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Research Article

Invisible Advertising to Children in Gaming Ecosystems: Legal Regulation of Embedded AI Marketing

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Abstract: Today, the gaming industry has become a highly complex context, one that unfolds smart marketing systems based on artificial intelligence that go beyond classic advertising formulae, targeting children through affective, personalized and behavioral means. This paper explores the legal and regulatory hurdles embedded AI marketing would face in children's gaming environments, questioning the sufficiency of consumer protection law, data privacy regimes and advertising standards regimes in the key jurisdictions of the European Union, the United States, the United Kingdom, and India. The paper discusses existing legal instruments, drawing on the theories of epistemic asymmetries and persuasive architectures as well as from the literature on developmental psychology, and points to their structural limitations in governance of AI-driven advertising in games. The paper identifies four critical gaps in regulation: the lack, in the definitions of what constitutes an 'advertisement' in immersive environment; lack of disclosure obligations over non-linear ad streams generated by artificial intelligence; lack of algorithmic accountability standards for children; and lack of international regulation coordination in the context of transnational platform governance. It suggests a multi-level regulatory framework, including a principle of 'best interests of the child', an enforceable Algorithm Impact Assessment and a ban on the use of persuasion architectures on under-18s.

Keywords: AI-Driven Marketing in Gaming, Child Data Privacy and Consumer Protection, Persuasive Architectures and Behavioral Advertising, Algorithmic Accountability for Children, Regulation of Immersive In-Game Advertising.

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INTRODUCTION

The coming of age marriage between artificial intelligence and digital games is one of the most significant and unchecked frontiers in today's consumer markets. In the current landscape of the video game sector, which produced more than USD 282 billion in attainment by 2024, and in which youngsters and adolescents make up a vital part of the player base,1 new forms of business communications have arisen: those that are not simply integrated into functionality but also transcriptorially invisible however built-into the experience of the player by AI systems monitoring, forecasting and influencing participant actions in real time.

Embedded AI marketing in games is an amalgamation of techniques, including personalized in-game item recommendations, AI-crafted non-player character (NPC) dialogue, dynamic pricing algorithms, loot box mechanics, sponsored narrative arcs and psychographic profiling: whilst such marketing tactics can be disclosed as advertising in isolation, the hurricane of techniques makes the whole messy, undermining their capacity to be easily and individually recognized as a communicative act by the audience exposed to them as advertising.

These techniques' impact on children is not a case of susceptibility of consumers in general. Cognitive vulnerabilities,

coupled with ongoing data collection and AI tailored rewriting of personalized content; represent a regulatory challenge of large magnitude.

It is a phenomenon that has garnered only a recent serious examination from legal scholarship. Even though considerable literature has already focused on data privacy law including the European Union's General Data Protection Regulation (GDPR) and the United States' Children's Online Privacy Protection Act (COPPA) the issue of playing off data privacy generated by the use of AI in the context of advertising has not been the subject of focused discussion in its own right.

This paper is in 7 additional parts. The technical architecture of invisible advertising is mapped in part II at the gaming ecosystems level. Part III looks into the child vulnerability nexus from the perspective of developmental psychology and behavioral economics. Part IV presents an overview of the legal regimes currently in place in the relevant jurisdictions. Part V engages in a comparative analysis of regulatory approaches, and their structural constraints. Part VI outlines key regulatory issues that should be addressed by legislation. The multi-tiered regulatory framework is proposed in Part VII. Part VIII concludes.

THE ARCHITECTURE OF INVISIBLE ADVERTISING IN GAMING ECOSYSTEMS

A. Defining the Gaming Ecosystem

The term ‘gaming ecosystem‘ refers to the entire spectrum of commercial and communicative relations that are articulated in the game platform, from the game itself to its APIs, and to third-party advertising communities, data brokers, payment systems, social media integration or the AI systems in between all these actors and the end user. The framing as an ecosystem is analytically important as a regulatory policy fix on the game as a product will not account for the distribution of AI marketing infrastructure.

Today's game platforms (consoles made by Sony, Microsoft, and Nintendo; internet access apps, such as Apple iOS and Google Play; and PC gaming stores, such as Steam and Epic Games Store) are multi-sided markets, where everyone involved with a game deals with each other at once: game makers, advertisers, and gamers or players. AI may exist at a platform level and be active in multiple games and games developed by multiple game producers, with advertising profiles remaining active and developing without any single play through.

B. Taxonomy of Embedded AI Marketing Techniques

AI marketing can be defined by the following taxonomy, based on the order of difficulty for implementation in the regulated world of games:

1. Static Embedded Advertising

The first and easiest to execute sort of in game advertising is the static billboard ads in sport simulations, logos on the virtual items in a competitor, branded vehicles in racing titles. These are mostly visible but they are also used in game mode, where they become less obvious, and existing advertising standards codes would be somewhat applicable, but to a lesser extent.

2. Dynamic & Programmatic Advertising

Dynamic advertising is a solution to replace the static ads with real-time, on-demand, and programmatic ads that are customized to the player's demographic, geographic, and behavioural data. Anzu.io and Bidstack introduce AI-powered programmatic ads into game worlds, allowing advertisers to always bid for ad space on real-time player profiles. It's a similar system of digital ads exchanges in gaming, though much less transparent.

3. In-Game Commerce and Personalised Recommendations with AI.

For popular games like Fortnite, Roblox and League of Legends, in-game economy (which includes items like skins, virtual currencies and gameplay-changers, among items that can be sold for money via a subscription) has become the major revenue model. Within these economies, AI systems analyze patterns of individual player behavior and provide personalized purchase suggestions, adjust scarcity signals dynamically in-game, and optimize the time of triggering a commercial prompt based on emotional states derived from player behavior. Some of these practices have been described by the Federal Trade Commission (FTC) as 'dark patterns,' but the use of AI is not specified.

4. Consumer Data Collection

The randomized picking of items from a box using real or virtual money, known as loot boxes, are a mix of gambling mechanics and advertising using variable ratio reinforcement schedules a way of particular effectiveness in maintaining compulsive engagement alongside reveal animations optimized by AI and social comparison feature. However, there has been some debate on the legal definition of loot boxes as gambling, and Belgium and the Netherlands have banned some types of loot boxes, whereas the UK Gambling Commission has stated that it does not consider them to be gambling. When it comes to improving loot box offerings, timing, pricing, and probability of getting certain loot are now personalised to the individual players' profile via AI.

5. The generation of NPC and story-based advertisements using artificial intelligence.

The most legally controversial type of embedded advertising uses generative AI to integrate commercial messages into other aspects of the game's story. NPCs with AI capabilities are able to hold natural language conversation with players as

they engage in the game which could include commercial messages or real-life character interaction. A more recent form is sponsored narrative arcs, storylines that are produced in collaboration with a commercial partner and where the advertising commitment is fully embraced by the game's creative material.

6. Affective Computing and Psychographic Targeting.

Affective computing technologies such as using device cameras to scan and analyze facial expressions, sentiment analysis on voice input, biometric data on wearable peripherals and analysis of the behavioral pattern of a player based on their gameplay are among the emerging AI systems for real-time psycho-graphic player profiles. These profiles allow commercial messages to be delivered at times when players are vulnerable to them, such as when they have not won a game, when they are on a winning streak or sociability is detected through a player's low multiplayer usage rates. Similar systems have been shown in academic research to be deployed in social media scenarios and their move to gaming scenarios is well underway.

THE CHILD VULNERABILITY NEXUS

A. Developmental Cognitive Limitations

Legislation concerning advertising to children has always relied on the assumption that children's developmental cognitive capacities are limited and they do not possess the faculties to comprehend, and thus interact with, advertising in the same way as informed autonomous adults. Piaget's theory of cognitive development offers the basic framework: Children under about 7-8 years of age are unable to differentiate advertising from non-advertising messages, 7-12 year olds may develop a conceptual understanding of the intent of the advertising message, but not have the metacognitive ability to apply this understanding systematically, and adolescents have formal operational reasoning, but can still be affected by affective and social dimensions which can overpower and overwhelm deliberative reasoning.

AI-gaming advertising is designed at that stage to make these limitations into architectural advantages. With younger children the use of commercials in the game might not trigger the usual contextual indicators that would otherwise alert persuasion knowledge such as when the ad is inserted into the game, when the ad is formatted differently, or when the brand is clearly marked. With adolescents, the use of social comparison mechanisms, fear of missing out (FOMO) processes, and reward-seeking behaviors that are neurobiological exacerbated in the adolescent period are a complex way of bypassing developed but incomplete self-regulation mechanisms.

B. Neurobiological Susceptibility

Breakthroughs in the field of neurobiology, which studies the developing brain in teens, further explain the need for adequate regulatory safeguards. Long-term planning, assessing and being persuaded by messages and impulse control (the neural basis of the prefrontal cortex) continues to develop to the mid-20s. At the same time, the adolescent brain has an increased sensitivity of the mesolimbic dopamine system that is directly activated by the variable ratio reinforcement schedules used in loot boxes and achievement systems.6

AI targeting the neurobiological vulnerability profile is a prerequisite for the best engagement, in-game conversion results. If there is no regulatory limit, reinforcement learning algorithms that optimize for a commercially defined outcome would converge on strategies that take advantage of developmental and neurobiological susceptibilities because these strategies can be instrumentally rewarding to the algorithm.

C. Data Asymmetries and the Impossibility of Informed Consent

Besides development capacity ones, there are structural reasons why the concept of informed consent, underpinning both advertising standards regimes and data protection law, is structurally inapplicable to the child-gaming-advertising relationship. AI gaming advertising data has extreme asymmetries: gaming platforms can unlock hundreds of behavioral, demographic and psychographic data points for every hour of play, while the child and parent have very limited access to the commercial model resulting from this data and the decisions it makes.

The mechanisms of obtaining parental consent are disadvantageous in practice, due to the non-transparency and complexity of AI advertising systems. There is a lack of an effective disclosure mechanism for parents to know the nature, scale or commercial implications of the AI profiling of their child.

EXISTING LEGAL FRAMEWORKS AND THEIR LIMITATIONS

A. Data Protection Law

1. The EU General Data Protection Regulation

The GDPR is the most comprehensive framework in effect for data protection as of yet for gaming advertising. Article 8 requires age verification for consent to data processing where the child is fewer than 16 (Member States can set this at 13) and certain considerations around the need for greater protection for children are also expressed in Recital 38 regarding personal data. Under the UK GDPR, the ICO introduced more stringent rules that need to be followed when developing new websites through the Age Appropriate Design Code (now called Children's Code), which dictates that any platform

which is likely to be accessed by kids under eighteen years should have data protection settings set to the highest level at the beginning.

But there are substantial mitigations in the gaming advertising context of the GDPR. This legitimate interest basis (Article 6(1)(f)), which is often referred to to by advertising technology companies, may offer a potential alternative means of processing children's data without consent on the grounds that the controller's interest is considered to outweigh the rights of the data subject, a balance that courts and regulators have been grappling with regarding AI Profiling. Moreover, the record of GDPR's enforcement in the gaming industry is not consistent; since there have been substantial GDPR penalties imposed against gaming firms, systemic embedded advertising practices are not effectively tackled.

2. The United States: COPPA and Its Limitations

The Children's Online Privacy Protection Act (COPPA), which is enforced by the FTC, forbids collecting personal data from kids below the age of 13 without verifiable parental consent. In 2013, the FTC amended COPPA to include identifiers that allow for persistent identifiers for behavioural advertising or that used to create AV content. In 2023, FTC issued proposed rules that focus particularly on commercial uses of kid's information, in advertising contexts.

But COPPA is significantly constrained in its application to the games context. First, the age-threshold of thirteen in the statute is inconsistent with the age of protection based on neuropsychology of adolescents – at the very least age differentiated approaches need to be put in place. Second, COPPA's directed-to-children standard has been read as a carve-out; this results in platforms being able to "disagree" that they are directed to children, even though a large number of users may be children. Third, COPPA places no restrictions on the scope of the advertising technology middlemen that sit between the gaming platforms and advertisers.

B. Consumer Protection and Advertising Standards

1. EU Unfair Commercial Practices Directive

The Unfair Commercial Practices Directive (UCPD) states that commercial practices exploiting the vulnerability of children are prohibited; this includes the 'pester power' prohibition in the Annex (point 28). The Digital Services Act (DSA), which came into full application in February 2024, bans advertising to minors based on profiling through personal data, and also bans targeted advertising to minors based on profiling.

The DSA's ban on ads for minors is notable as a step, but has big enforcement problems. One of the bans concerns advertising based on ‘profiling’, which is an aspect that AI-driven in-game commerce could be argued to be set up for, but be disguised as personalisation. The DSA enforcement mechanism, in which very large online platforms (VLOPs) are primarily responsible for enforcement via the European Commission (EC), also introduces a single enforcement point in the European Digital Single Market (eDSM).

2. UK Advertising Standards and the CAP Code

Non-broadcast advertising is covered by the UK Committee of Advertising Practice (CAP) Code and Rule 2.1 of this Code says that it must be clear that a marketing communication is an ad. The Advertising Standards Authority (ASA) has been on the case of advertising in games in a number of decisions, focusing heavily upon influencer marketing by gaming content. But the application of the CAP Code to the commercially contexture AI-generated messages in games is not precedent rich and the basic rationale of the Code (that advertising needs to be singular, identifiable and isolated messages) is challenged by the underlying AI marketing strategies.

C. Gaming-Specific Regulation

There are a number of jurisdictions that have implemented gaming-specific regulation that has implications for AI advertising. Perhaps the most direct regulatory moves are the one made by Belgium in 2018 and the Netherlands Gaming Authority in 2019, through their respective Royal Decrees and statements, ruling that certain loot box practices are considered gambling, and therefore regulated, pursuant to the Gaming and Betting Acts of those countries. China's National Press and Publication Administration has set hard limits on the gaming time that minors can get, as well as on spending in games, and has implemented verification measures that require linking game accounts to national ID documents.

The Indian regulatory system is disjointed. Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 impose general due diligence obligations on gaming intermediaries, but do not offer any protections with regards to the use of AI advertising for children. The Digital Personal Data Protection Act 2023 (DPDPA) provides provisions for Data processing of children with the consent of their parents, though this does not cover specific scope around AI-driven advertising systems. The Digital India Act as drafted proposes age appropriate design obligations that are insufficient to consider embedded gaming advertising (as of 2026).

COMPARATIVE REGULATORY ANALYSIS

This table offers a comparative analysis in tabular form of the regulatory landscape in selected jurisdictions with a view to evaluating the scope of the various approaches regarding the regulatory issues related to embed games advertising in the context of AI.

Jurisdiction	Key Instruments	Age Threshold	AI Advertising Coverage	Gaming-Specific Rules	Assessment
European Union	GDPR, DSA, UCPD	Under 16 (consent); all minors (DSA advertising)	DSA prohibits profiling-based targeting of minors	Loot boxes under UCPD review	Most comprehensive, but enforcement gaps remain
United States	COPPA, FTC Act	Under 13 (COPPA)	No AI-specific provisions; general unfair practices standard	FTC settlements with gaming companies	Age threshold inadequate; AI regulation nascent
United Kingdom	UK GDPR, Children's Code, CAP Code	Under 18 (Children's Code)	Children's Code requires DPIA; no AI advertising ban	ASA rulings on in-game advertising	Children's Code innovative but unenforced in AI context
China	Minors Protection Law, PIPL, Gaming Time Limits	Under 18	PIPL restricts profiling of minors	Identity verification; time and spending limits	Most restrictive but opaque enforcement
India	DPDPA 2023, IT Rules 2021	Under 18	Parental consent required; no AI advertising rules	No gaming-specific child protection rules	Significant regulatory gaps; DIA awaited
Australia	Privacy Act, ACMA standards	Under 15 (proposed)	Online Privacy Bill pending; no AI advertising ban	Industry code under development	Reform underway but incomplete

Based on the comparative analysis, the following structural drawbacks are identified and are found among both the jurisdictions. First, all current frameworks list the object of the regulation as traditional advertising—that is, discrete commercial communications delivered by a known advertiser, to a known audience. AI-generated, embedded, and personalised commercial content, on the other hand, does not fit into this paradigm and is either not covered by the existing definitions or only partially by regulatory extensions.

Second, the respectively enforcement model is almost exclusive complaint-based or investigation-based relying on a case-

by-case basis, and there is no systematic ex ante monitoring of AI-advertising in the gaming context. Complaint-based enforcement is also by nature unable to deal with systematic invisible practices of advertising behaviour as it is outside the reach of any user, including minors, to differentiate between commercial and non-commercial speech.

Third, both platforms have a transnational character, requiring regulatory fragmentation that platforms can use to reduce compliance requirements to a minimum. Now there are no international regulatory mechanisms in place to coordinate the regulation of the platforms on the ground, so platforms can design their operations in a way that leverages the most lenient regulatory environment.

CRITICAL REGULATORY GAPS

A. The Definitional Gap: What is an Advertisement?

The most basic regulatory loophole is what one defines. Advertising regulation assumes a communicative act which is identifiable, an intentional act attributed to a commercial actor, and accountable. AI-driven embedded marketing in gaming challenges each element of this presupposition. One, as we've seen in Part II, embedded AI marketing can happen in the manipulation of the architecture and interface(s) of the game itself it might not be a discrete communicative act at all. If a dynamic pricing algorithm that offers the player more money for a desirable item when AI data analysis indicates a heightened emotional state is not a communication, then it is a harnessing of that state to a commercial transaction through environmental manipulation.

Regulators and courts must come up with more flexible definitions of commercial communication built to include architecture level manipulation. “Commercial communication” as used in the EU E-Commerce Directive has been broadly interpreted, but has not been judicially determined in the context of AI in environmental engineering. This effect-based definition would be better suited to capture these practices, as it is based not on the form of communicative act, but on its effect.

B. The Disclosure Gap

The principles of advertising disclosure obligations provide that any advertisement should be 'obviously identifiable' as advertisement (CAP Code, Rule 2.1) or 'clearly recognizable' (UCPD, Article 7(2)). These obligations are based on the premise that there is a specific advertising element that can be isolated and labeled. In an AI created game world, where commercial and non-commercial content is dynamically mixed, such isolation is not possible. As the commercial (or in-game) elements are woven into the architectural construction of narrative, social and environmental aspects of the game, the fulfillment of the disclosure obligation becomes virtually impossible based on the current formulation of the declaration. Disclosure requirement for AI gaming ads shall be linked to the system level, not the communication level, with a reconceptualized approach. The benefits of platform-level transparency about the methods of AI advertising used, the data they use, the optimizations they strive for, and their commercial relationships would truly educate regulators and in age-appropriate ways parents.

C. The Algorithmic Accountability Gap

There are no prescribed transparency, explainability or accountability obligations for AI-driven advertising in gaming, with respect to the use of AI systems when addressing children. There are certain AI systems defined in the EU AI Act as 'high-risk' systems, and in the case of AI systems used for educational or children's purpose, this could apply; however, the transparency and conformity assessment stipulations in the Act are not specific enough for the application of AI in gaming advertising. There is currently no jurisdiction that has an Algorithmic Impact Assessment (AIA) specifically on AI advertising systems for children in the context of gaming.

One of the most notable differences is that reinforcement learning systems in the field of gaming monetization do not have any auditing stipulations. An AI system will be designed to use data on players to maximize conversions, which will not be predictable during system development and could not even be apparent to platform operators. The static disclosure of system design can thus not replace the dynamic observation of system behaviour.

D. The International Coordination Gap

Gaming platforms, ad tech intermediaries, and the AI systems they use have a global presence that is unregulated by current internationally available cooperation and similar frameworks. Although regulatory dialogue takes place in the International Consumer Protection and Enforcement Network (ICPEN) and the Global Privacy Assembly, neither has the mandate or resources to tackle AI advertising of children's games in a systematic way. Several relevant normative bodies exist such as the OECD's Guidelines for Multinational Enterprises and the OECD's work on AI governance, although these are non-binding.

By establishing the mutual recognition of each other's gaming advertising regulatory regimes, similar to regimes established in the financial services sector, regulatory arbitrage would be eliminated as a significant concern. The establishment of minimum international standards for the treatment of AI advertising targeted at children, if developed through the process

of the United Nations Convention on the Rights of the Child (UNCRC) and monitored by the Committee on the Rights of the Child would provide for principles that would underpin national standards.

A PROPOSED REGULATORY FRAMEWORK

A. Foundational Principles

A coherent regulatory framework for AI advertising in children's gaming must be anchored in clear foundational principles. The paper proposes the following:

Best Interests of the Child: In line with Article 3 of the UNCRC, any form of regulatory intervention should be with regard to the best interests of the child, and not the gamete of the platform operators, or even the privacy wishes of the parents. The principle of "best interests" is particularly relevant in the context of the game, where the interests of the children and parents may differ: parents might consent to processing of their children's data for adult commercial purposes, arguably at the expense of children's wellbeing.

Precautionary Principle: Regulators should take a precautionary stance with regards the deployment of AI advertising systems targeting children since existing assessment methods are opaque and evidence of the lack of harm must be demonstrated before these tools can be introduced.

Systemic Accountability: AI ads systems should have accountability, not just individual ads. Platform operators, AI system developers, advertising technology intermediaries, game publishers and others should have distinct and complementary responsibility obligations.

Developmental Differentiation: Regulatory requirements need to be tailored to the stages of growth rather than having a particular age limit. The age-differentiated standards, like those used in the criminal law and contract capacity cases do a better job of capturing the evidence base for child vulnerability.

B. Core Regulatory Prescriptions

1. Extended Definition of Commercial Communication

Legislatures should consider using an effects-based definition for commercial communication that includes any system-level manipulation of a game user's gaming environment by or on behalf of a commercial actor that is intended or likely to create, maintain or secure a commercial advantage. This definition would include AI-powered pricing manipulation, affective targeting, and personalization of the reward architecture which could manifest as discrete communicative acts.

2. Absolute Prohibition on Persuasion Architecture Targeting Minors

The paper calls for an absolute ban (banned by default and without exception by consent or on the basis of "legitimate interest") on commercial messages and in-game economic decisions aiming at users below the age of 18 and based on exploiting psychological vulnerabilities, neurobiological susceptibilities and emotional state. The ban would cover: affective computing targeting, variable ratio reinforcement schedule manipulation, exploitation of the social comparison and FOMO mechanisms and any kind of personalised pricing targeting minors.

3. Mandatory Algorithmic Impact Assessments for Children

All AI advertising systems acting in gaming environments that are likely to be accessed by minors should undergo a mandatory ‘Child Algorithmic Impact Assessment’ (CAIA) prior to deployment by an independent third party accredited by the competent national regulator. The CAIA framework should consider: data inputs drawn from AI system; optimization objectives and their match to child care objectives; behavioral targeting mechanisms within the AI system; data retention and secondary use policies; and audit trails which could be used to monitor AI system behaviour post deployment.

4. Real-Time Monitoring and Adaptive Auditing

However, the assessment before deployment is not enough since reinforcement learning systems are adaptive. AI advertising systems used in the context of gaming need to be subject to continuous behavioral monitoring, and there should be a requirement for any system significant changes in behavior to be notified to the regulatory authorities. Periodic audits should be performed by independent technical auditors who have legally mandated access to the system, input data, output, training data and reinforcement signals sharing these results in a digestible format with parents and policymakers.

5. Age Assurance and Data Minimisation

Checking age by means of technically reliable methods, and not simply self-declaration by the user should be made mandatory for gaming platforms for potential underage players. The AI advertising systems should automatically switch to 'data minimum' when a minor user is found, and only the data required for gameplay be collected, while all commercial profile- or behaviour-dependent advertising systems are turned off. Functional impossibility, not just technical

configuration should be the standard for disabling.

CONCLUSION

The advertising dimension within games is qualitatively new and is an invisible advertising ecosystem in the online game market that poses a challenge to child protection law and advertising law. It's not just because these are technological wonders of the instruments used but because it's a fundamental re-thinking of commerce communications, from a discrete, identifiable act spoken to a passive audience, to the continuous, dynamic engineering of the user's experience speaking to a user with a commercial effect in mind. AI systems which are at the very least trying to optimise gaming atmosphere to maximise business points of conversions with underdeveloped child users are not only advertising; they are creating psychological atmosphere for users to subvert the growing autonomy of the users.

All of the legal systems reviewed in this paper were designed for other purposes and their structural constraints – definitional, procedural, institutional and international – are all of the order that they could not be overcome by marginal changes. They have proposed a fundamental shift in child advertising regulation, from focusing on individual ad acts to a form of systemic accountability, from relying on an after-the-event complaints-handling approach to a prospective form of accountability, and from envisioning informational and cognitive symmetries (of which consent is a prime example) in the relationship between children and ads as the basis for it to a genuine 'best interests' approach.

There can be no question about the commercial importance: the in-game advertising and commerce economy discussed in this paper is worth hundreds of billions of dollars a year, and the rerotation of operating models of some of the biggest technology and entertainment firms this paper suggests would be massive. However, on the other side of the scale is the developmental autonomy and well-being of the next generation, which have been captured by international law in the UNCRC, in terms of binding obligations on States, and thus, as a matter of inception, on private actors working under the jurisdiction of those States.

Politically, the issue of reform in the area is complex, as the gaming sector has a sizeable lobbying force; the power of enforcement in the majority of jurisdictions is weak, and the transnational nature of the challenge does not allow for a one-sided solution. However, the EU's Digital Services Act and Age Appropriate Design Code also show that principled, technically-knowledgeable and institutionally innovative regulation can be realized. But the question remains whether the legal community whether academic, practitioner or regulator--will have the conceptual and institutional sophistication needed to meet the challenge in time.

Today's little children who are the intended target audience for AI advertising of games are not at the table of the regulators, not in a lobby, and they can't possibly spot or thwart the AI systems designed for their exploitations. Legal scholarship has a responsibility to say forthrightly what's happening and how insufficient we are doing as a response. This is the intent in offering this paper.

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