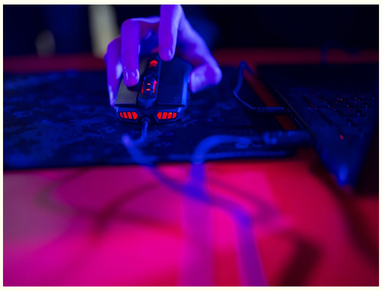
18 May 2023



Investment Opportunities in the Gaming and eSports Industry

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Executive Summary

- The gaming industry is growing rapidly and is projected to be worth over $300 billion by 2023. Mobile and computer gaming are driving much of this growth with a projected CAGR of 7.7% through 2027. The metaverse is generating an estimated $54.95 billion in 2023 and is projected to grow at a CAGR of 36.7% to $490 billion by 2030.

- Prominent players within the industry encompass Tencent, Activision Blizzard, Electronic Arts, The Sandbox, and Decentraland Mana. Various investment opportunities are available, such as investing in publicly traded companies, private equity, venture capital funding, and metaverse cryptocurrencies.

- Artificial Intelligence (AI) technologies possess the capability to revolutionize gaming experiences and propel the industry forward. The utilization of Large Language Models such as ChatGPT has the potential to enable elevated and personalized gaming encounters. Unity is currently working to incorporate AI into its game engine with the aim of improving accessibility and streamlining the game development process.

1 Introduction

The gaming industry has undergone a remarkable transformation, emerging as a dominant force in the entertainment sector. It is estimated to be valued by over 300 billion dollars in 2023.[1] The industry has experienced a noteworthy evolution over time, advancing from arcade and console games to the current era of mobile gaming and virtual reality. The industry has expanded to encompass a diverse range of platforms, genres, and business models, including free-to-play mobile games and high-end console and PC titles. E-sports, a thriving subset of the gaming industry, presents a lucrative opportunity for professional players and teams to compete in organised sport tournaments for substantial rewards. The exponential growth of e-sports has led to a worldwide phenomenon with a massive viewership, and its momentum shows no signs of decelerating.

Complementary to this, the concept of the metaverse has become increasingly popular within the gaming industry, offering a new level of immersion and social interaction for gamers. Powerered by blockchain, a technology that has recently taken the world by storm specifically in the realm of cryptocurrencies, the metaverse is a cutting-edge digital environment that facilitates seamless and immersive interactions between users and digital entities. The metaverse offers users a plethora of opportunities to engage in diverse activities, ranging from gaming and socialising to attending events and conducting business. As per the insights of industry experts, the metaverse embodies a colossal network of interlinked virtual realms that surpass any singular platform or technology. This dynamic network can be accessed from a variety of devices and platforms, offering users unparalleled flexibility and accessibility.

Metaverse platforms like Roblox, Fortnite, and Second Life have already garnered significant investments from companies. These platforms boast millions of users and generate substantial revenue through in-game purchases and advertising. As we witness the swift advancement of metaverse technology and infrastructure, we can expect a proliferation of metaverse platforms and experiences in the near future.

Currently, the topic that has garnered significant attention worldwide is Artificial Intelligence (AI), with a particular focus on Large Language Models (LLMs). In November 2022, ChatGPT achieved a remarkable feat by amassing a user base of over one million within a mere five days of its public release. The integration of this technology into gaming platforms holds immense potential for further advancement. The convergence of gaming, metaverse, and LLMs presents a promising opportunity for investors to generate significant returns. With the ongoing evolution of technology and infrastructure, businesses that specialise in creating and promoting such platforms and experiences are well-positioned for sustained expansion.

2 Market Overview

The rise of streaming platforms such as Twitch and YouTube has had a noteworthy influence on the gaming sector, promoting the adoption of computer/mobile gaming, eSports, and the metaverse. The provision of global platforms for gaming content has resulted in increased interest in competitive gaming and its recognition as a legitimate form of entertainment. Moreover, the ability to stream gameplay has facilitated the mobility of gamers to engage in and disseminate their experiences, concurrently stimulating curiosity in the metaverse as a novel manifestation of digital enjoyment.

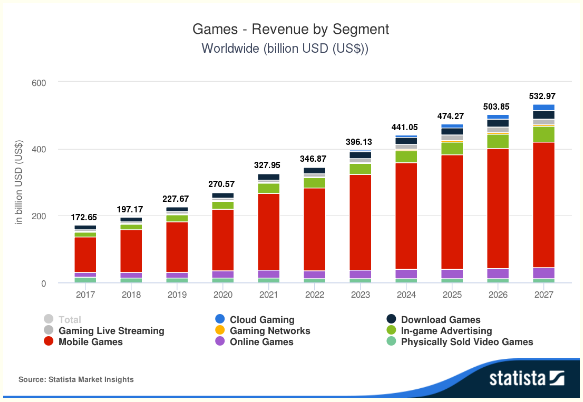
2.1 The rise of mobile and computer gaming

The gaming industry is anticipated to experience a compound annual growth rate (CAGR) of 7.70% between 2023 and 2027, leading to a projected market value of US$533 billion by 2027. Based on the analysis by Statista[2], it is projected that China will emerge as the foremost contributor, with an estimated revenue of US$110.1 billion in 2023. It is plausible to believe especially given the recent technological advancement in 5G, IOT, and AI that the global gaming market is projected to experience

[1] Article on Gaming sector worth

[2] Statista Gaming Market Overview

significant growth in the coming years. Statista anticipates that the number of gamers worldwide will reach 4.33 billion by 2027, with user penetration expected to increase from 48.8% in 2023 to 54.5% by 2027. The forecasted average revenue per user (ARPU) is expected to reach US$154.

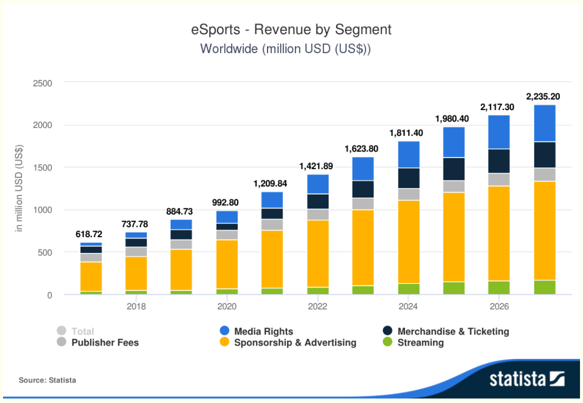


2.2 Growing investment in eSports

According to projections, the eSports industry is expected to yield significant financial returns, with an estimated revenue of US$1.624 billion by the year 2023. The industry in question is anticipated to experience a compound annual growth rate (CAGR) of 8.31% from 2023 to 2027, resulting in an estimated market value of US$2.235 billion by 2027.[3] It is projected that China will be the leading revenue generator, with an estimated market volume of US$445.2 million by 2023. It is projected that the number of individuals utilising eSports will escalate to 720.8 million by the year 2027, with an anticipated rise in user penetration from 7.6% in 2023 to 9.1% by 2027. The projected average revenue per user (ARPU) in this market is expected to attain US$2.80. The growing eSports market has garnered significant attention, with Saudi Arabia's recent announcement of a substantial $38 billion investment in the industry serving as a testament to its potential for expansion and financial gain.[4] Furthermore, the year 2018 witnessed an unprecedented surge in the volume of investments of over $4.5 billion.[5]

[3] Statista eSports Market Overview
[4] Saudi Arabia invests in eSports by Bloomberg
[5] Deloitte eSports investment

Saudi Arabia investment into eSports

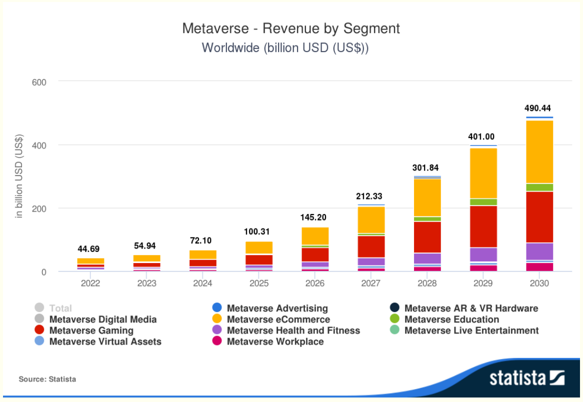


2.3 Metaverse taking off

It is estimated that by 2023, the Metaverse industry will generate a substantial revenue of US$54.95 billion, with the United States being the primary contributor at an estimated US$17.48 billion. The market is anticipated to undergo a significant expansion, with a projected compound annual growth rate (CAGR) of 36.71% from 2023 to 2030. This growth trajectory is expected to culminate in a market volume of US$490.4 billion by the end of the decade. It is projected that the Metaverse will experience a significant increase in its user base, with an estimated 1.461 billion users expected to be reached by the year 2030. User penetration is forecasted to increase from 6.0% in 2023 to 18.0% by 2030, while the average revenue per user (ARPU) is expected to amount to US$119.40.[6] The signifi-

[6] Statista Metaverse Market Overview

cant expansion observed in this context highlights the capacity of the Metaverse industry to establish itself as a prevailing influence in the domains of technology and entertainment.



3 Key Players in the Industry

3.1 Tencent Holdings

Tencent, market cap of $442.1 billion, is the largest gaming company in the world if we are taking about revenue. In 2018, it earned more than $19 billion in gaming software sales, representing 18.4% of the global market. The Chinese company has stakes in top developers such as Riot Games, Epic Games, Supercell.[7]

3.2 The Sandbox

The Sandbox, market cap of $900 million, is a blockchain-based virtual world that was initiated by Pixowl in 2011. It enables users to engage in game-like activities such as creating, building, purchasing, and vending digital assets. The Sandbox has established a decentralised platform for a flourishing gaming community by synergizing the capabilities of decentralised autonomous organisations (DAOs) and non-fungible tokens (NFTs).[8]

3.3 Activision Blizzard

Activision Blizzard, market cap of $45 billion, is a globally-leading developer and publisher of interactive entertainment software. The most prevalent eSports franchises of the company encompass Call of Duty, World of Warcraft, Overwatch, StarCraft, and Hearthstone. In 2016, Activision Blizzard procured King Digital, the enterprise responsible for the renowned mobile franchise Candy Crush, and the eSports platform, Major League Gaming.

4 Investment Opportunities

Source: Google

A tripartite classifications, namely publicly traded enterprises, private equity and venture capital firms, as well as eSports teams and organisations, offer diverse avenues for investors with distinct risk tolerances and investment objectives. A summary of the top 16 investment avenues can be found in the Appendix should investor be interested. The aforementioned stocks were identified through a thematic analysis, which involved reviewing industry reports, news articles, and other pertinent sources to discern shared themes and trends in the gaming, metaverse, and eSports sectors. This methodology facilitates understanding of the wider market framework and recognition of pivotal stakeholders operating within the space. How the picked stocks came by were based on the notable brands/games which are associated with them example, ATVI provides Overwatch, Call of Duty and World of Warcraft, EA with FIFA games, Huya with Chendu Hunters, SE with Call of Duty: Mobile and so on. An interesting pick would be C3.Ai, it is a disruptive technology that utilises artificial intelligence (AI) within a software-as-a-service (SaaS) business model, implemented across the en-

[7] Tencent holdings
[8] Read more on Sandbox here

terprise domain. It is regarded as one of the most direct methods to capitalise on the AI boom. This positioning has led to an influx of capital from investors into the stock. C3.ai is one of the lesser and more nimble AI companies (especially in comparison to Microsoft and Nvidia).

4.1 Publicly traded companies

Publicly traded companies, such as Tencent, Activision Blizzard, and Electronic Arts, present comparatively stable and well-established opportunities for investment. These companies possess a proven history of creating well-received games and are leading the forefront of the gaming sector. Investors have the option to procure shares in said companies via their corresponding stock exchanges, with the possibility of reaping long-term growth benefits.

4.2 Private equity and venture capital

Private equity and venture capital investments offer prospects for investing in emerging gaming and esports startups that exhibit promising growth potential. Investors have the opportunity to partake in funding rounds for said companies and acquire equity ownership. This investment modality entails a greater degree of risk, albeit it presents the potential for substantial returns in the event that the companies prosper and expand.

4.3 Esports teams and organizations

Esports teams and organisations present an exciting opportunity for investment, enabling investors to procure ownership interests in competitive esports teams or contribute to the advancement of esports infrastructure. This investment has the potential to generate profits via sponsorships, advertising proceeds, and team earnings.

4.4 Metaverse

The metaverse, a virtual shared space where users can interact with each other and digital objects, also presents several investment opportunities. As the metaverse continues to develop, investors can capitalize on its growth by investing in cryptocurrencies associated to the metaverse blockchain such as Decentraland Mana, The Sandbox or Axie Infinity.

5 AI Takes Gaming to the Next Level

Source: Google

The pursuit of investment opportunities within the gaming and eSports sector, as well as the metaverse, presents a promising endeavour, particularly in light of the current discourse surrounding Large Language Models (LLMs) such as ChatGPT. The AI models possess the capability to transform the gaming sector through the facilitation of enhanced, engaging, and customised experiences. The utilisation of LLMs and other artificial intelligence technologies in video games such as "Tales of Syn" serves as a prime illustration of the potential of AI[9], as it facilitates the creation of game assets, backgrounds, character models, and dialogues.

5.1 Unity

Moreover, Unity Technologies, a cross-platform game engine, intends to enhance its AI functionalities and incorporate a natural language interface in the Editor.[10] This development demonstrates the increasing importance of AI in the gaming sector. The corporation identified four principal domains wherein artificial intelligence can enhance its expansion and financial gain. These four includes:

[9] Tales of Syn LLM game
[10] Read more on Unity

- **Unity Editor:** Unity's objective is to enhance the accessibility and efficiency of the development process by simplifying the creation tool chains and incorporating genAI tools that utilise natural language.
- **Unity Runtime:** The incorporation of Barracuda, a cross-platform neural network inference library developed by Unity, into the runtime environment enables the execution of locally stored trained models on various devices.
- **Unity Network:** Unity uses machine learning and AI to assist businesses uncover new growth opportunities in ads, analytics, and publishing platforms. AI helps clients make smarter decisions and generate more income.
- **Training Data:** Unity can train AI models by gathering data from games and other real-time activities. Thus, clients may utilise Unity to create and improve AI models for diverse applications, improving their products and services.

5.2 Verdict

As AI technologies like LLMs and ChatGPT are incorporated into game production and experiences, investment in the gaming and eSports industries, including the metaverse, offers considerable growth and innovation possibilities.

6 Risks and Challenges

It is worth noting that investing in this industry does carry some risks.

6.1 Regulatory risks

Alterations in regulatory policies may have a substantial effect on the gaming sector. As an illustration, limitations on loot boxes, which are digital commodities that gamers can procure to acquire random in-game materials, could potentially impact the financial inflows for some game developers. The potential effects of age rating systems and legal measures aimed at safeguarding minors from disproportionate in-game expenditures could have significant implications for the gaming sector. The potential impact of regulatory modifications on the market may generate ambiguity and influence the financial gains and expansion of gaming enterprises.

6.2 Market saturation

The gaming industry is characterised by intense competition, with a plethora of firms and offerings contending for the patronage of consumers. The competitive nature of the market can pose a challenge for young games to garner attention, while even well-established franchises may encounter difficulties in sustaining player involvement in the long run. The phenomenon of market saturation has the potential to result in poor returns on investments in gaming and eSports firms, in addition to heightening the likelihood of failure for new ventures and startups.

6.3 Volatility risks

Cryptocurrencies are renowned for their price volatility, leading to substantial fluctuations in the value of metaverse coins such as SAND and MANA. The inherent instability of these assets poses a significant obstacle for investors attempting to forecast their enduring value, potentially leading to considerable financial setbacks in the event of a market downturn.

6.4 Economic and geopolitical factors

The gaming and eSports industries are susceptible to the impact of political decisions and geopolitical tensions. Instances such as trade barriers, economic sanctions, or tense diplomatic ties among nations can have an adverse effect on the worldwide dissemination and commercialization of video games, along with the management of global eSports competitions. Furthermore, regional political determinations, such as the imposition of censorship or limitations on content, may compel gaming enterprises to alter their merchandise or curtail their market penetration in specific regions, conceivably impacting their financial gains and expansion opportunities. Within the framework of the metaverse and cryptocurrencies, political risk may present itself in different manners. Governments may implement policies that limit or discourage the utilisation of cryptocurrencies, potentially stemming from apprehensions regarding financial stability or unlawful conduct. The potential ramifications of this phenomenon on the worth and acceptance of metaverse digital currencies such as SAND and MANA are significant.

6.5 Limitations of this study

The investment recommendations presented in the report are subject to several limitations that impede the scope and applicability. The analysis of the sector tends to be narrowly focused on publicly traded companies, with comparatively less attention paid to other sectors. Moreover, the process of selecting the featured companies is susceptible to bias since it hinges on a thematic analysis that draws from news coverage. A recency bias towards recent developments, such as large language models, rather than considering longer-term value drivers in the sector could pose a threat as well. Adopting a wider historical perspective would offer additional context and facilitate the assessment of the long-term viability of the aforementioned opportunities.

7 Conclusion

The gaming, eSports, and metaverse sectors offer appealing investment prospects, fueled by robust market expansion and the development of innovative business models. These industries are further bolstered by the large language model (LLM) narrative, which has led to substantial stock gains for companies like Microsoft (MSFT) and NVIDIA (NVDA), in the past few months, that have embraced these cutting-edge technologies. At the moment, the potential rewards associated with this narrative could outweigh the risks, making investments in these sectors particularly attractive.

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Appendix

Ticker	Name	Country	Market Cap ($ M)	Relevance
ATVI	Activision Blizzard Inc	United States	60920	Games
EA	Electronic Arts Inc	United States	34370	Games
HUYA	HUYA Inc	China	768.89	Media
NVDA	Nvidia Corp	United States	694300	Hardware
DOYU	DouYu International Holdings Ltd	China	307.60	Media
MTGB SS	Modern Times Group MTG AB	Sweden	980	Media
EGLX CN	Enthusiast Gaming Holdings Inc	Canada	80.177	Media
1337 HK	Razer Inc	Singapore	2570	Hardware
HEAR	Turtle Beach Corp	United States	180.24	Hardware
AI	C3.ai	United States	3080	Technology
MSFT	Microsoft	United States	2410000	Software
SE	Sea Ltd	Singapore	47520	Broad-Based
700 HK	Tencent Holdings Ltd	China	407967	Broad-Based
SAND	The Sandbox	Argentina	900	Metaverse
MANA	Decentraland Mana	Argentina	890	Metaverse

Summary of the 16 companies highlighted.