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Game Changer: The Evolution of Video Games' Payments Infrastructure

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The video game industry has become a significant economic force, generating nearly $60 billion in revenue in 2024 in the United States alone and $190 billion globally. The evolution of video game revenue models and their underlying payments infrastructure have contributed to the success of the industry. However, some aspects of video game transactions have drawn regulators' attention due to issues related to consumer protection, data privacy, and financial crime.

Although video games have provided entertainment for decades, their popularity among consumers has surged since the COVID-19 pandemic.[1] As more consumers play video games, companies have changed how they monetize and distribute games to their customers as well as adapted and evolved their payments infrastructure to support new revenue models. Meanwhile, regulators are monitoring the industry due to concerns related to consumer protection, data privacy, and financial crime. This *Payments System Research Briefing* provides an overview of the video game industry and its evolving revenue models, examines the underlying payments infrastructure supporting the industry, explores the potential of instant payments for video games, and discusses regulatory concerns related to gaming payments.

Overview of the video game industry and players

The video game industry has emerged as an economic juggernaut, generating nearly $190 billion in global market revenue in 2024—much greater than the combined revenues of the global recorded music industry ($36 billion) and global box office industry ($32 billion) (Newzoo 2024; Paine 2025; Zhu 2025). In the United States, video games generated $59 billion in revenue in 2024, with the average American household spending over $400 on video games (PR Newswire 2025). Moreover, business activities related to video games supported approximately 350,000 jobs in 2023 (Grueber and Yetter 2024). Video games became especially popular during the COVID-19 pandemic, as people spent more time inside. From 2019 to 2021, the global video game market expanded by 26 percent (Ampere Analysis 2022). Although growth has slowed more recently, the market is still expected to have an annual growth rate of 3 to 4 percent in the next few years (PWC 2024).[2]

Video games draw players across the demographic spectrum, reflecting their broad cultural effect. In 2024, an estimated 190 million Americans, or about 60 percent of the U.S. population, reported playing video games at least one hour every week (Entertainment Software Association 2024). The demographic data today shatters the outdated stereotype of a teenager playing in their parents' basement. In fact, the average U.S. video game player is between 35 and 44 years old—more likely to be paying a mortgage than asking for an allowance (Hawk Live 2025). Economic diversity also characterizes the gaming population. Although many players come from lower-income households, mobile gaming has found success among middle-income consumers. The industry has also seen significant shifts in gender

representation, as what was once a male-dominated space has attracted a growing number of female players (Entertainment Software Association 2024).

The evolution of video game revenue models

The ways in which video games have been monetized and consumed have changed fundamentally over time. In the 1980s, the video game industry's revenue model shifted from the simple pay-per-play model of arcade machines to the one-time-purchase model of home consoles (such as Nintendo), which introduced the concept of ownership through purchases of game cartridges. Early consoles relied on the physical distribution of games, which provided a one-time revenue opportunity for game publishers who sold their games through retail outlets.

By the early 2000s, internet connections became widely available for consumers and fast enough to support digital downloads of games. The digital distribution of games first saw success with PC games, but consoles also adopted the ability to download new games through new digital marketplaces (such as Nintendo eShop, PlayStation Store, and Xbox Games Store). The digital distribution of games provided a new opportunity for game developers to release content after the initial release of the game in the form of downloadable content (DLC). Developers can charge for DLC, which ranges from cosmetic upgrades to expanded storylines and different game modes. These charges spawned the term "microtransactions," which refers to an online transaction involving a small amount of in-game currency.

Microtransactions have allowed game publishers to pursue two new revenue models. The first combines one-time revenue (from the initial sale of the game) with revenues from microtransactions. The second is the "live service" model, which does not charge for initial access to the game and instead collects revenue solely from microtransactions, such as on virtual items, upgrades, and additional content. This "freemium" approach has been used for PC, console, and mobile games such as Fortnite, Apex Legends, and Rocket League.

In addition to microtransactions, some game publishers have explored alternative revenue models through subscriptions, allowing consumers to pay a monthly subscription fee to a service to play many different titles. One type of subscription model relies solely on subscription revenue, while another type relies on revenue from both subscriptions and microtransactions.[3] These subscription models change how players access their games: Instead of owning games outright, players pay a smaller monthly fee for "games-as-a-service." To make up for the lost unit-sale revenue, game companies must make the subscription attractive enough to consumers to retain them. Several companies (such as Electronic Arts, Microsoft, Apple, Nvidia, Ubisoft, Nintendo, and PlayStation) have attempted this subscription model with varying levels of success.[4]

Changes in payments infrastructure in gaming

As revenue models for video game companies have evolved, so too has the underlying payments infrastructure. Payments in video games are particularly unique due to the prevalence of in-game

currencies, which function as mediums of exchange for a wide array of digital goods and services and player-to-player transfers within the game economies (CFPB 2024).

Modern payments infrastructure supporting video games is very complex. For example, one of the largest game distribution platforms, Steam, has a payments infrastructure that processes transactions across more than 100 different payment methods in nearly 40 fiat currencies (Steam n.d.). These payment methods include payment cards, digital wallets (such as PayPal), buy now, pay later services (such as Klarna and Zip), and international payment systems that allow cash for online payments (such as Paysafecard and PayPay). These payment methods differ in many aspects, including timing of settlement and rules on error or fraud resolutions. To support mobile game platforms, Apple's App Store and the Google Play Store have integrated seamless in-app purchase systems that handle both initial game downloads and ongoing microtransactions, processing millions of transactions daily (Haider 2022). The success of PC, console, or mobile game platforms relies on sophisticated payment orchestration that can manage peak loads during major game launches or special events while maintaining transaction security.

Both video game distribution platforms and their payment processors play critical roles in video game payments. Video game platforms such as Steam, Microsoft Store, PlayStation Store, and Nintendo eShop provide online services that allow consumers to buy, download, and update games and DLC offered from various game companies. The platforms receive payments from the consumers and subsequently pay out these funds to game companies. These platforms and their payment processors must handle an enormous volume of transactions ranging from game purchases to micropayments of less than a dollar, all while maintaining sub-second response times and with nearly zero downtime (Newell 2024).

Payment processors that specialize in gaming payments, such as Adyen and Nuvei, offer video game platforms many services needed to process gaming payments (Adyen 2022; Nuvei n.d.). First, the payment processors handle the acceptance of payments made through diverse payment methods from many countries. Second, the payment processors implement security measures to mitigate fraud and, in some cases, to prevent money laundering. Third, the payment processors facilitate fast transactions (within milliseconds) while maintaining gameplay flow in a cost-effective manner. The payment processor works with the video game platform to integrate or embed payments directly into the game's ecosystem to manage payments from consumers. Additionally, the payment processor enables video game companies to convert a fiat currency into the in-game currency for each player's game account and complete each player's DLC purchases with the in-game currency. To provide these services seamlessly, securely, and in compliance with players' payment experiences, payment processors for video game platforms must understand the unique economic structures, user behaviors, and regulatory landscape of the video game industry.

Instant payments and video gaming

As the United States adopts instant payments, the payments infrastructure for the video game industry may benefit. Although most U.S. video game consumers make payments with payment cards, in other countries, fintechs are working to integrate instant payments with video game platforms, enabling the

platforms to sell games across borders while providing customers with instant payments that are available in their region as payment options. For example, Tazapay, a Singapore-based fintech, connects video game platforms to local instant payment options, including India's UPI, Brazil's Pix, China's Alipay, and Singapore's Fast (Tazapay 2025).

One potential benefit of instant payments for both video game platforms and companies is lower transaction fees. A typical card fee ranges from 1.5 percent to 3.5 percent of the transaction value, while Tazapay, for example, charges between 0.8 percent and 2.5 percent of the transaction value for alternative payment methods, including instant payments. The lower transaction fees associated with instant payments may change the unit economics of processing smaller-dollar transactions. Although game companies may find it cost-prohibitive to process $1 transactions on payments cards with high fees, instant payments may allow them to change their pricing. To avoid high transaction fees on small-dollar transactions of card payments, most games currently require players to convert a fiat currency into the in-game currency with a minimum purchase amount of $10 or $20. The players then spend their acquired in-game currency on in-game items and DLC, which may cost as little as $1 to $5 each. With the lower transaction fees of instant payments, game companies may be able to allow their players to purchase in-game content directly without the players needing to convert a fiat currency into the in-game currency. Players, too, may benefit from direct-purchase microtransactions, as such transactions may increase the transparency of in-game items' prices. Rather than converting a real-world currency into the in-game currency, which may not align perfectly with the price of the in-game item, a direct-purchase microtransaction would allow a consumer to spend exactly the price of the item. This method of transaction may also give players a clearer understanding of their spending habits and improve their overall gaming experience. Game companies could also benefit from direct-purchase microtransactions, as they may broaden the customer base. Although some consumers may not want to spend $10 or $20 for an in-game currency bundle, they may be more interested in spending $1 or $2 directly on an item.

The speed and convenience of instant payments could generate additional benefits. One benefit is reduced friction in the transaction process, which may improve players' gaming experience and potentially increase in-game purchases (J. P. Morgan 2023). Furthermore, instant payments could transform a platform's subscription revenue cycle by eliminating settlement delays typically associated with payment cards. Reducing these delays could also reduce involuntary churn resulting from payment failures due to outdated information or insufficient funds rather than explicit customer decisions (Fard 2025). Features of instant payments, in particular paying directly from a bank account (or "pay-by-bank") using open banking technology, restructure this dynamic by minimizing authorization failures and reducing false declines (PYMNTS 2024). All these potential benefits could lead to increased revenue for both video game platforms and companies.

Regulatory concerns

Regardless of whether the U.S. video game industry adapts to instant payments, security remains a paramount concern for regulators and the video game industry alike. Multiple layers of protection working in concert are required to keep the gaming payment infrastructure secure (ISA Cybersecurity

2020). To reduce fraud, video game platforms have pioneered advanced, real-time fraud detection systems, leveraging player-specific patterns such as spending habits, play times, and in-game behaviors to establish behavioral biometrics that distinguish legitimate players from fraudsters (CelerData 2024; CFPB 2024). To prevent unauthorized purchases, game platforms or their processors increasingly use two-factor authentication for high-value transactions; to prevent data breaches, they protect payment information through tokenization and encryption. The convergence of video game platforms and payment technologies has produced unique security features that balance robust protection with minimal friction for players.

Money laundering is another security concern for regulators and game companies alike. Because some games allow in-game items and currency to be exchanged for fiat currency either on a game's official platform or elsewhere, video games can become attractive to criminals as a method to convert money gained illegitimately into in-game items that can then be traded and exchanged back into fiat currency (CFPB 2024). Some industry experts have noted that game companies occupy a position similar to that of a cryptocurrency exchange because both in-game currency and cryptocurrency can be exchanged into fiat currencies (Moiseienko and Izenman 2019). Cryptocurrency exchanges are subject to anti-money laundering (AML) and know your customer (KYC) regulations, requiring regulated businesses to identify their customers, monitor their activity, and report suspicions of criminality to the authorities (Daniels and Raad 2021). Although game companies are currently not subject to these AML and KYC regulations, some companies proactively implement customer verification processes and voluntarily report suspicious activity to law enforcement if their in-game items or currencies are traded for fiat currency, regardless of whether those trades are within the game or on external platforms.[5]

In addition to security concerns, the rapid evolution of the video game economy, the payments system, and their interaction with real-world economies has drawn the attention of regulatory bodies worldwide. In the United States, the Consumer Financial Protection Bureau (CFPB) has taken an increasingly active role in monitoring gaming payments and virtual economies (CFPB 2025). The CFPB's primary concerns include the lack of consumer protections for virtual assets, data privacy issues related to player information collection, potential exploitation through personalized pricing, and vulnerability to fraud and unauthorized transactions. In the European Union, regulatory bodies have adopted a comprehensive approach through the Digital Services Act and the General Data Protection Regulation (GDPR). These frameworks require transparent disclosure of monetization mechanics, mandate clear processes for dispute resolution, and provide strict guidelines for how game companies can collect and use player data (Strebeck 2021). Furthermore, the regulatory bodies have issued several core principles to protect European consumers, particularly children, from harmful practices related to virtual currencies in video games (European Commission 2025).[6]

Conclusion

Video games have grown from a niche hobby to a global phenomenon with a complex digital marketplace. Improvements in technology combined with evolving revenue models and supporting payments systems have contributed to the success of the industry. Live-service and subscription-based

models have lowered the barrier to entry for both consumers and video game companies, as revenue from the sale of digital items and downloadable content has reduced the need to sell games at higher prices.

As with any growing market, concerns around consumer protection also arise. Regulatory bodies are moving to address concerns, which include protections for virtual asset ownership, data privacy, and the potential for financial crime via game asset marketplaces. As more consumers continue to engage with video games and the market continues to grow, policymakers may need to closely follow trends to protect consumers.

Endnotes

[1] In this article, video games (or gaming) include arcade games, home console games, PC games, and mobile games (apps on a mobile phone or a tablet) but exclude gambling games such as online casinos, video poker, and sports betting apps.

[2] The global games market contracted in 2022 with an annual growth rate of negative 4.3 percent but expanded again in 2023 and 2024 with an annual growth rate of 0.5 percent and 2.1 percent, respectively (Newzoo 2024; Wijman 2024).

[3] One of the most successful video games of all time, Grand Theft Auto V, has capitalized on the revenue model relying on revenues from both subscriptions and microtransactions. Its accumulated revenues since its initial release in 2013 is estimated at nearly $8 billion, with hundreds of millions of annual revenues from subscriptions and in-game purchases (Lu 2023).

[4] An example of success may be Microsoft's Xbox, which sets the prices of Xbox Game Pass at $9.99, $11.99, and $19.99 per month for different subscription types in 2025 and had 34 million subscribers in 2024 (Warren 2024). One estimate projects that global Xbox Game Pass average revenue per user will increase from $131 in 2024 to $151 in 2025 (Harding-Rolls 2024).

[5] For example, Linden Lab, the developer of Second Life, voluntarily complies with AML and KYC regulations by requiring all Second Life players to register with its subsidiary Tilia Inc., a licensed money service business in 46 states of the United States (Moiseienko and Izenman 2019).

[6] The principles include requirements for clear and transparent pricing of in-game currencies, pre-contractual disclosures, and the right for consumers to be refunded for in-game currency purchases.

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