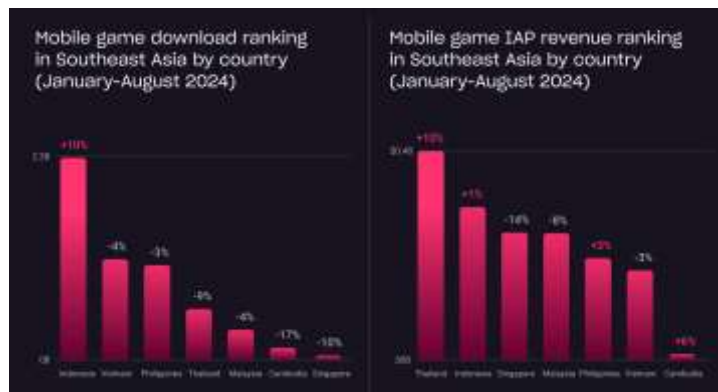


Figure 2. Comparative Mobile Game Download Ranking and In-App Purchase Revenue Ranking in Southeast Asia, January–August 2024. Source: Xsolla (2025)

The urgency of this issue lies in the fact that many contemporary online games are deliberately structured around freemium logics and probabilistic reward systems that encourage impulsive expenditure. Existing studies consistently show that children are particularly susceptible to manipulative design features that trigger spending through reward uncertainty, limited-time offers, behavioral reinforcement, and social comparison (Hardwick et al., 2025; Petrovskaya & Zendle, 2022; Song et al., 2025; Sousa & Oliveira, 2023). This risk is heightened by the fact that digital spending behavior is shaped not only by interface design, but also by social influence and self-regulation capacity. Hasyim et al. (2025) show that stronger social influence increases susceptibility to compulsive online purchasing, whereas stronger self-regulation significantly reduces consumptive behavior and online shopping addiction. In the context of children, whose self-regulatory capacities are still developing, persuasive microtransaction systems may therefore create a heightened risk of impulsive and repeated spending. In this regard, microtransactions cannot be understood merely as optional commercial features within a neutral market. Rather, they operate as part of a digital consumption environment that obscures the line between entertainment and monetization, especially for young users whose cognitive and financial judgment remains underdeveloped. Earlier scholarship has long cautioned that electronic media blur the distinction between play, persuasion, and advertising, and that concern now manifests in the embedded monetization logic of digital games (Bank, 2023; Fernández-Gómez et al., 2024; Freeman et al., 2022; Sádaba & Feijoo, 2022). This concern is reinforced by Fathurrohman et al. (2024), who show that digital platforms can amplify harmful effects through their infrastructures, thereby supporting the argument that platform architectures which intensify children’s spending risks must not escape regulatory scrutiny.

Children who participate in online games frequently do not recognize that in-game purchases are situated within systems intentionally designed to maximize economic extraction from cognitive immaturity. These systems often rely on children’s limited understanding of monetary value, virtual currencies, deferred digital payments, and the longer-term consequences of repetitive transactional conduct (Jiang et al., 2022; Sharma et al., 2025; Shinkawa et al., 2021). In this sense, games are not neutral spaces of play but structured environments in which design and facilitation shape children’s interaction, participation, and sense of safety. Herdiansyah et al. (2025) demonstrate that game settings can function as interactional infrastructures, with children’s behavior influenced by team composition, turn-taking, cooperation, reassurance, and rule negotiation. By analogy, this supports the argument that digital game

architectures and monetization systems must also be assessed as designed environments that may either protect children or intensify their vulnerability.

UNICEF's Global Kids Online project further indicates that children in multiple jurisdictions experience social pressure within games to make purchases in order to unlock features, maintain participation, or secure peer recognition, thereby generating anxiety, dependency, and even family conflict (Livingstone et al., 2018). In the context of the digital economy, such conditions suggest that microtransactions may function not simply as revenue models, but as structurally obscured forms of economic exploitation directed at children (Albarello et al., 2021; Berdot-Talmier & Zaouche-Gaudron, 2020). More broadly, the effects of digital play should also be assessed within the wider framework of child development. Maria et al. (2026) underline the importance of viewing children's social development in relation to the balance between mediated activity and broader developmental contexts, thereby supporting the present study's concern that online gaming ecosystems may affect children not only economically, but also developmentally.

From a legal perspective, this phenomenon must be examined not only as a matter of consumer behavior, but also as a constitutional issue concerning the status of children as rights-bearing subjects. This is especially important because contemporary legal and social issues are increasingly mediated through digital platforms that shape public perception, circulation, and response. Maylawati et al. (2022) show that contemporary Islamic legal issues in Indonesia are actively formed and disseminated through social media infrastructures such as YouTube, Instagram, Facebook, and Twitter, indicating that digital ecosystems are not neutral channels but environments that structure legal and social meaning. In this context, online gaming platforms must likewise be understood as digital environments whose architectures may shape children's exposure to risk and therefore require legal scrutiny. Article 28B paragraph (2) of the 1945 Constitution of the Republic of Indonesia provides that "every child shall have the right to live, to grow and to develop, and shall have the right to protection from violence and discrimination."

Properly construed, this constitutional guarantee should not be confined to protection against conventional physical harms alone. It should also be interpreted to include protection against digital market architectures that systematically exploit children's cognitive immaturity, impulsive behavior, and limited financial judgment. Children in online gaming ecosystems are therefore not merely market participants or consumers; they are constitutional subjects whose rights to growth and development require active protection from exploitative digital designs. The digital microtransaction mechanisms such as loot boxes and probabilistic reward systems may constitute forms of economic exploitation inconsistent with Article 28B(2), particularly where the state does not yet regulate such practices in a sufficiently specific and effective manner (Garayova, 2024; Nowikowska, 2023; Rawat et al., 2025).

The central legal problem is thus not the complete absence of regulation in Indonesia, but the absence of a comprehensive, specific, and operational framework that directly addresses child-oriented monetization designs in online games. Law No. 8 of 1999 on Consumer Protection does not expressly position children as a vulnerable class of consumers in digital transactions. Law No. 23 of 2002 on Child Protection, as amended by Law No. 35 of 2014, remains largely oriented toward conventional harms such as physical violence, sexual exploitation, and neglect. More recent reforms have begun to fill part of this normative gap: Law No. 1 of 2024 introduced Articles 16A–16B concerning child protection obligations for electronic system operators, and Government Regulation No. 17 of 2025 further elaborates child protection in the governance of electronic systems. However, these regulatory developments still do not specifically and in detail address monetization architectures such as loot boxes, gacha, dark patterns, and pay-to-win mechanisms in online games. Thus, specific regulations have begun to emerge, yet they remain

general and scattered, and they do not directly target the microtransaction-specific risks faced by children in gaming environments (Laczniaik et al., 2017; Priest et al., 2010).

The literature relevant to this issue may be grouped into at least three clusters. The first cluster consists of studies on the technical, psychological, and economic dimensions of microtransactions, including manipulative design (Song et al., 2025; Sousa & Oliveira, 2023), probabilistic rewards (Sharma et al., 2025; Sousa & Oliveira, 2023), spending behavior (Hardwick et al., 2025; Shinkawa et al., 2021), and monetization logic in online games (Jiang et al., 2022; Petrovskaya & Zendle, 2022; Shinkawa et al., 2021). Although highly important, this cluster predominantly treats children as psychologically vulnerable users or consumers, rather than as constitutional subjects whose developmental rights may be impaired by exploitative digital market structures.

The second cluster concerns broader issues of children's digital rights, including privacy on social media (Čulo Margaletić & Preložnjak, 2023; Srivastava et al., 2023), digital representation through sharenting (Colapietro C. & Iannuzzi, 2024; Uzun Kazmacı et al., 2025; Vizoso-Gómez, 2025), digital media literacy (Third et al., 2025; Vizoso-Gómez, 2025), emotional engagement, (Crescenzi-Lanna, 2020; Johnston, 2021), and developmentally appropriate digital design (Ihmeideh, 2023; Joshi & Deole, 2025). This literature demonstrates that children's interaction with digital systems is deeply affective, socially mediated, and developmentally significant. However, it generally addresses safety, literacy, representation, or privacy in broader digital contexts, rather than the specific legal problem of economic extraction through microtransaction mechanisms embedded in online games (Callaghan & Reich, 2022; Sousa & Oliveira, 2023).

The third cluster includes legal and regulatory scholarship on child protection in digital spaces, especially regarding economic exploitation under Article 32 of the Convention on the Rights of the Child, the limitations of industry self-regulation, and the need for stronger public-law intervention in platform governance (McGuinness et al., 2025; van der Hof et al., 2020). This cluster comes closest to a rights-based approach, yet it rarely frames online game microtransactions as a constitutional child-rights issue within the Indonesian legal order. Consequently, prior scholarship has not sufficiently connected children's constitutional right to grow and develop with the concrete harms generated by monetization architectures such as loot boxes, gacha systems, dark patterns, and pay-to-win mechanisms.

This article has three objectives. First, it critically analyzes how digital microtransaction practices in online games affect children's constitutional rights, particularly the right to growth, development, and protection from exploitation. Second, it evaluates the extent to which the Indonesian legal framework—including constitutional guarantees, consumer protection law, child protection law, and recent regulations on electronic systems—provides adequate normative and operational safeguards against such risks. Third, it formulates a child-centered regulatory framework capable of addressing the specific features of monetization design in the online gaming ecosystem (Boltivets et al., 2024; Evans et al., 2024).

This article advances the argument that children in online gaming ecosystems must be understood not merely as consumers, but as subjects of constitutional rights whose developmental interests require protection from exploitative digital market architectures. The constitutional guarantee of children's right to grow and develop should be interpreted to include protection against monetization systems that systematically exploit cognitive immaturity and impulsive behavior. The novelty of this article lies in repositioning microtransactions from a matter commonly discussed in psychological or economic terms into a constitutional child-rights issue, and in proposing a child-centered regulatory orientation for Indonesia's online gaming ecosystem. On that basis, this study contends that although Indonesia has begun to develop specific norms for child protection in electronic systems, the current regime remains

insufficiently precise, insufficiently operational, and insufficiently responsive to the distinctive legal risks posed by microtransaction-specific mechanisms in digital games.

RESEARCH METHOD

The unit of analysis in this study comprises three interrelated legal objects: (i) Indonesian legal norms relevant to child protection in the digital ecosystem; (ii) international legal instruments concerning children's rights in digital environments; and (iii) selected comparative legal documents from foreign jurisdictions addressing online gaming monetization, loot boxes, age-based digital protection, and platform accountability. On that basis, this article is designed as normative legal research, since its purpose is not to empirically measure user behavior, but to assess the adequacy of legal norms, identify regulatory gaps, and formulate a child-centered regulatory model for digital microtransactions in online games.

To achieve the objective of this study, three approaches were undertaken. The first is the doctrinal or legal approach (Abdul Raof et al., 2025). This approach is used to examine positive Indonesian law governing constitutional protection, child protection, consumer protection, and electronic-system governance, and to evaluate whether the existing legal framework adequately addresses the risks posed by digital microtransactions directed at children. The primary legal materials consist of the 1945 Constitution of the Republic of Indonesia; Law No. 23 of 2002 on Child Protection as amended by Law No. 35 of 2014; Law No. 8 of 1999 on Consumer Protection; Law No. 11 of 2008 on Electronic Information and Transactions as amended, most recently, by Law No. 1 of 2024; Government Regulation No. 17 of 2025 on Governance of Electronic Systems for Child Protection; and other relevant government or ministerial regulations related to digital governance and child protection. These materials were collected through document study, library research, and legal document tracing from official legislation databases and state regulatory repositories.

The second approach is the comparative approach (Kopcha, 2024), which is used not to transplant foreign models directly into Indonesian law, but to identify regulatory options, precautionary principles, and accountability mechanisms that may inform a context-sensitive child-centered framework. The selected jurisdictions are the United Kingdom, the Netherlands, Japan, and South Korea. For the United Kingdom, the comparative materials include the Age-Appropriate Design Code and the Online Safety Act 2023. For the Netherlands, they include regulatory materials of the Kansspelautoriteit and the leading Dutch appellate ruling in *Electronic Arts v Kansspelautoriteit* concerning the legal treatment of loot boxes. For Japan, they include consumer-protection materials and regulatory guidance concerning gacha monetization, including responses to the "complete gacha" controversy under consumer-protection law and subsequent industry guidance. For South Korea, they include the Game Industry Promotion Act and its implementing rules on probabilistic item disclosure and compliance. These comparative legal materials were collected through comparative legal document review from official legislation portals, regulatory authority publications, government guidance, and, where relevant, leading judicial or administrative decisions.

The third approach is the conceptual approach (Hamzani A. & Rusli, 2024). Its function is distinct from the doctrinal and comparative approaches, as it is used to construct the legal meaning of "constitutional protection," "best interests of the child," and "digital economic exploitation." In this context, the conceptual approach draws upon international legal instruments, particularly the Convention on the Rights of the Child and relevant General Comments of the Committee on the Rights of the Child, especially General Comment No. 25 (2021) on children's rights in relation to the digital environment, as well as secondary legal materials comprising books, peer-reviewed journal articles, academic commentaries,

policy reports, UNICEF publications, official regulatory guidance, and other scholarly analyses relevant to child protection, online gaming, microtransactions, loot boxes, digital exploitation, and comparative digital regulation. Where necessary, tertiary materials such as legal dictionaries, encyclopedias, and technical glossaries are also used to clarify terminology and ensure conceptual consistency. These materials were collected through document study and library research, with literature selected on the basis of three criteria: direct relevance to child protection, digital regulation, microtransactions, or online gaming; normative or analytical value for explaining legal risks and regulatory responses; and sufficient authority as indexed scholarship, official guidance, or recognized institutional reports.

The legal materials obtained from these three approaches were analyzed through deductive legal reasoning, systematic interpretation, and comparative evaluation. Deductive reasoning begins with the general principles of child protection contained in Article 28B paragraph (2) of the 1945 Constitution and the Convention on the Rights of the Child, and then applies those principles to digital microtransaction practices in online games. Systematic interpretation is used to examine the relationship among constitutional provisions, statutory rules, child-protection norms, consumer law, and electronic-system governance in order to identify gaps, overlaps, and inconsistencies in the existing framework. Comparative evaluation is employed to assess whether selected foreign approaches offer relevant models for strengthening Indonesian regulation. Through this analytical framework, the study produces normative and conceptual recommendations for a child-centered regulatory framework capable of ensuring constitutional protection for children in an increasingly complex digital gaming ecosystem.

RESULTS AND DISCUSSION

Identifying Digital Microtransactions as Legal Issues of Children's Constitutional Rights

Digital microtransactions have become a structural feature of contemporary online gaming ecosystems. They refer to the purchase of virtual items within games, ranging from cosmetic enhancements such as skins and avatars to functional assets that directly affect gameplay, including weapons, points, and additional abilities. These monetization practices are especially prevalent in freemium games, which provide free initial access while progressively steering users toward paid features and exclusive experiences. In practice, therefore, microtransactions are not peripheral commercial add-ons but integral components of the prevailing digital business model in online games (Neilson & Gibson, 2022). Their legal significance lies in the fact that they are embedded in systems used intensively by children, who participate not merely as players but as economically targetable digital users.

The structural problem is that microtransactions are designed to operate invisibly within gameplay. Rather than appearing as explicit advertisements, they are integrated into seemingly ordinary game mechanics such as level-ups, limited-time offers, daily deals, and event rewards. For children, who are still undergoing cognitive and emotional development, these mechanisms are often experienced as part of play rather than as economic transactions requiring reflective judgment (Arvina Dwi Romadhani, 2025). Reports from the National Consumer Protection Agency (Badan Perlindungan Konsumen Nasional, 2022, 2023) indicate that digital consumer complaints increasingly involve platform-based and gaming-related practices, which may affect children in situations of weak parental oversight and limited understanding of transactional value. In this respect, the legal issue is not merely whether children spend money in games, but whether the architecture of digital play itself has been structured to normalize expenditure without meaningful consent or understanding.

This concern becomes more acute when microtransaction systems rely on persuasive and manipulative design. Psychological studies show that children’s affective engagement with digital applications may generate strong emotional attachment and participation without reflective awareness of economic consequences (Najihah Abd Wahid et al., 2025; Rizzo et al., 2025; Yang et al., 2020). Many of these systems employ dark patterns, namely interface designs intentionally structured to push users toward purchases or continued spending without fully informed decision-making. Such mechanisms have been linked to psychological responses resembling addictive behavior (Avolicino et al., 2022; Chordia et al., 2023; Witte J. & Brock, 2023). Among children, the risk is intensified by still-developing affective stability (Koh & Seah, 2023; Radesky et al., 2022) and cognitive maturity (Luguri & Strahilevitz, 2021; Schäfer et al., 2024). It argues that what appears commercially as “optional in-game spending” may, in legal terms, raise questions of manipulation, diminished autonomy, and vulnerability-based exploitation.

Other examples also illustrate the seriousness of the problem. In Mobile Legends, the diamond purchasing system is made highly accessible and directly linked to digital wallets or mobile credit, thereby enabling low-friction and potentially impulsive spending by child users. Similar structures appear in Roblox through the Robux system and in Genshin Impact through gacha-based reward mechanisms, which several studies have noted as functionally resembling gambling logics (Thavamuni, 2025; Thavamuni et al., 2025). Zhang et al. (2025) further demonstrate a strong correlation between children’s engagement in in-game microtransactions and increased impulsive spending tendencies outside the gaming context, suggesting that the effects of microtransaction systems are not confined to play but may spill over into broader patterns of economic behavior. The issue becomes even more complex when spending confers social visibility, prestige, and access within gaming communities. Findings from the Global Kids Online project identify social pressure as a significant factor influencing children’s purchasing decisions in digital environments (Fang et al., 2019; Mahardika et al., 2024). Thus, digital consumerism in gaming cannot be regarded as neutral; it is systematically organized through monetization logics that reward expenditure and intensify peer comparison (Akin, 2023; Sánchez-Adame et al., 2023). Table 1 summarizes these patterns as follows.

Table 1. Characteristics and Risk Patterns of Digital Microtransactions

Dimension	Structural Mechanism	Behavioral Effect	Structural Risk for Children
Monetization Model	Free entry with incremental paid enhancement	Gradual normalization of expenditure	Internalization of consumerist spending patterns
Design Strategy	Probabilistic reward allocation (loot boxes, gacha)	Variable reinforcement and reward anticipation	Gambling-like conditioning and repetitive spending
Interface Design	Time-sensitive prompts and persuasive nudging	Reduced deliberation and impulsive response	Impaired autonomous decision-making
Payment System	Frictionless and integrated digital payment channels	Monetary abstraction and detachment from real value	Diminished financial awareness and control
Social Mechanism	Status differentiation through paid digital assets	Competitive visibility and peer comparison	Social pressure and exclusionary dynamics

Table 1 shows that digital microtransactions are not isolated commercial features, but integrated monetization systems combining psychological reinforcement, design manipulation, and social incentives. Studies by Freeman et al. (2022), Nguyen et al. (2025), and Steinnes (2024) further indicate that in-game purchases may generate status disparities and digital stigma against players who do not spend money, thereby producing exclusionary effects, particularly for children from lower-income families. At the same time, Irie et al. (2023), Shinkawa et al. (2021), and Thio & Pangaribuan (2023) argue that the purchase of virtual assets is often driven not by purely rational calculation, but by emotional needs for control, identity, and recognition. Over time, these patterns may cultivate consumerist self-validation in children, a phenomenon that has clear implications for legal protection.

From a constitutional perspective, these conditions transform children’s vulnerability in digital gaming from a behavioral concern into a rights issue. Within contemporary digital ecosystems, children are exposed not only to physical or sexual harms traditionally addressed by child protection law, but also to more covert forms of exploitation operating through algorithmic design, monetized attention, informational asymmetry, and digitally mediated social pressure. Table 2 captures these layered vulnerabilities and their constitutional implications.

Table 2. Layers of Children’s Digital Vulnerability and Constitutional Implications

Level of Vulnerability	Structural Source	Manifestation in Digital Ecosystem	Constitutional Implication
Psychological	Algorithmic design & persuasive interfaces	Emotional dependency, impulsive behavior	Risk to right to proper development (Art. 28B(2))
Economic	Monetized platforms & attention economy	In-game spending, consumerist normalization	Risk of economic exploitation
Informational	Data asymmetry & digital illiteracy	Lack of awareness of digital risk structures	Violation of best interests principle
Social	Peer pressure & digital status hierarchy	Social exclusion & stigma	Inequality in digital participation
Structural	Weak regulatory governance	Limited state intervention & policy gaps	State failure to fulfill constitutional duty

Table 2 demonstrates that children’s vulnerability is systemic rather than merely individual. It also reflects the fact that participation in digital environments is never fully equal, but is shaped by social position, support structures, and unequal capacities of access and response. Gangopadhyay et al. (2022) show that participation in online environments may be conditioned by social and familial factors, reinforcing the broader argument that users in digital spaces cannot simply be presumed to be equally autonomous or similarly protected. In the present context, this supports the view that children in online gaming ecosystems should not be treated as ordinary digital consumers, because their vulnerability is shaped by layered forms of dependence and inequality. Global studies show that children’s exposure to

digital technologies is not always neutral or educationally beneficial; excessive screen time, embedded advertising, and participation in monetized platforms may negatively affect psychosocial well-being (Saleem & Jan, 2024; Thapliyal et al., 2025).

The Global Kids Online Argentina report also shows that children often lack full awareness of the digital risk structures they navigate, especially in social and gaming platforms (Pisano et al., 2023). Findings from EU Kids Online further suggest that family socio-economic conditions, including income and parenting style, shape the degree of digital risk children face at home (Livingstone et al., 2025). Other studies likewise emphasize children's exposure to manipulation, informational asymmetry, literacy gaps, and unequal capacities to resist digital influence (Gao, 2024; Laczi & Póser, 2024; Lubenets et al., 2025; Muir & Joinson, 2020; Емельянчик et al., 2024). In Indonesia, this vulnerability is aggravated by limited state response, as reflected in Badan Perlindungan Konsumen Nasional reports (2022, 2023) and by continuing exposure of children to aggressive commercial strategies across games and social media platforms (Bushman et al., 2025; Hasan bin Jali et al., 2025).

The constitutional relevance of these conditions is clear. Article 28B(2) of the 1945 Constitution of the Republic of Indonesia guarantees every child the right to live, grow, and develop, and to be protected from violence and discrimination. At the international level, the Convention on the Rights of the Child (CRC) reinforces this protection through Article 3, which requires that the best interests of the child be a primary consideration; Article 17, which recognizes children's access to beneficial information while requiring protection from harmful content and practices; and Article 32, which prohibits the economic exploitation of children in all forms, including those mediated through digital platforms. These provisions establish that children in digital environments must be treated not merely as consumers, but as subjects of constitutional and human rights protection. Yet national policy responses have not fully translated these guarantees into effective safeguards against monetization architectures that exploit children's cognitive immaturity and social susceptibility. As Colapietro & Iannuzzi (2024) note, the legal position of digital consumers, especially children, remains structurally unequal where the law fails to recognize system-based vulnerabilities. Anggono et al. (2025) similarly observe that microtransaction practices in Indonesia's digital ecosystem have evolved faster than the legal system's capacity to regulate them.

This legal lag is particularly concerning given the scale of the digital gaming economy. According to Statista, the global gaming industry was valued at USD 155.9 billion in 2019 (Solanki & Mathew, 2023). In such an environment, the potential harms associated with unchecked microtransaction systems are likely to expand rather than diminish. Regulation therefore cannot be left to ethical codes or corporate social responsibility alone. Child protection in digital gaming must be understood as a constitutional obligation of the state rather than a discretionary market function. As Sihabudin (2023) argues, Indonesia's consumer protection regime still fails to differentiate the legal position of children in digital transactions. Accordingly, loot boxes, gacha systems, pay-to-win mechanics, dark patterns, and other manipulative designs should be treated not merely as business features of games, but as legal issues involving possible digital economic exploitation of children and, therefore, as matters requiring constitutional scrutiny and regulatory intervention.

Mapping the Indonesian Legal Framework and Its Regulatory Gaps

Indonesia's legal framework relevant to children's protection in digital environments formally consists of several normative layers, yet these layers remain fragmented when confronted with the specific problem of digital microtransactions in online games. At the constitutional level, Article 28B(2) of the 1945 Constitution of the Republic of Indonesia guarantees every child the right to live, to grow and develop, and

to be protected from violence and discrimination. At the statutory level, the principal legal instruments include Law No. 35 of 2014 on Child Protection, Law No. 8 of 1999 on Consumer Protection, and Law No. 11 of 2008 in conjunction with Law No. 19 of 2016 on Electronic Information and Transactions (ITE Law). At the international level, Indonesia is bound by the Convention on the Rights of the Child (CRC), ratified through Presidential Decree No. 36 of 1990, which requires protection from economic exploitation (Article 32), guarantees access to beneficial information and protection from harmful content and practices (Article 17), and establishes the best interests of the child as a primary consideration in all actions concerning children (Article 3). Read together, these provisions provide a general normative basis for child protection in digital environments; however, they do not yet form a comprehensive and operational framework specifically governing loot boxes, gacha systems, pay-to-win structures, dark patterns, and other monetization mechanisms targeting children in online gaming ecosystems.

The first regulatory gap lies in the Child Protection Law. Although this law recognizes children's right to protection from economic exploitation and affirms their right to access information supportive of their development, it does not expressly conceptualize digital microtransactions as a form of economic exploitation or psychological-commercial manipulation. In practice, children are increasingly exposed to paid content, in-game purchases, and reward systems deliberately designed to induce repetitive spending, yet no specific legal clause directly prohibits or limits addiction-based monetization structures in games. As a result, the Child Protection Law remains normatively relevant but operationally underinclusive: it protects children in principle, but does not yet translate that protection into rules capable of addressing exploitative digital design. This gap is particularly significant because, in the context of microtransactions, the legal harm does not always arise from a single transaction itself, but from the cumulative architecture of persuasive design, probabilistic rewards, and low-friction payment systems that exploit children's vulnerability over time.

The second gap concerns the ITE Law and the Consumer Protection Law. The ITE Law remains primarily oriented toward the legality of electronic transactions, digital communication, and general regulation of electronic systems, without incorporating age-sensitive or vulnerability-based safeguards specific to children in digital commercial environments. Likewise, the Consumer Protection Law does not distinguish between adult consumers and child consumers, thereby failing to recognize children as a legally vulnerable category requiring heightened protection in digital transactions. Consequently, Indonesian positive law still applies generic legal approaches to a highly differentiated digital risk structure. This genericity weakens the law's ability to respond to microtransactions that operate through embedded persuasion, virtual currencies, and interface manipulation. As noted earlier, Sihabudin (2023) emphasizes that Indonesia's consumer protection system has yet to differentiate the legal position of children in digital transactions. In the same direction, the continuing exposure of children to aggressive marketing strategies across games and social media platforms, as reflected in reports from Badan Perlindungan Konsumen Nasional (2022, 2023), indicates that the absence of child-specific transactional safeguards is not merely theoretical but has practical regulatory consequences.

A more recent normative development is Government Regulation (PP) No. 17 of 2025 on the Governance of Electronic Systems in Child Protection. This regulation is significant because it establishes a broader governance framework for child protection in digital environments, including age verification, parental consent, age-based access restrictions, reporting mechanisms, government supervision, and administrative sanctions. This marks a meaningful shift from purely general statutory protection toward more child-specific digital regulation. Nevertheless, PP 17/2025 still does not directly regulate the core economic logic of microtransactions. It does not specifically address game monetization architectures such

as loot boxes, pay-to-win mechanics, gacha systems, dark patterns, or other behavioral design features that may encourage impulsive and repetitive spending by children. In other words, while PP 17/2025 strengthens the governance framework for child protection in electronic systems, it leaves largely untouched the monetization architecture through which children may be economically exploited in online games. The limits of the current framework become clearer when its regulatory dimensions are mapped systematically as illustrated in Table 3.

Table 3. Evaluation of Child Protection Regulations on Digital Microtransactions in Online Games in Indonesia

Regulatory Aspect	Existing Legal Instrument	Critical Evaluation	Notes / Recommendations
General Child Protection	Law No. 35 of 2014 on Child Protection	Recognizes children’s right to protection but does not specifically address digital exploitation practices.	Update the law to include protection against digital addiction, psychological manipulation, and financial exploitation through microtransactions.
Electronic Transactions and Information	Law No. 11 of 2008 in conjunction with Law No. 19 of 2016 (ITE Law)	Focuses on legality and content dissemination without differentiating treatment based on age or vulnerability.	Introduce specific provisions for child protection in digital transactions, including age verification and purchase controls.
Consumer Protection	Law No. 8 of 1999 on Consumer Protection	Fails to distinguish between adult and child consumers; children are not recognized as a vulnerable group requiring special safeguards.	Amend or supplement the law to define children as a special consumer category with differentiated protections.
Governance of Electronic Systems for Child Protection	Government Regulation (PP) No. 17 of 2025	Provides broader child-protection obligations in electronic systems, including age verification, parental consent, and access-related safeguards, but does not yet specifically address microtransaction-based risks in online games.	Strengthen implementation and integrate the framework with content rating systems, monetization oversight, and child-oriented design standards.
Game Design and Monetization	Not specifically regulated	Loot box, pay-to-win, and dark pattern systems remain unregulated in national law.	Enact specific legislation or amendments to govern game monetization structures

			based on ethical and child-protection criteria.
Oversight and Law Enforcement	Fragmented across Kominfo, Kemensos, KPAI, OJK, BSSN	Weak interagency coordination; no integrated monitoring or mandatory audit of child-related microtransactions.	Establish a dedicated supervisory body for digital games and child transactions, with mandatory reporting requirements for platforms.
Digital Literacy and Education	Not mandated under current Child or ITE Laws	Digital literacy not systematically integrated into the national curriculum, particularly regarding microtransaction risks.	Engage the Ministry of Education to implement curriculum-based digital risk education as part of preventive child protection.
Parental Consent (Parental Mediation)	Regulated normatively under PP 17/2025	Practice is formalistic and lacks meaningful parental understanding or engagement.	Introduce two-factor authentication, digital parenting training, and community-based education for families using children’s digital services.

Source: Author’s Analysis (2025).

Table 3 shows that the weakness of Indonesian regulation does not lie in the total absence of legal norms, but in the absence of integration, specificity, and enforceability. Existing instruments address child protection, electronic systems, consumer rights, and personal data in separate regulatory compartments, but none provides a comprehensive and operational framework for microtransaction-based exploitation. The framework is therefore fragmented both substantively and institutionally. On the substantive level, the law does not yet classify loot boxes, gacha systems, pay-to-win models, and dark patterns as potentially exploitative monetization practices requiring explicit restriction. On the institutional level, oversight remains divided across Kominfo, Kemensos, KPAI, OJK, and BSSN, without a unified supervisory mechanism, transparent audit system, or mandatory compliance reporting focused on child-related digital transactions. Even parental consent, although now recognized normatively under PP 17/2025, often remains formalistic in application, amounting to a procedural click rather than meaningful parental mediation.

These findings indicate that the current Indonesian framework is normatively present but functionally inadequate. First, the law has not yet established a clear legal definition of digital microtransactions involving children as a category of heightened regulatory concern. Second, it has not yet recognized manipulative monetization design as a form of possible digital economic exploitation falling within the protective scope of Article 28B(2) of the Constitution and Articles 3, 17, and 32 of the CRC. Third, it has not yet created institutional arrangements capable of linking child protection, consumer protection, digital platform supervision, and financial governance into a coherent enforcement structure. For that reason, regulatory reform cannot remain merely declaratory. What is required is not only the addition of new norms, but also the reconstruction of the regulatory architecture so that child protection in digital gaming is treated as a constitutional and multisectoral obligation rather than a marginal issue of platform

self-regulation or parental responsibility alone. In that sense, the Indonesian legal framework, while increasingly attentive to child protection in electronic systems, still leaves a substantial regulatory gap in relation to the microtransaction-specific risks identified in this study.

Comparing Regulatory Responses to Digital Microtransactions in Selected Jurisdictions

Comparative legal analysis reveals that several jurisdictions have begun to address the risks of digital microtransactions in online games through different regulatory philosophies and institutional arrangements. While the legal strategies vary—from design-based protection to gambling classification and co-regulatory governance—each jurisdiction recognizes that children’s interaction with monetized gaming systems cannot be left entirely to market self-regulation. The experiences of the United Kingdom, the Netherlands, South Korea, and Japan therefore provide important legal references for evaluating Indonesia’s regulatory gaps and identifying possible directions for reform. These approaches are summarized in Table 4.

Table 4. Comparative Study of Digital Microtransaction Regulation in Selected Countries

Country	Primary Regulations / Instruments	Protection Focus	Key Lessons for Indonesia
United Kingdom	<i>Age-Appropriate Design Code; Online Safety Act 2023</i> ; policy guidance on loot boxes	Design-based child protection, age-appropriate online experiences, and platform accountability	Digital platforms should implement child-safety principles by design, while loot box risks may be addressed through a mix of regulatory oversight, parental controls, and industry-led safeguards
Netherlands	Regulatory actions of the <i>Kansspelautoriteit</i> ; judicial review in <i>Electronic Arts</i>	Precautionary regulation and contested legal treatment of loot boxes	Chance-based rewards with economic value may raise gambling-related concerns, but their legal classification remains contested and must be assessed carefully
South Korea	<i>Game Industry Promotion Act</i> ; oversight by <i>Game Rating and Administration Committee</i> (GRAC)	Age-based monitoring, probability disclosure, and centralized supervision	Specialized regulatory institutions and mandatory probability disclosure are important for effective enforcement
Japan	Oversight by <i>Computer Entertainment Rating Organization</i> (CERO); consumer-protection intervention on <i>complete gacha</i> ; industry policies on <i>gacha</i>	Co-regulatory governance, transparency, and industry accountability	State–industry coordination, public pressure, and disclosure obligations can strengthen protection against manipulative monetization practices

Source: Author’s Analysis (2025).

United Kingdom: Design-Based Regulation through the Children's Code

The United Kingdom represents one of the most developed regulatory approaches to child protection in digital environments through design-based governance. The Age-Appropriate Design Code, commonly referred to as the Children's Code, applies to online services likely to be accessed by children, including games, and requires such services to place the best interests of the child at the center of design and development. Under this framework, providers are expected to implement child-specific safeguards such as high-privacy default settings, data minimization, restrictions on profiling, transparency, and limits on nudge techniques that encourage children to weaken privacy protections or provide unnecessary data (Livingstone et al., 2025; Wang et al., 2022). These features make the UK model important not because it directly targets microtransactions as a distinct legal category, but because it embeds child protection within the architecture of digital services themselves.

This design-based approach is complemented by the Online Safety Act 2023, which requires services to assess risks to children, enforce age limits consistently, and ensure age-appropriate experiences for child users. However, the UK position on loot boxes should not be overstated as a model of direct statutory prohibition. Official policy since 2022–2023 has instead favored stronger industry-led protections, including parental approval mechanisms, improved age assurance, spending controls, refund safeguards, and greater transparency, rather than immediate legislation specifically banning loot boxes or pay-to-win systems. Accordingly, the UK model is best understood as combining design-based child protection with a policy preference for regulatory oversight, parental controls, and industry-led safeguards in relation to loot box-related risks (Schmidt, 2024; Trengove et al., 2022).

Netherlands: A Contested Legal Approach to Loot Boxes

In contrast to the UK's design-oriented model, the Netherlands has become an important jurisdiction in the legal debate over whether certain loot box systems may fall within gambling regulation. In 2018, the Dutch Gambling Authority (*Kansspelautoriteit*) took the position that loot boxes involving randomized rewards and economic value could satisfy the legal criteria of gambling, thereby prompting a more precautionary regulatory approach (Xiao, 2025; Xiao & Declerck, 2023). This position reflected concern that monetized game mechanics containing elements of chance and market value might create risks analogous to gambling, especially for children and adolescents. From a comparative perspective, the Dutch experience is relevant because it illustrates how gaming monetization can be evaluated through broader frameworks of economic regulation and consumer protection rather than being treated solely as entertainment design.

At the same time, the Dutch position should not be presented as a final or singular prohibition of loot boxes. In 2022, the Raad van State held in the Electronic Arts case that FIFA packs could not be treated as a separate game of chance in the manner previously assumed by the regulator. The court reasoned that the packs formed part of the broader FIFA Ultimate Team mode rather than constituting an autonomous gambling game requiring a license. The Dutch experience therefore demonstrates an evolving and contested legal framework rather than a settled ban: regulators have shown willingness to classify certain loot box structures as legally problematic, but the highest administrative court has limited that interpretation in important respects (Xiao & Henderson, 2021).

South Korea: Institutional Oversight through GRAC

South Korea provides a regulatory model characterized by relatively strong institutional supervision of the gaming industry. A central actor in this framework is the Game Rating and Administration Committee (GRAC), which is responsible for game classification and age-related oversight within the Korean regulatory system. In addition to institutional rating and supervisory functions, South Korea's legal framework has increasingly addressed monetization risks through the Game Industry Promotion Act, which now defines "probabilistic items" and requires disclosure of relevant information about such items. This makes the Korean approach significant not because it simply bans monetization practices, but because it places them within a clearer legal and administrative structure capable of monitoring game-related risks, including those affecting minors (Kang & Kim, 2022; Xiao & Henderson, 2021).

One of South Korea's most notable regulatory developments is the legal requirement to disclose the types and probabilities of probabilistic items, including loot box- and gacha-like mechanisms, which took effect in 2024. Developers and distributors are required to indicate that games contain probabilistic items and disclose the probability information associated with them, thereby enhancing transparency for users (Nam & Kim, 2020). South Korea's earlier Shutdown Law, introduced in 2011, prohibited children under sixteen from accessing online games between midnight and 6 a.m., although this regime was later revised in favor of more selective, parent-involved controls (Tsai & Chen, 2021). Accordingly, the Korean model is best understood as combining centralized oversight, probability disclosure, and age-related intervention, rather than as a single, uniform prohibition on problematic monetization practices.

Japan: Co-Regulatory Governance and Industry Accountability

Japan adopts a comparatively different approach based on co-regulation and industry accountability. A central institution in this framework is the Computer Entertainment Rating Organization (CERO), which provides age ratings and guidance for digital games, although it does not function as a state regulator in the same way as a public enforcement body. Japan's significance in the regulation of monetization practices lies less in comprehensive statutory prohibition and more in the interaction between public scrutiny, administrative concern, and industry-led compliance. This model demonstrates how child protection and monetization governance may develop through coordinated pressure involving state institutions, industry associations, and public expectations, rather than through a purely command-and-control regulatory structure (Saito & Aragaki, 2019).

Japan's regulatory experience is particularly notable in relation to the *complete gacha* system, under which players were encouraged to obtain a full set of random items in order to unlock a premium reward. In 2012, Japan's Consumer Affairs Agency treated *complete gacha* as unlawful under the Act against Unjustifiable Premiums and Misleading Presentations, prompting major companies to discontinue the practice. However, this episode should not be overstated as a blanket prohibition of all gacha mechanics. Rather, it marked regulatory intervention against a specific monetization structure deemed especially exploitative, after which industry guidance and platform practices increasingly emphasized clearer disclosure and compliance regarding probability-based items. Thus, the Japanese experience illustrates a co-regulatory model in which transparency, public pressure, and industry accountability play a substantial role in constraining manipulative monetization practices, including those affecting minors.

Constructing Child-Centered Regulatory Model for Indonesian Digital Microtransactions

The preceding normative and comparative analyses demonstrate that Indonesia's existing legal framework has not yet adequately addressed the risks posed by digital microtransactions in online gaming ecosystems. While constitutional guarantees and statutory protections formally exist, the absence of explicit regulation governing manipulative monetization systems, platform responsibility, and child-specific safeguards creates a significant protection gap. In response to these findings, this study proposes a child-centered regulatory model grounded in constitutional principles, international child rights norms, and comparative regulatory practices. More broadly, digital injustice in platform environments cannot be left to market logic alone. Lewar et al. (2024) emphasize that institutions must act as ethical agents in digital governance through advocacy, policy engagement, and collaboration with legal and rights-based actors. This perspective supports the present argument that child protection in digital gaming ecosystems requires not only parental vigilance or industry goodwill, but also affirmative institutional responsibility and regulatory intervention.

At the normative level, the regulatory model must be anchored in the constitutional obligation of the state to protect children. Article 28B(2) of the 1945 Constitution guarantees children's rights to proper development and protection from harmful practices, while the Convention on the Rights of the Child (CRC)—ratified through Presidential Decree No. 36 of 1990—requires states to protect children from economic exploitation (Article 32), ensure access to beneficial information while shielding them from harmful content or practices (Article 17), and prioritize the best interests of the child in all policies affecting them (Article 3). These provisions collectively establish that children must be treated not merely as digital consumers but as constitutional rights holders within digital environments. Consequently, regulation of digital microtransactions must prioritize child protection over purely commercial considerations.

A first pillar of the proposed regulatory model is design-based protection. As demonstrated by the United Kingdom's Age-Appropriate Design Code and Online Safety Act, effective regulation must address not only the content of digital platforms but also the architecture through which digital services are designed and delivered. This point is consistent with wider scholarship on platform logic. Suardana and Sain (2025) show that platform affordances and metrics do not merely distribute content, but actively reshape participation, authority, and perceptions of authenticity, with implications for both platform designers and policymakers. By analogy, this supports the present argument that game environments accessed by children require child-centered design obligations rather than reliance on post hoc parental correction alone.

The second pillar concerns transaction transparency and parental mediation. Microtransactions often operate through complex mechanisms involving virtual currencies, probabilistic rewards, and bundled digital purchases that are difficult for children to understand. Comparative practices in Japan and South Korea demonstrate the importance of requiring disclosure of item probabilities and clear information regarding the economic consequences of digital transactions (Nam & Kim, 2020; Saito & Aragaki, 2019). In Indonesia, similar transparency obligations should be incorporated into positive law by requiring digital platforms to disclose reward probabilities, pricing structures, and transaction conditions in accessible language. In addition, parental mediation mechanisms must be strengthened beyond formal consent requirements. Age verification systems, parental control dashboards, and multi-step authorization procedures can ensure that children's participation in digital transactions occurs under meaningful parental supervision rather than symbolic approval.

A third pillar involves prohibiting exploitative monetization designs. As comparative experience from the Netherlands demonstrates, monetization mechanisms that rely on randomized rewards with real economic value may require regulation under broader economic or gambling frameworks (Xiao, 2024; Xiao & Declerck, 2023). In the Indonesian context, this suggests the need for explicit legal recognition of exploitative digital monetization practices such as loot boxes, gacha systems, pay-to-win mechanics, and dark pattern interfaces. These systems should be assessed not merely as entertainment features but as economic mechanisms capable of inducing repetitive spending through psychological manipulation. Accordingly, a regulatory framework should identify and restrict design practices that intentionally exploit children's cognitive vulnerability, particularly when such practices create gambling-like reward cycles or obscure the real financial costs of participation.

The fourth pillar concerns platform accountability and institutional supervision. Current Indonesian regulation still largely assumes that digital platforms operate as neutral intermediaries, despite their extensive control over user interaction and monetization systems. Yet digital platforms are not merely technical conduits; they are institutional actors whose infrastructures shape user vulnerability and exposure to harm. In this regard, Lewar et al. (2024) underscore the importance of institutions acting as ethical agents in digital justice advocacy, a perspective that is highly relevant for strengthening platform accountability in child protection governance. Comparative evidence from South Korea illustrates the importance of centralized oversight through specialized regulatory bodies such as the Game Rating and Administration Committee (GRAC), which supervises game mechanics, age classifications, and monetization structures (Kang & Kim, 2022). Indonesia could adopt a similar institutional model by establishing a dedicated supervisory authority responsible for monitoring digital gaming ecosystems, conducting compliance audits, and enforcing regulatory standards concerning child protection in digital transactions. Such institutional arrangements would strengthen coordination among existing agencies—including the Ministry of Communication and Digital Affairs, the Financial Services Authority (OJK), the National Commission for Child Protection (KPAI), and consumer protection authorities.

Finally, effective governance requires cross-sectoral regulatory integration. Digital microtransaction risks intersect with multiple policy domains, including child protection, consumer protection, digital platform governance, financial transactions, and digital literacy education. This need is reinforced by scholarship on the fragmented digital public sphere, where legitimacy, credibility, and engagement are shaped through narrative framing, adaptive communication styles, and institutional positioning. Firdaus and Sidik (2024) therefore support the view that effective digital governance cannot rely on prohibition alone, but must also be accompanied by digital literacy initiatives, ethical guidelines, and stronger institutional support. In the present context, these elements are essential for building a child-centered framework that can respond to monetization risks in online games. Consequently, regulation cannot be implemented through isolated sectoral policies. Instead, child protection principles must be systematically integrated into licensing frameworks for digital platforms, monitoring systems for electronic transactions, educational policies promoting digital literacy, and financial safeguards for minors. The recently enacted Government Regulation (PP) No. 17 of 2025 on the Governance of Electronic Systems for Child Protection represents an important step toward strengthening child protection in digital governance. However, while it establishes broader child-protection obligations in electronic systems, it does not yet specifically regulate the economic architecture of microtransactions themselves, such as loot boxes, gacha systems, pay-to-win mechanisms, and other exploitative monetization designs in online games.

Taken together, these pillars form the basis of a child-centered regulatory model capable of addressing the complex risks posed by digital microtransactions. Such a model requires the state to move beyond fragmented legal instruments toward an integrated framework that combines design obligations, transparency standards, restrictions on exploitative monetization, institutional supervision, and cross-sectoral policy coordination. In this way, digital governance can better fulfill its constitutional mandate to protect children from emerging forms of economic exploitation within rapidly evolving online gaming ecosystems.

CONCLUSION

This study demonstrates that digital microtransactions in online games should not be understood merely as commercial features of the gaming industry, but as legal issues with direct implications for children's constitutional rights. By identifying loot boxes, gacha systems, pay-to-win mechanics, dark patterns, and other manipulative monetization structures as potential forms of digital economic exploitation, this article repositions the debate from a predominantly psychological and market-oriented discourse into a constitutional and child-rights framework. The study further shows that, although Indonesia already possesses a number of relevant legal instruments—including Article 28B(2) of the 1945 Constitution, the Child Protection Law, the Consumer Protection Law, the ITE Law, and Government Regulation No. 17 of 2025—these norms remain fragmented, general, and insufficiently responsive to the microtransaction-specific risks faced by children in digital gaming ecosystems. Through comparative analysis of the United Kingdom, the Netherlands, South Korea, and Japan, this article contributes a child-centered regulatory model grounded in design-based protection, transparency obligations, restrictions on exploitative monetization, platform accountability, and cross-sectoral institutional integration. The principal strength of this study lies in its ability to connect constitutional protection, digital governance, and comparative regulatory practice within a single normative framework that treats children not merely as digital consumers, but as subjects of constitutional rights.

However, this study has several limitations. As normative legal research, it does not empirically measure the experiences of child users, parental mediation practices, or the actual enforcement capacity of Indonesian institutions in supervising online gaming platforms. Its comparative analysis is also limited to selected jurisdictions and focuses primarily on statutes, regulatory policies, and leading legal instruments, rather than on a broader set of judicial, administrative, or industry-enforcement developments. For that reason, future research should complement this doctrinal analysis with empirical socio-legal inquiry concerning children's digital spending behavior, parental awareness, platform compliance, and the implementation of child-protection obligations in practice. In regulatory terms, Indonesia should move toward a more specific and operational framework that expressly governs loot boxes, gacha systems, pay-to-win designs, and dark patterns; strengthens age verification, probability disclosure, and parental control mechanisms; and establishes an integrated supervisory structure capable of enforcing child-centered standards in the digital gaming ecosystem. Only through such legal and institutional reform can the state effectively fulfill its constitutional obligation to protect children from emerging forms of digital economic exploitation.

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