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True Art of Valuation

The Economics of Video Games

June 2025

Game On: Exploring a $200 Billion Thriving Industry

The global video game industry has evolved into one of the most lucrative and dynamic entertainment sectors, surpassing the combined revenues of the film and music industries. With over 3 billion players worldwide and a market exceeding $200 billion annually, games are not just entertainment—they are ecosystems.

Beneath each hit title lies a sophisticated economic model—where studios balance rising development costs, platform dynamics, evolving monetization strategies, and the imperative to sustain long-term player engagement.

Valuing video games involves understanding various economic factors, including development costs, distribution, and revenue generation through monetization. This presentation explores the economics of video games—covering the development lifecycle, cost structures, and monetization strategies—alongside case studies of iconic titles that have shaped the industry.

Leveling Up: The Global Gaming Surge

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The global gaming market is projected to grow from USD 269.06 Bn in 2025 to USD 436.68 Bn by 2030, expanding at a CAGR of 10.17% during the forecast period (2025–2030).

Growth is being fueled by surging interest in **mobile gaming, esports,** and **fantasy platforms,** creating new and diversified revenue streams.

Technological advancements—such as **cloud gaming, artificial intelligence (AI), virtual reality (VR), augmented reality (AR)**, and **mixed reality (MR)—**are redefining gameplay experiences, accessibility, and monetization models.

The adoption of **cross-platform integration, game subscriptions**, and **blockchain-based gaming** is reshaping how players access, own, and interact with games.

The industry's expansion is expected to be driven by innovations in **mobile, cloud,** and **esports ecosystems**, which continue to attract both players and investors globally.

Source: Mordor Intelligence

The Game Map: Navigating the Industry Landscape

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Powerhouse

- The gaming industry is led by major global players across platforms:
- Console gaming: Dominated by Sony, Microsoft, and Nintendo
- Mobile/PC gaming: Influenced by firms like Tencent, Electronic Arts (EA), and Activision Blizzard

Synergy

- Strategic M&A activity—such as Microsoft's landmark acquisition of Activision Blizzard—continues to reshape industry dynamics and consolidate IP ownership

Upgrades

- The industry thrives on constant innovation and agility, with top players investing heavily in:
- Research & Development
- Intellectual Property creation
- Next-gen technologies like AR, VR, blockchain, and AI

Expansion

- There is a growing emphasis on expanding to mobile-first markets, enhancing cloud gaming infrastructures, and fostering cross-platform experiences to broaden reach

Endgame

- Long-term success will hinge on a company's ability to:
  - Quickly adapt to emerging technologies
  - Create engaging, interactive content
  - Build and sustain loyal player communities
  - Navigate regulatory pressures and shifting consumer expectations

From Concept to Console: How Video Games Are Built

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Development Lifecycle

- **Pre-Production** - Laying the foundation: Game concept, core mechanics, storyline, and early design.
- **Production** - Bringing the game to life: Programming, graphics, animation, sound, and voice acting.
- **Post-Production** - Polishing the experience: QA testing, bug fixing, optimization, and performance tuning.
- **Maintenance** - Keeping it fresh: Updates, patches, seasonal content, and long-term support.

The Teams Behind the Magic

- **Team Scale** - Ranges from solo indie creators to 300+ member AAA studio teams.
- **Skill Diversity** - Collaboration across game design, coding, 3D art, UX/UI, music, writing, marketing, and analytics.

Factors Influencing Game Development

- **Labor** - High demand and rising costs for skilled talent across disciplines.
- **Technology** - Licensing for engines like Unreal/Unity, dev kits, and custom tools.
- **Marketing & Distribution** - Costs of pre-launch campaigns, platform partnerships, digital vs. physical channels.
- **Time** - Longer cycles increase overheads—salaries, tech support, and risk of market shifts.

Game Plan: How Games Make Money

Traditional Revenue Models

Premium Pricing (One-Time Purchase):

Players pay upfront to own the game, with no recurring costs

Example: "The Witcher 3: Wild Hunt" (2015)

- Sold over 30 million copies at a price of $50–$60 each

Subscription Model:

Players pay a recurring fee to access the game or its ongoing content

Example: "World of Warcraft" (2004)

- Generated billions through monthly subscriptions from a global player base

Modern Revenue Models

Freemium / Free-to-Play (F2P):

The base game is free, but monetized through in-game purchases, ads, or cosmetics

Example: "Fortnite" (2017)

- Earned over $9 billion in 2018–19 through cosmetics and battle passes, despite being free to play

Season Passes / DLC (Downloadable Content):

Additional paid content post-launch, such as new maps, missions, or storylines

Example: "Destiny 2" (2017)

- Monetized via expansion packs, seasonal passes, and regular content updates

From AAA to F2P: Two Paths to Gaming Profitability

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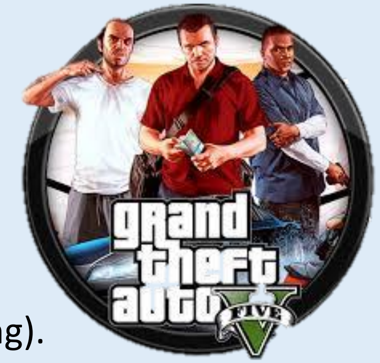
AAA



Case Study 1: The Development and Economics of "Grand Theft Auto V“

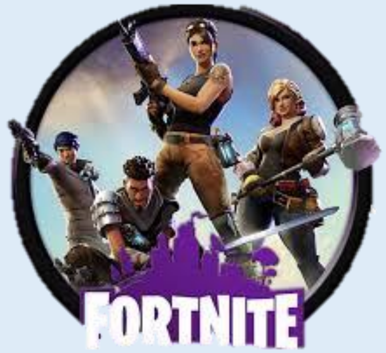
Development Costs:
- Around $275mn (production + marketing).

Monetization:
- **Initial Sale**: Sold over 110mn copies.
- **GTA Online**: A huge driver of revenue, generating billions through microtransactions.

Continued Success:
- Ongoing revenue from in-game purchases and content updates.

Key Takeaways:
- High development costs are offset by long-term monetization; active player bases drive sustained profitability.

F2P



Case Study 2: The Economics of "Fortnite“

Development Costs:
- Started as paid; shifted to free-to-play with lower upfront cost.
- Ongoing spend on updates, servers, and content.

Monetization:
- Generated $1.8bn in 2019 via microtransactions, battle passes, and brand tie-ins (e.g., Marvel, NFL).
- V-Bucks drive cosmetic and seasonal item sales.

Key Takeaways:
- Free-to-play with regular updates enables recurring revenue; collaborations and seasonal rewards boost long-term engagement

Loot, Looks & Livestreams: The New Gaming Economy

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Key Monetization Models:

Listed below are the Key Models:

- **Cosmetic Items** – Skins, emotes, avatars.
  - → Appeal: Customization, status, identity
- **Loot Boxes** – Randomized virtual items
  - → Controversial but lucrative; taps into reward psychology
- **Battle Passes & Seasonal Content** – Limited-time rewards & challenges.
  - → Encourage consistent engagement and timed spending.

Influence:

How Content Creators Supercharge Game Economics:

- **Platform Reach** – Twitch, YouTube, TikTok drive discovery and viral adoption
  - → Case: "Among Us" exploded after streamer uptake in 2020
- **Creator Integration – Branded skins, in-game events, and promo codes**
  - → Case: Fortnite’s streamer skins and event collabs boost direct purchases
- **Live Feedback Loop** – Real-time reactions shape future content & updates

Why Players Keep Spending:

- Recurring Content Drops – New skins, events, story arcs drive return visits
- Social Hooks – Multiplayer, co-op modes, and live competitions boost stickiness
- Reward Loops – XP systems, daily logins, streak bonuses encourage habitual play

Building Billion-Dollar Games — Responsibly

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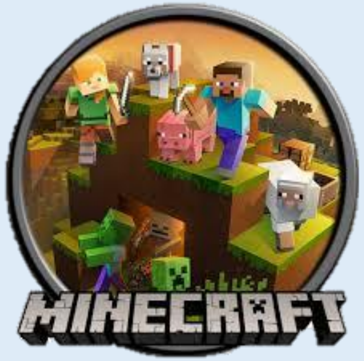
Concerns

Challenges Facing Developers & Regulators:

- **Gambling Concerns**
  - → Loot boxes mimic gambling mechanics
  - → Regulated/restricted in Belgium, Netherlands, and other regions
- **Pay-to-Win Backlash**
  - → In-game purchases that offer competitive advantages break trust
  - → Case: "Star Wars: Battlefront II" (2017) faced global criticism
- **Cosmetic-Only Model**
  - → Keeps gameplay balanced while monetizing personalization
  - → Case: League of Legends monetizes solely through skins

Ecosystem

Case Study 3: The Evolution of "Minecraft"



Development Costs:
- Created by Mojang for ~$250K (2009–2011)
- Launched with a one-time purchase model.

Monetization:
- Sold 200M+ copies
- Revenue from skins, worlds, memberships, and merchandise (toys, books, etc.)

Long-Term Revenue:
- Continues earning via updates, expansions, and loyal player base

Key Takeaways:
- Success driven by fan engagement, cross-platform play, and in-game asset sales.

Game Types vs. Profit Models: From Indies to Industry Giants

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Game Type	Development Costs	Revenue Model	Profitability Factors	Example
AAA Game (Large Scale)	• High production costs ($50M-$500M+) • Large team (hundreds of developers, designers, artists) • Extensive marketing budgets • Complex game mechanics and high-end graphics	• One-time purchase (premium) • Additional DLC (downloadable content) • In-game purchases	• High upfront costs but high potential for massive revenue • Profitability depends on sales, marketing success, and post-launch DLC	Example: "Red Dead Redemption 2" – Development & Marketing: ~$540M Timeline: 8 years Launch Impact: • $725M revenue in 3 days • 74M+ units sold (as of May 2025) • $4B+ lifetime revenue (@ $59.99/unit)
Indie Game (Small Scale)	• Relatively low production costs ($50K-$5M) • Small development team (1-50 people) • Limited marketing spend	• One-time purchase (premium) • In-game purchases or donations (e.g., Kickstarter) • Crowdfunding (if applicable)	• Lower initial investment means lower risk, but lower potential for large-scale profit • Profitability depends on niche market and viral success	Example: "Stardew Valley" - Development cost ~$300K, grossed over $50M+

Game Types vs. Profit Models: From Indies to Industry Giants

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Game Type	Development Costs	Revenue Model	Profitability Factors	Example
Freemium / Free-to-Play (F2P)	• Lower initial production costs ($1M-$10M)	• In-game purchases (cosmetics, loot boxes, battle passes)	• High profitability potential due to microtransactions and long-term player retention	Example: "Fortnite" – Development cost was relatively low, but it earned $9B+ in 2019 through microtransactions.
	• Focus on core game mechanics, not extensive graphics	• Ads (optional)	• Success highly dependent on monetization strategies and active player base	
	• Regular updates and maintenance costs	• Season passes		
Subscription-Based / MMO	• High initial development costs ($10M-$100M)	• Recurring monthly subscription fee	• High initial investment with steady revenue stream from subscriptions	Example: "World of Warcraft" - Development cost estimated at ~$100M, but ongoing revenue from subscriptions exceeds billions.
	• Ongoing costs for server maintenance and content updates	• In-game purchases (cosmetics, expansions)	• Profitability dependent on player retention and content updates	

Key Performance Metrics in Gaming Monetization (1/2)

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Average Revenue Per User (ARPU)

This metric calculates the average revenue generated by each user, regardless of whether they are paying or not. It's calculated by dividing total revenue by the total number of users.

= Total Revenue / Total Users

Average Revenue Per Paying User (ARPPU)

This metric focuses on the revenue generated by paying users only, providing insights into the profitability of each paying customer. It's calculated by dividing total revenue from paying users by the number of paying users.

= Total Revenue from Paying Users / Number of Paying Users

Customer Lifetime Value (CLTV)

This KPI estimates the total revenue a customer is expected to generate throughout their relationship with the game. It helps in understanding the long-term value of each user.

= ARPU × Average Customer Lifespan (in months)

Retention Rate

This metric measures the percentage of users who continue to engage with the game over a specific period, indicating the game's ability to keep players engaged.

= (Users Active at Day X / Users Acquired on Day 0) × 100

Key Performance Metrics in Gaming Monetization (2/2)

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Churn Rate

This KPI tracks the rate at which users stop playing the game, providing insights into user attrition and potential areas for improvement.

= (Users Lost During a Period / Total Users at Start of Period) × 100

Conversion Rate

This metric measures the percentage of users who make a purchase or complete a desired action within the game, indicating the effectiveness of monetization strategies.

= (Number of Paying Users / Total Users) × 100

Customer Acquisition Cost (CAC)

This KPI measures the cost of acquiring a new user, helping to understand the efficiency of marketing and acquisition efforts.

= Total Marketing Spend / Number of New Users Acquired

Daily & Monthly Active Users (DAU, MAU)

These metrics track the number of users who engage with the game daily or monthly, respectively, indicating the game's popularity and engagement levels.

= Indicates stickiness; higher = better engagement

Benchmarking Game Success: A KPI Comparison

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Metric	Fortnite (Epic Games)	Candy Crush Saga (King)	Clash of Clans (Supercell)	Pokémon GO (Niantic)	League of Legends (Riot)	PUBG Mobile (Tencent)	Clash Royale (Supercell)
ARPU	~$5–10/month(avg. ~$7.70)	~$1–5/month (industry benchmark)	—	~ —	—	—	—
ARPPU	~$50 (paying users only)	~$20 (paying users)	—	—	—	—	—
CAC	~$2–3 per new player (estimated)	~$1–2 per new player (industry)	—	—	—	—	—
Churn Rate	~10% monthly	—	—	~15–20% monthly	—	—	—
CLTV	~$200 per user (lifetime)	—	—	—	~$300 per user (industry estimate)	—	—
Conversion Rate	—	—	~5–10%	—	—	~3% (PUBG Mobile benchmark)	—
DAU	~126M MAU; actual DAU varies	~180M users reported	—	~5M DAU (historically)	~8M DAU (industry)	—	—
Retention Rate	—	~30% at 30 days	—	—	—	—	~50% at 30 days (benchmark)

Transaction Comparable

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Acquiring Company	Target Company	Target Country	Deal Value (USD bn)	Deal Announced	Deal Closed	Multiple (EV/EBITDA)
Microsoft	Activision Blizzard	USA	68.7	Jan-22	Oct-23	19.4x
Take-Two Interactive	Zynga	USA	12.7	Jan-22	May-22	26.0x
EQT (via consortium)	Keywords Studios	Ireland	2.8	Jul-24	Oct-24	19.9x
Tencent (Through Sixjoy Hong Kong Ltd)	Sumo Group	UK	1.3	Jul-05	Jan-22	46.6x
Electronic Arts	Codemasters	UK	1.2	Dec-20	Feb-21	18.1x
Embracer Group	Saber Interactive	USA	0.5	Feb-20	Apr-20	9.2x
Mean						**23.2x**
Median						**19.7x**

Trading Comparable: Valuation Multiples

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Company	HQ	Share Price (lc)	Market Cap. (mn)	EV (mn)	EV/ Revenue					EV/ EBITDA					P/ E				
					FY21	FY22	FY23	FY24	LTM	FY21	FY22	FY23	FY24	LTM	FY21	FY22	FY23	FY24	LTM
North America																			
• Electronic Arts Inc.	United States	147.9	37,083.3	37,053.3	6.6x	5.3x	5.0x	4.9x	5.0x	30.2x	23.0x	19.4x	18.7x	19.1x	44.3x	47.0x	46.2x	29.1x	33.1x
• Take-Two Interactive Software, Inc.	United States	231.0	42,252.5	44,892.9	13.3x	12.8x	8.4x	8.4x	8.0x	59.3x	66.9x	80.8x	86.3x	100.0x	71.7x	101.1x	-37.6x	-11.3x	-9.4x
• Roblox Corporation	United States	94.2	63,894.4	62,940.9	32.8x	28.3x	22.5x	17.5x	16.4x	-170.7x	-79.3x	-60.3x	-76.9x	-81.6x	-130.0x	-69.1x	-55.5x	-68.3x	-72.6x
• Unity Software Inc.	United States	24.8	10,305.1	11,343.3	10.2x	8.2x	5.2x	6.3x	6.3x	-24.3x	-16.9x	-57.1x	-85.9x	NM	-19.3x	-11.2x	-12.5x	-15.5x	-22.9x
Asia																			
• Nintendo Co., Ltd.	Japan	82.8	96,027.3	81,709.4	5.1x	5.9x	6.8x	7.4x	10.5x	13.9x	16.4x	21.1x	22.6x	41.1x	22.1x	24.4x	29.5x	29.6x	51.6x
• Capcom Co., Ltd.	Japan	29.9	12,556.4	11,478.5	13.3x	12.7x	12.1x	11.4x	10.1x	34.0x	30.1x	28.1x	28.3x	24.4x	55.7x	46.8x	45.4x	43.8x	38.8x
• BANDAI NAMCO Holdings Inc.	Japan	32.2	20,519.6	17,818.3	2.7x	2.4x	2.4x	2.6x	2.1x	17.7x	14.1x	16.1x	20.5x	12.0x	46.4x	26.9x	30.2x	30.6x	23.8x
• NEXON Co., Ltd.	Japan	18.0	14,420.5	10,682.2	4.5x	4.0x	3.6x	3.8x	3.5x	12.0x	12.2x	10.7x	11.3x	10.4x	14.5x	19.0x	28.8x	16.8x	17.2x
Europe																			
• Embracer Group AB	Sweden	12.4	2,801.9	2,312.2	1.9x	1.3x	0.6x	0.6x	1.0x	7.3x	17.1x	4.0x	-6.1x	1.2x	85.1x	26.8x	6.5x	-1.6x	4.7x
• Paradox Interactive AB	Sweden	20.5	2,165.2	2,013.9	12.6x	10.6x	7.7x	10.1x	9.3x	30.0x	22.0x	20.9x	23.2x	20.2x	79.0x	31.8x	41.0x	41.0x	37.4x
• Frontier Developments plc	United Kingdom	3.6	139.1	129.8	1.0x	0.9x	1.0x	1.1x	1.1x	4.3x	8.2x	-21.7x	-15.8x	10.2x	4.5x	11.5x	-5.4x	-5.1x	6.8x
• Ubisoft Entertainment SA	France	11.6	1,522.1	2,872.4	1.1x	1.2x	1.5x	1.2x	1.4x	2.7x	2.9x	3.8x	7.1x	29.3x	12.6x	17.3x	-2.8x	8.9x	-8.9x
• CD Projekt S.A.	Poland	69.2	6,918.6	6,609.6	30.0x	30.4x	21.1x	27.7x	26.0x	94.6x	68.5x	55.2x	71.1x	64.3x	133.6x	87.4x	56.5x	60.9x	58.8x
				Mean	**10.4x**	**9.5x**	**7.5x**	**7.9x**	**7.8x**	**8.5x**	**14.3x**	**9.3x**	**8.0x**	**100.8x**	**32.3x**	**27.7x**	**13.1x**	**12.2x**	**12.2x**
				Median	**6.6x**	**5.9x**	**5.2x**	**6.3x**	**6.3x**	**13.9x**	**16.4x**	**16.1x**	**18.7x**	**20.2x**	**44.3x**	**26.8x**	**28.8x**	**16.8x**	**17.2x**

Note - Though not primarily gaming companies, Microsoft and Tencent have significant presence in the space. Excluded from comps as gaming contributes ~9% of Microsoft’s and ~30% of Tencent’s revenue.

Trading Comparable: Operating Performance

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Company	HQ	CAGR (2021-2024)			EBITDA Margin					Net Income Margin				
		Revenue	EBITDA	Net Inc.	FY21	FY22	FY23	FY24	LTM	FY21	FY22	FY23	FY24	LTM
North America														
• Electronic Arts Inc.	United States	10.3%	17.4%	15.0%	21.8%	23.1%	25.7%	26.2%	26.0%	14.9%	11.3%	10.8%	16.8%	15.0%
• Take-Two Interactive Software, Inc.	United States	16.6%	-11.7%	NM	22.4%	19.1%	10.4%	9.7%	8.0%	17.5%	11.9%	-21.0%	-70.0%	-79.5%
• Roblox Corporation	United States	23.4%	30.5%	23.9%	-19.2%	-35.7%	-37.3%	-22.7%	-20.1%	-25.6%	-41.5%	-41.2%	-26.0%	-22.9%
• Unity Software Inc.	United States	17.8%	-34.4%	7.6%	-42.1%	-48.2%	-9.1%	-7.3%	0.6%	-48.0%	-66.2%	-37.6%	-36.6%	-25.2%
Asia														
• Nintendo Co., Ltd.	Japan	-11.4%	-15.0%	-9.3%	37.0%	35.6%	32.2%	32.7%	25.6%	27.3%	28.2%	27.0%	29.3%	23.9%
• Capcom Co., Ltd.	Japan	5.4%	6.2%	8.4%	39.2%	42.1%	43.1%	40.2%	41.5%	26.1%	29.6%	29.2%	28.5%	28.6%
• BANDAI NAMCO Holdings Inc.	Japan	1.2%	-4.8%	14.9%	15.1%	17.2%	14.9%	12.5%	18.0%	6.6%	10.4%	9.1%	9.7%	10.4%
• NEXON Co., Ltd.	Japan	6.0%	1.9%	-4.9%	37.4%	32.7%	33.3%	33.3%	34.2%	41.9%	28.4%	16.7%	30.2%	27.7%
Europe														
• Embracer Group AB	Sweden	49.2%	NM	NM	26.6%	7.3%	16.0%	-9.6%	88.3%	2.8%	5.7%	11.8%	-42.9%	26.7%
• Paradox Interactive AB	Sweden	7.5%	9.0%	24.5%	41.9%	48.4%	36.7%	43.7%	45.8%	17.1%	35.9%	20.1%	26.6%	26.6%
• Frontier Developments plc	United Kingdom	-4.1%	NM	NM	23.3%	11.1%	-4.6%	-7.2%	11.3%	23.8%	8.4%	-20.0%	-24.1%	18.0%
• Ubisoft Entertainment SA	France	-1.7%	-27.5%	12.1%	40.5%	41.5%	38.0%	16.2%	4.8%	4.6%	3.7%	-27.2%	6.9%	-8.4%
• CD Projekt S.A.	Poland	2.7%	10.0%	30.0%	31.7%	44.3%	38.2%	39.0%	40.4%	23.5%	36.4%	39.1%	47.7%	46.3%
	Mean	**9.4%**	**-15.3%**	**12.2%**	**21.2%**	**18.4%**	**18.3%**	**15.9%**	**24.9%**	**10.2%**	**7.9%**	**1.3%**	**-0.3%**	**6.7%**
	Median	**6.0%**	**-1.5%**	**13.5%**	**26.6%**	**23.1%**	**25.7%**	**16.2%**	**25.6%**	**17.1%**	**11.3%**	**10.8%**	**9.7%**	**18.0%**

Note - Though not primarily gaming companies, Microsoft and Tencent have significant presence in the space. Excluded from comps as gaming contributes ~9% of Microsoft's and ~30% of Tencent's revenue.

Thank You…!

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