



INDIA'S BOOMING ONLINE GAMING INDUSTRY

A POTENTIAL POWERHOUSE

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EXECUTIVE SUMMARY

India's online gaming industry is experiencing explosive growth, poised to be a significant contributor to the nation's economic development. The online gaming industry occupies a fascinating space, drawing from and feeding into two major creative sectors: Media & Entertainment (M&E) and Animation, Visual Effects, Gaming, and Comics (AVGC).

Many initiatives are being taken by Government of India and the State Governments to promote the Media and Entertainment sector, such as the Cinematograph (Amendment) Bill (2023), the Information Technology (Intermediary Guidelines, Digital Media Ethics Code) Rules (2021), enhanced FDI limits in cable and DTH sectors and others. The share of online gaming in the M&E sector was 3.4 percent in 2019, which is expected to rise to 12.6 percent in 2026.

The AVGC sector has also garnered significant government support, leading to the formation of an AVGC Task Force in April 2022. The share of online gaming in the AVGC sector is projected to rise to 68 percent by 2026, from 41 percent in 2019.

Key Statistics:

- Revenue of Indian online gaming market is expected to reach USD 2.4 billion by FY2029, reflecting a robust 20 percent CAGR from 2017 to 2029.
- Share of online gaming in GDP has seen a growth of 27.5 percent CAGR from 2019 to 2022.
- Boasting the second-largest gaming community globally (455 million gamers), India presents a lucrative opportunity for foreign investment, job creation, and allied industry growth (fintech, cloud services, data analytics, cybersecurity, etc.).
- The online gaming sector is expected to attract a significant investment of ₹25,000 crore by FY 2024, and currently employs 100,000 individuals, with projections for an additional 150,000 jobs by 2025.

Over the past 12-18 months, extensive discussions within the GST Council have led to modifications in the online gaming sector's tax structure. In August 2023, the 51st GST Council meeting recommended changes to GST laws concerning the taxation of 'actionable claims' on Real Money Gaming (RMG) platforms. These changes impose a 28 percent GST rate on the entire deposit amount.

In response to these new GST regulations, online gaming platforms are reassessing their operational strategies and business models. These strategies may involve absorbing the GST impact, transferring the cost to customers, developing new products, and expanding into new geographical markets.

Overall, the Indian online gaming industry presents a vibrant and promising landscape, brimming with potential for economic growth and job creation. However, navigating the recent changes in the GST framework will be crucial for online gaming platforms to maintain their growth trajectory.

KEY FINDINGS

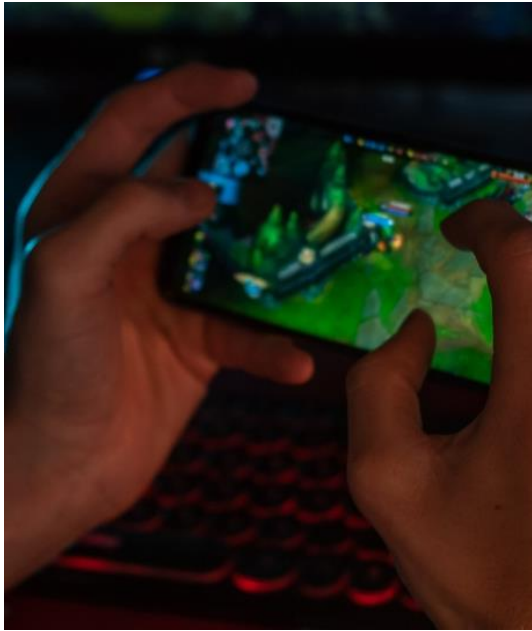
Key findings from 2018 to 2023, with 2018 serving as the base year for the primary data collected of the leading online gaming firms, are as follows:

- ❖ In terms of annual turnover, the Indian online gaming sector grew at an astounding 168.06% CAGR from 2018 to 2023. The industry's yearly turnover has been growing at an accelerated rate, demonstrating its dynamic development as a result of rising consumer engagement, growing market demand, and significant economic effect.
- ❖ The Indian online gaming industry has demonstrated remarkable growth and transformation from 2018 to 2023, as evidenced by significant workforce expansion and evolving gender dynamics.
 - The sector experienced a 20-fold increase in overall workforce during this period, with an exceptional 97.56 percent CAGR, underscoring its pivotal role in job creation and economic impact.
 - Male workforce growth remained strong and consistent, exhibiting a 69.88 percent CAGR.
 - Notably, the female workforce expansion outpaced overall growth, achieving an impressive 103.15 percent CAGR. This trend not only reflects the industry's rapid development but also highlights its contribution to gender diversity and women's economic empowerment in the technology sector.
 - The sustained growth across gender lines indicates the industry's increasing appeal and its potential to drive further economic opportunities in the Indian labour market. As the online gaming sector continues to evolve, it is poised to play an increasingly significant role in India's digital economy and workforce landscape.
- ❖ The technical workforce of online gaming companies in India saw significant and steady growth from 2018 to 2023, showing a remarkable 30X increase by 2023 with an impressive 109.13% CAGR, indicating a rapid and substantial increase in technical roles in the industry.

- ❖ All the surveyed companies outright put forth the following issues which are hindering the growth of the online gaming sector and have been highlighted below:
 - **Regulatory Uncertainty:** The delay in establishing Self-Regulatory Bodies (SRBs) under the IT Rules is causing regulatory uncertainty, negatively impacting business operations. This uncertainty allows offshore operators to gain market share. Thus, establishing SRBs is essential to ensure that only legitimate Indian companies operate in the country
 - **Retrospective Taxation:** Urgent action is needed from the Ministry of Finance and the GST Council to address retrospective tax amendments and notices totaling 1.2 lakh crores issued to gaming companies. These measures have eroded economic value and, if implemented, could force many businesses to shut down, potentially devastating the industry.
 - **Prospective Taxation:** The recent amendment proposing a 28% tax rate on deposits requires reconsideration. Some of the companies surveyed believe that lowering the tax rate and reverting to the earlier valuation method based on gross gaming revenue are necessary to support sector growth, encourage innovation, and attract investment.

- ❖ Among the online gaming companies surveyed, all the companies recommended the following:
 - Operationalization of the amended IT Rules to bring into force a national regulatory framework for the online gaming sector
 - Issuance of a clarification to resolve the issue of retrospective taxation
 - Notification of the National Policy for Promotion of the Animation, Visual Effects, Gaming and Comics (AVGC) Sector

- ❖ All the surveyed gaming companies recommended the following interventions for a robust and effective Self-Regulatory Bodies:
 - Three-Tier Regulatory Framework akin to the OTT sector
 - Implement verification mechanism by Self-Regulatory Bodies (SRBs) to designate permissible online real money games in accordance with the IT Rules. This will also help identify and address offshore and illegal operators
 - Establish Self-Regulatory Bodies (SRBs) with a clearly defined mandate and framework under the IT Rules. This involves creating a structured framework to evaluate games of skill which may utilize qualitative methods in alignment with Supreme Court jurisprudence, along with verifiable quantitative methods such as statistical models. These methods will demonstrate the correlation between skill, experience, and the increased likelihood of winning.



INTRODUCTION AND EVOLUTION OF THE ONLINE GAMING INDUSTRY IN INDIA

1 INTRODUCTION

The online gaming industry occupies a fascinating space, drawing from and feeding into two major creative sectors: Animation, Visual Effects, Gaming, and Comics (AVGC) and Media & Entertainment (M&E). This unique position makes online gaming a powerful driver of innovation and economic growth. The interconnected ecosystem of online gaming with other sectors is explained below:

SYMBIOTIC RELATIONSHIP WITH AVGC

Online games rely heavily on captivating visuals, intricate storylines, and engaging characters – all areas where animation, visual effects, and comic creation expertise come into play.

Conversely, online games push the boundaries of these creative fields, demanding new techniques and fostering advancements in storytelling and character development.

INTERDEPENDENCE WITH M&E

Online gaming is a major player in the M&E landscape, generating significant revenue and attracting large audiences.

M&E channels like streaming platforms and esports tournaments further amplify the reach and popularity of online games.

IT SECTOR: THE BACKBONE OF ONLINE GAMING

The smooth operation of online games hinges on robust IT infrastructure. This includes servers, data centers, and network security, all provided by the IT sector.

Online gaming companies also rely heavily on software developers who create the complex code that drives the gameplay experience.

ELECTRONICS INDUSTRY: DELIVERING POWER AND PERFORMANCE

Cutting-edge hardware from the electronics sector is essential for online gaming. This includes powerful processors, graphics cards, and specialized gaming devices that ensure smooth visuals and fast response times.

The success of online games often fuels innovation in the electronics industry, as companies strive to develop even more powerful hardware to meet the ever-evolving demands of gamers.

The online gaming industry isn't an isolated entity. It thrives through its intricate connections with M&E, AVGC, IT, and electronics sectors. This intricate network of dependencies creates a dynamic ecosystem where each sector fuels the progress of the others. Advancements in IT and electronics enable more immersive and complex online games, which in turn, push the boundaries of creativity in AVGC and M&E.

By understanding these connections, we can appreciate the online gaming industry's multifaceted nature and its significant impact on the broader technological and creative landscape.

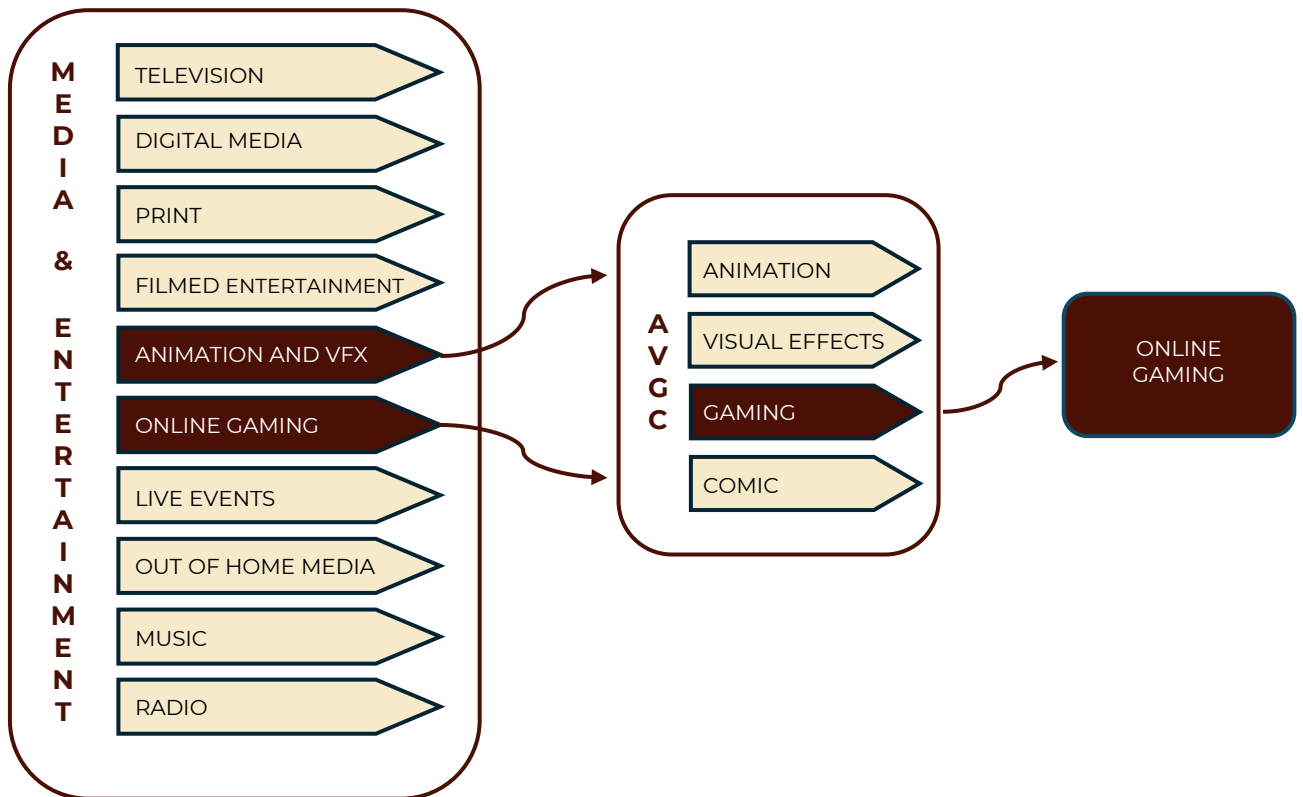


Figure 1: The interwoven ecosystem of Media & Entertainment (M&E), Animation, Visual Effects, Gaming, and Comic (AVGC), and Online Gaming

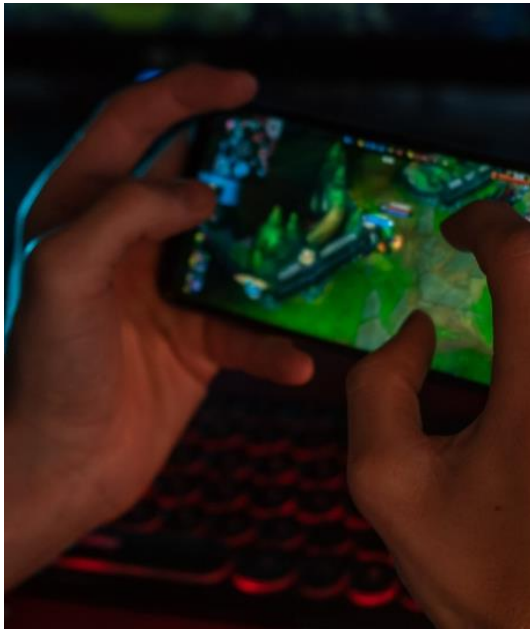
Source: Primus Partner's and EGROW's creation

2 EVOLUTION

Ralph Baer's invention, the video game, marked the beginning of an industry that has grown into a global powerhouse. This evolution is propelled by several factors, including technological advancements, broadening audience reach, innovation, and accessibility.



Over the past five years, the industry has experienced remarkable growth globally, with a compound annual growth rate (CAGR) of 15.6%^[1].



Projected estimates indicate exponential growth, with the global gaming market forecasted to reach USD 35.66 billion by FY2029^[2].

India, with its burgeoning youth population and increasing internet penetration, has become a significant contributor to this growth trajectory. The online gaming industry in India traces its roots back to the early 2000s, marked by the introduction of console and PC gaming and with launching of games like Snake and Tetris on mobile phones which captivated users with their addictive gameplay. Initially, online gaming primarily comprised social games, driven by international developers, however these rudimentary games paved the way to more sophisticated experiences as developers tapped the waves of technological advancement. However, India has since emerged as a key player in the global gaming landscape, fueled by rising internet penetration with the surge of 3G and 4G networks and smartphone usage. From casual puzzle games to immersive multiplayer experiences, the options for players were virtually limitless.

Figure 2 provides a snapshot of the development of technology, the Internet, and the gaming sector in India from 2005 to 2024. The early 2000s could be considered a period of rise in digital gaming in India. It was during this period that India witnessed a rise in computer hardware which enabled the development of complex games for mobile platforms.

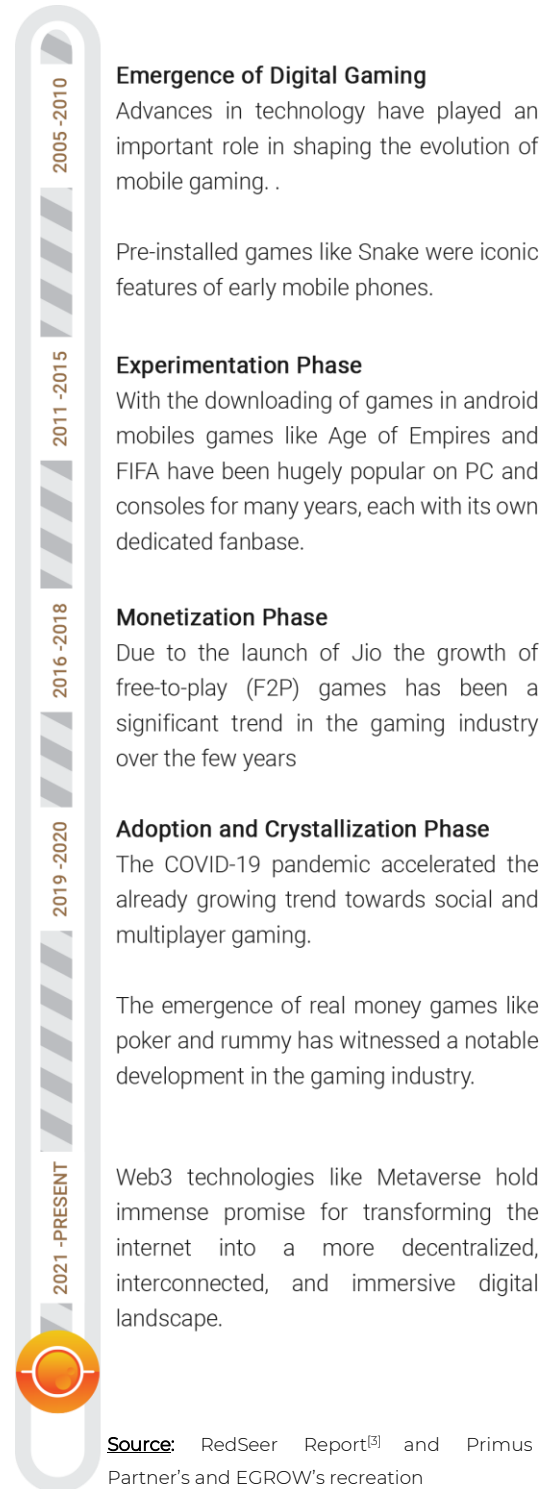
[1] EY- TMT Gaming Survey Report, 2022
[2] Statista Market Insights

A further surge was identified in online gaming with the launch of Android phones. As smartphones became more affordable and internet speeds improved, the online gaming sector flourished, attracting millions of players from all walks of life. Indeed, over the years, the smartphone users in India have been increasing, and it is expected that by 2040, the users of smartphones will increase by 60%. A quick reference to this could be understood with the increase in the number of subscriptions of mobile cellular phones in India.



[3] Redseer Report- Online gaming market in India

Figure 2 Timeline of the evolution of the Indian Gaming Sector since 2005



Emergence of Digital Gaming

Advances in technology have played an important role in shaping the evolution of mobile gaming. .

Pre-installed games like Snake were iconic features of early mobile phones.

Experimentation Phase

With the downloading of games in android mobiles games like Age of Empires and FIFA have been hugely popular on PC and consoles for many years, each with its own dedicated fanbase.

Monetization Phase

Due to the launch of Jio the growth of free-to-play (F2P) games has been a significant trend in the gaming industry over the few years

Adoption and Crystallization Phase

The COVID-19 pandemic accelerated the already growing trend towards social and multiplayer gaming.

The emergence of real money games like poker and rummy has witnessed a notable development in the gaming industry.

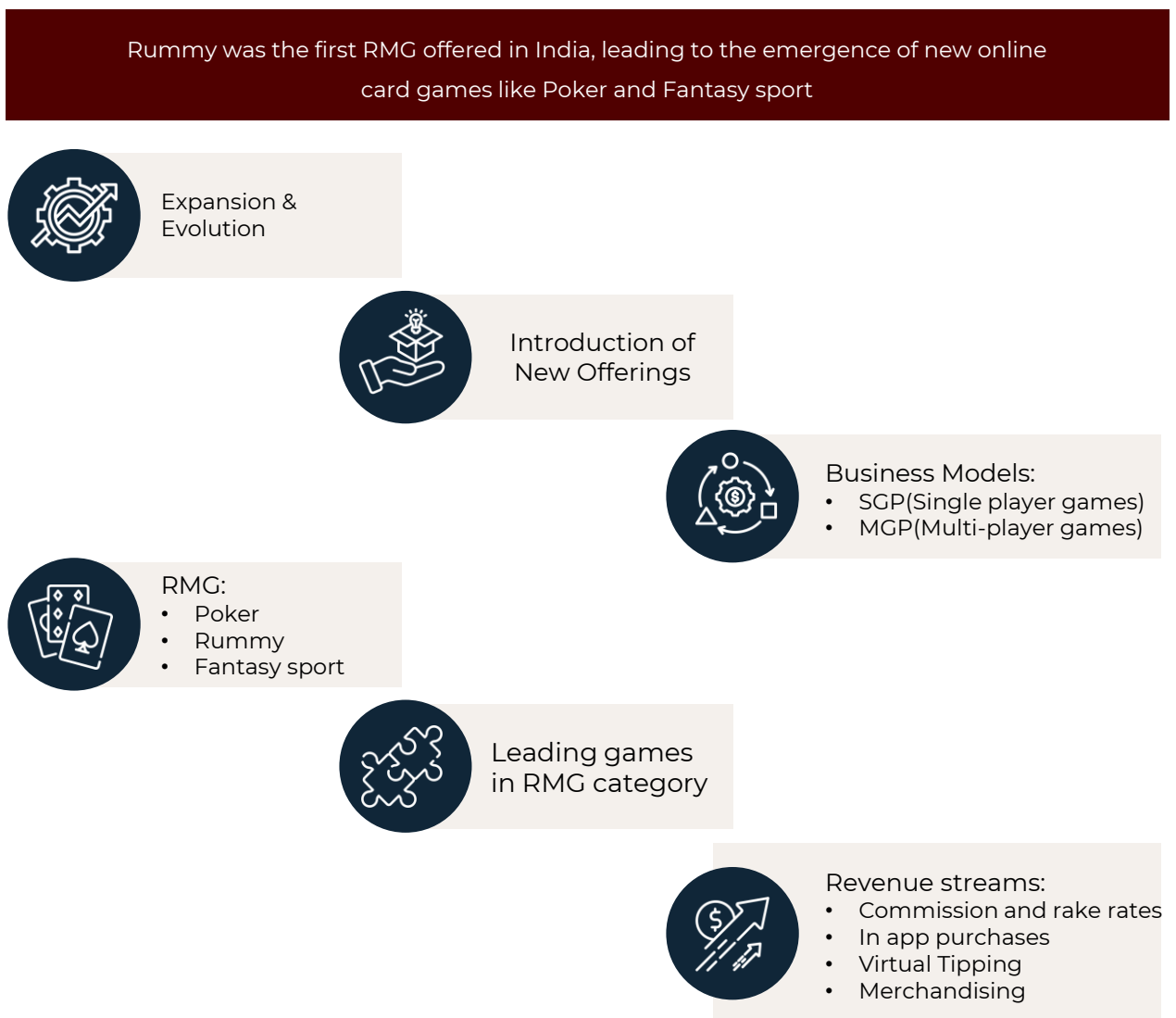
Web3 technologies like Metaverse hold immense promise for transforming the internet into a more decentralized, interconnected, and immersive digital landscape.

Source: RedSeer Report^[3] and Primus Partner's and EGROW's recreation

India's online gaming market caters to diverse preferences through two main segments: Real Money Games (RMG) and Non-Real Money Games (Non-RMG) or Free-to-Play. RMG games, like Rummy, Poker, and Fantasy Sports, allow players to compete with real money. Conversely, non-RMG games operate without any monetary involvement.

Figure 3 summarizes the evolution and current state of the Real Money Game (RMG) industry in India, highlighting key games, business models, and revenue streams.

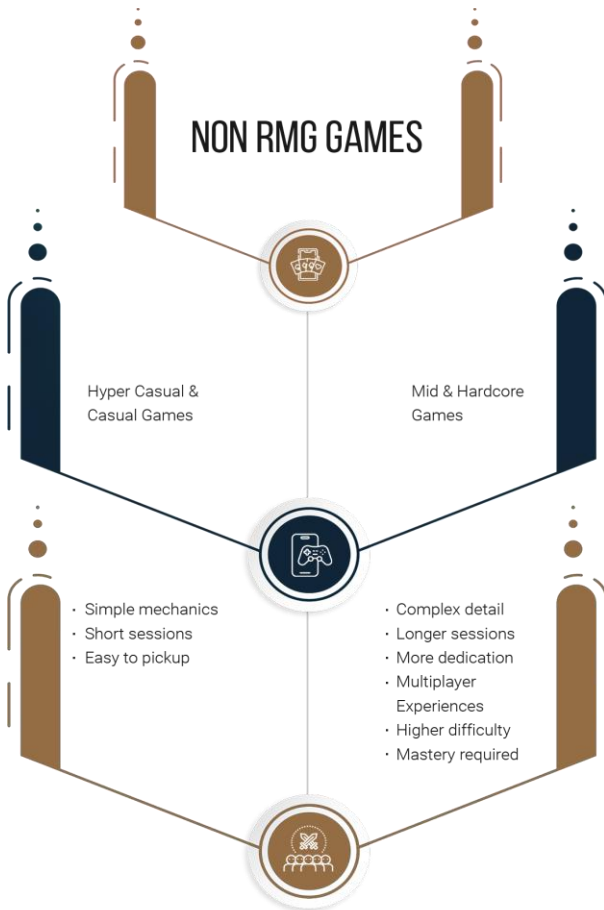
Figure 3: A snapshot of the Real Money Gaming (RMG) Industry in India



Source: Primus Partner's and EGROW's creation

Figure 4 provides a visual representation of the different types of non-RMG games, their characteristics, and how they earn revenue through advertising and in-app purchases.

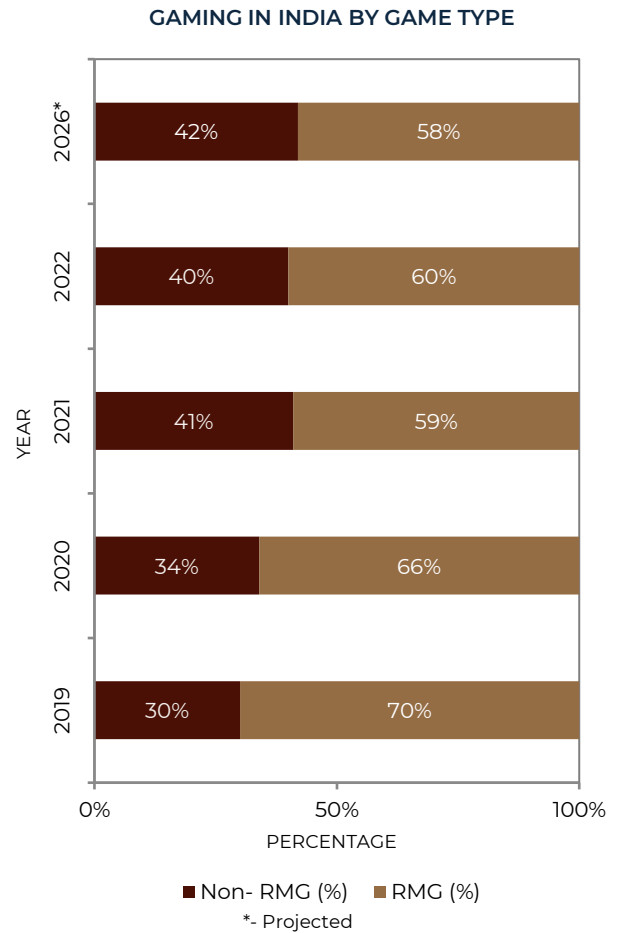
Figure 4: A snapshot of the Non-Real Money Gaming (Non-RMG) Industry in India



Source: Primus Partner's and EGROW's creation

The share and growth of both RMG and non-RMG in India have been shown in Figure 5.

Figure 5: Share of RMG and Non-RMG in India's online gaming industry from FY19 to FY26*



Source: RedSeer Report^[4] and Primus Partner's and EGROW's recreation

As illustrated in Figure 5, RMG games currently account for 60 percent of overall casual gaming revenue in 2022, however, non-RMG gaming segments are expected to experience higher growth rates. This surge is primarily driven by the significant increase in casual, non-RMG gamers during the COVID-19 lockdowns in India.

[4] RedSeer Report- Online gaming market in India

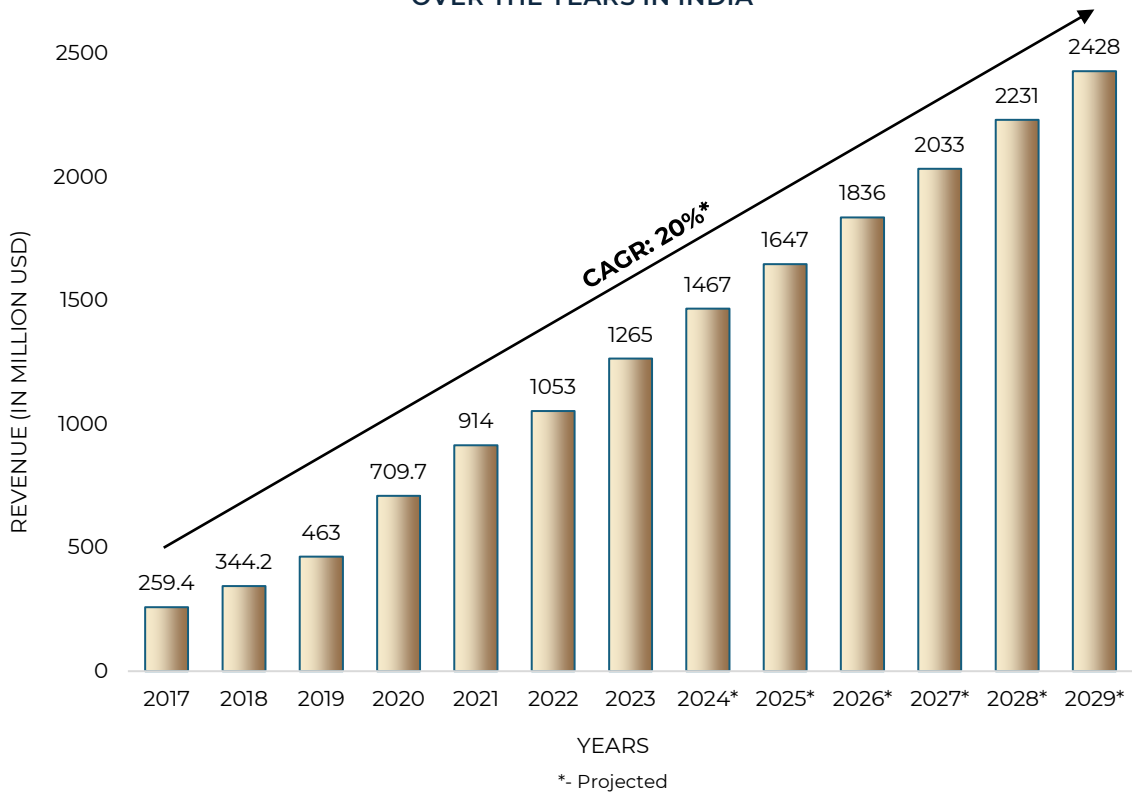
Mirroring the growth in online gaming companies, market revenues are also projected for a significant upswing.

Figure 6: Projections of the revenue generated by the Online Gaming Industry in India



India's online gaming market is expected to witness exponential growth, reaching USD 2.4 billion by FY2029, with a robust CAGR of 20%.

ONLINE GAMING INDUSTRY REVENUE GENERATED (IN MILLION USD) OVER THE YEARS IN INDIA



Source: Statista Market Insights^[5]

[5] Statista- Online Games



ECONOMIC CONTRIBUTION OF ONLINE GAMING INDUSTRY IN INDIA

The online gaming sector has evolved from a source of entertainment into a significant contributor to the Indian economy, impacting GDP, job creation, infrastructure development, digital interconnectivity, and technological advancements.

1

THE BOOMING CONTRIBUTION OF ONLINE GAMING TO INDIA'S GDP

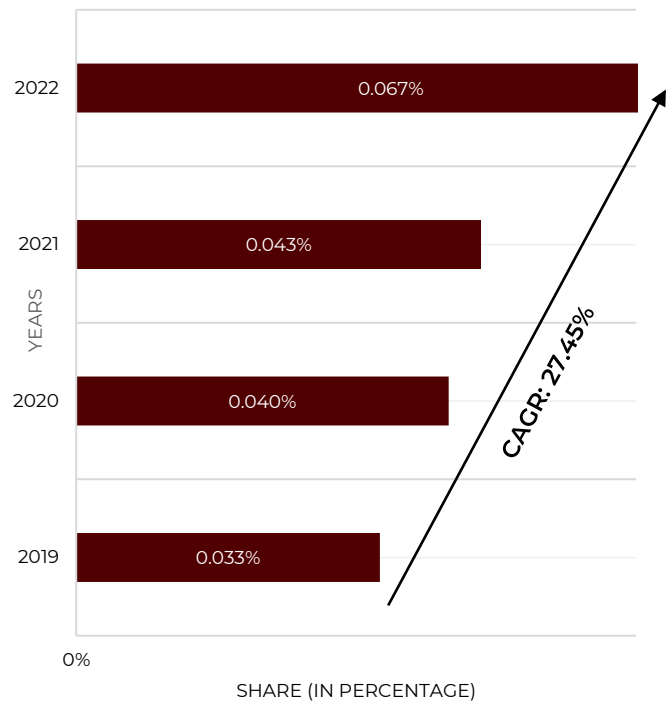
The rising contribution of the online gaming sector to India's Gross Domestic Product (GDP) has grown steadily increased year-over-year,

[6] AI, online gaming can add up to USD 300 billion to India's GDP by 2026-27

with a noteworthy compound annual growth rate (CAGR) of 27.45% (Figure 7). Highlighting this potential, former Union Minister of State for Information and Technology, Mr. Rajeev Chandrasekhar, estimated that the combined contribution of Artificial Intelligence (AI) and online gaming could reach a staggering USD 300 billion to India's GDP by FY 2026-27^[6].

Figure 7: Share of online gaming in overall GDP in India

SHARE OF ONLINE GAMING IN OVERALL GDP IN INDIA



Source: EY-FICCI:M&E report, April 2023, March 2024 & World Bank for GDP data

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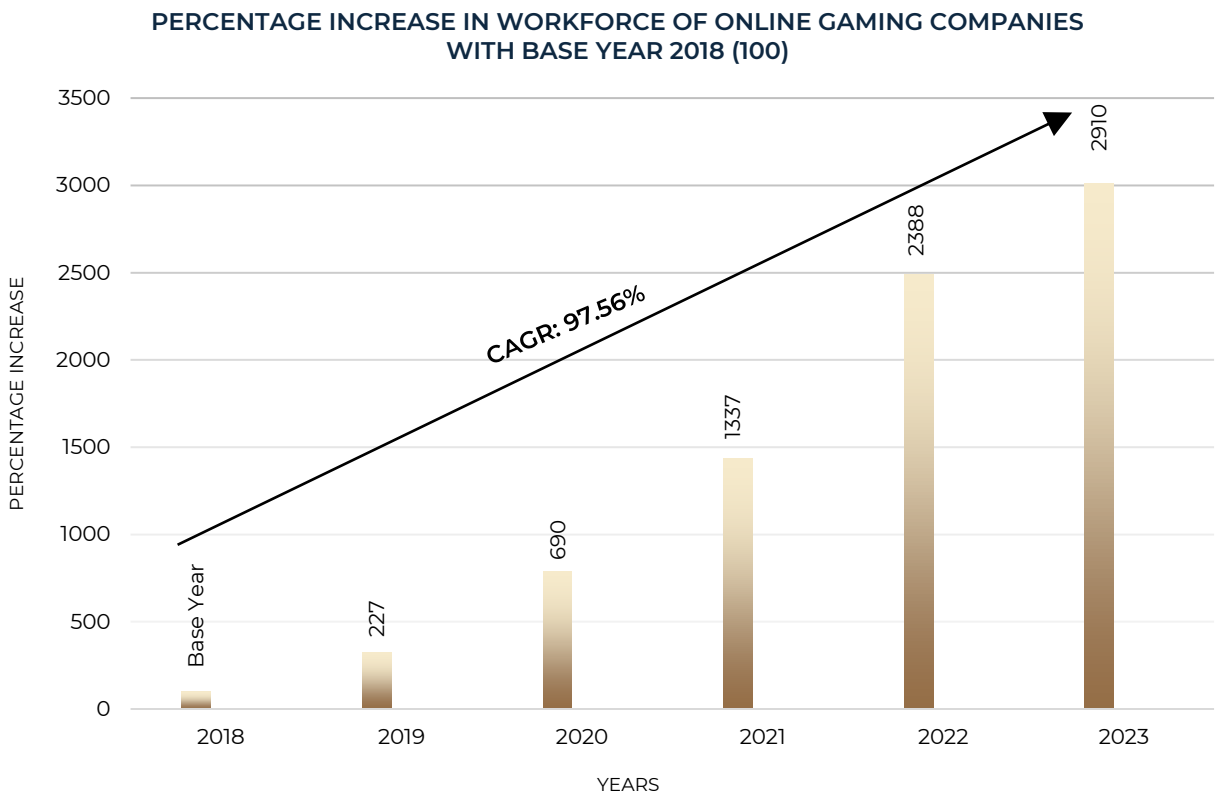
CONTRIBUTION TO EMPLOYMENT

The online gaming industry is rising to become one of the key industries to provide employment in the next few years. The increase in the supply of online gaming platforms has impacted the employment structure in India creating diverse employment opportunities in areas like game development, technology and marketing, in turn fostering innovation and entrepreneurship within the gaming sector.



As per the primary data collected, the number of employees in the Online Gaming industry has grown at a CAGR of 97.5% from 2018 to 2023.

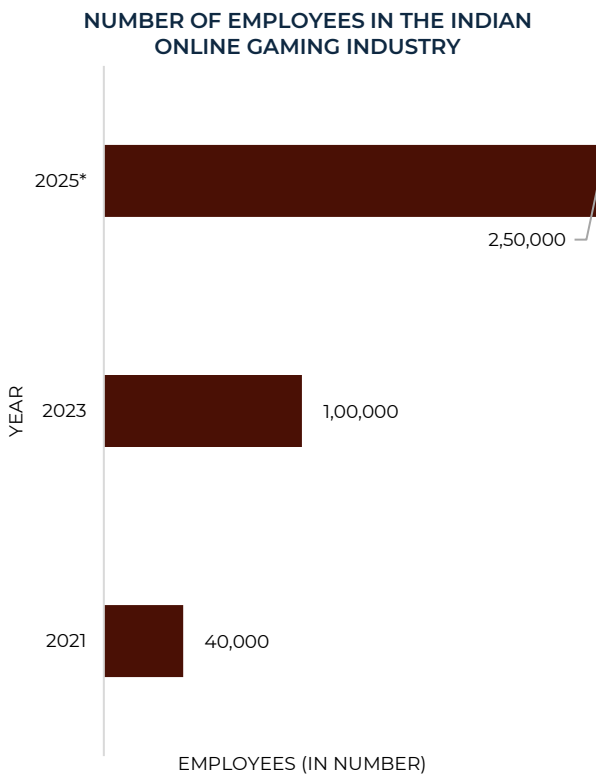
Figure 8: Percentage Increase in Workforce of Online Gaming Companies



Source: Primus and EGROW Analysis

According to estimates given by Microsoft, there are more than 2 billion online gamers worldwide. Out of this, there were approximately 455 million gamers in India in 2023 as per EY-FICCI report. As the online gaming industry is continuously growing, the country has been able to attract large amount of investment. It has been estimated by IAMAI that the online gaming industry offered approximately 40,000 direct jobs in 2021^[7]. According to the EY-FICCI report, there were 1 lakh employees in 2023, and this number is expected to go up to 250,000 by 2025.

Figure 9: Number of Employees in the Online Gaming Industry



Source: EY-FICCI Report

[7] IAMAI OnePlus India Gaming Reboot

Due to the innovation and development of the industry, the country has attracted a large amount of investment, and the possibility of growth is increasing. The rise of the real-money skill game industry also provides unconventional but profitable career opportunities for young Indians, such as professional gamers, data scientists, UI/UX analysts, etc. Some of the key skills for this industry that are and will be in demand in the future have been highlighted in the EY-FICCI report (Figure 10).

Figure 10: Key skills in demand for Online Gaming



Source: EY-FICCI Report and Primus Partner's and EGROW's recreation

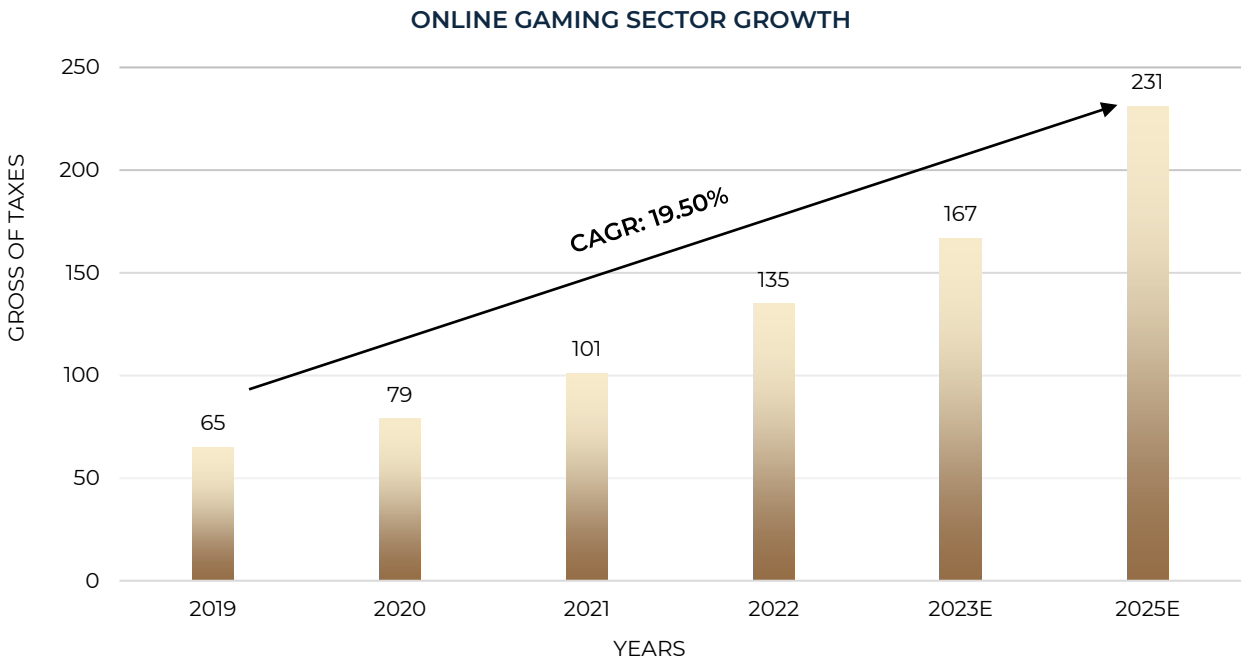
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GROWING REVENUE OF ONLINE GAMING SECTOR

The gaming sector as a whole has huge potential for linking with other industries. Emphasising on this link, Prime Minister of India, Mr. Narendra Modi, has rightly pointed out that India can be a global hub for game developers and gaming services. There is a huge international market, and India can explore this. Linking gaming to other sectors like toys and audio-visual services is possible by developing games that are inspired by our rich culture, movies, and folk tales.

Game developers have made significant strides and are at the forefront of driving innovation. With over 1400 gaming companies in India, developers are actively creating innovative consumer-facing technology products with a primary focus on enhancing fan engagement. These companies play a vital role in fostering expertise in advanced fields such as artificial intelligence (AI), machine learning (ML), cloud computing, and analytics, while also shaping cutting-edge business practices.

Figure 11: Growth of Online Gaming Sector



Note: All figures are gross of taxes (in INR billion) for calendar years

Source: EY Report (April, 2023)

4 GROWTH TRAJECTORY OF ONLINE GAMING IN M&E AND AVGC SECTOR

The growth trajectory of the Indian M&E sector remained robust. From pre-pandemic 2019 levels, it increased by 10% to INR2.1 trillion (US\$26.2 billion) after growing by INR348 billion (19.9%^[8]). TV remained the largest segment, but digital media solidified its place as the number two, with a resurgent print following closely after. Online gaming lost ground to theatrical releases, which doubled and took back the fourth spot in the filmed entertainment section. In 2022, the proportion of M&E sector sales derived from conventional media (includes television, print, filmed entertainment, out-of-home, music, and radio) was 58 percent, a decrease from 71 percent in 2019. The M&E industrial sector expanded by more than 8% in 2023, hitting INR2.3 trillion (US\$27.9 billion), which was 21% more than it was in 2019 before the pandemic. New media, which currently makes up 38% of the industry, was responsible for 70% of this growth. Together, experiential categories including movies, online gaming, and events increased by 18%. However, growth in the online gaming market slowed to 22% in 2023, when it reached INR 220 billion. It rose above video entertainment to take the fourth spot. Around 455 million people played online games in India, with about 100 million of them doing so every day. More than 90 million players paid to participate, and 83% of segment revenue came from real money gaming^[9].

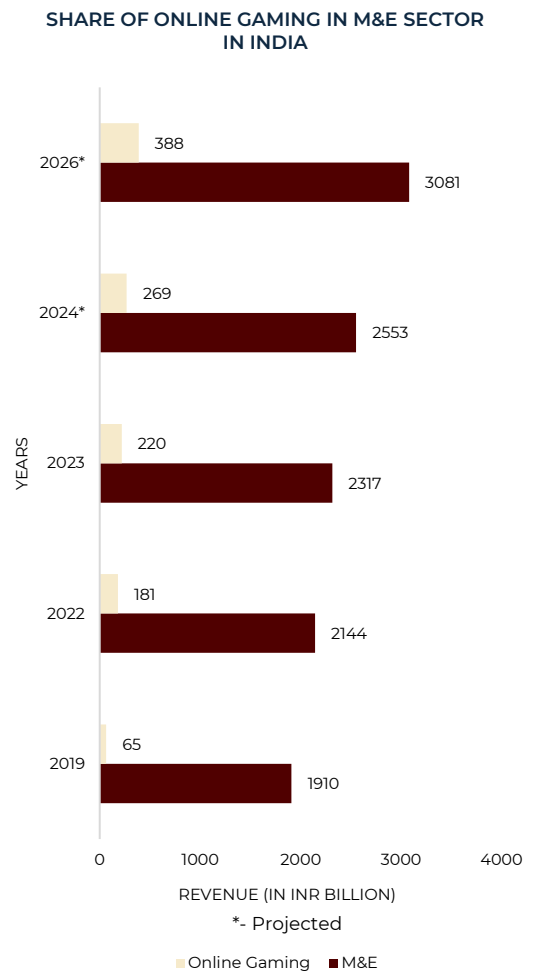
By 2026, M&E industry is expected to grow at a 10% CAGR, reaching INR 3.08 trillion.

Table 1

Year	2019	2022	2023
Share of Online Gaming Sector in M&E Sector	3.4%	8.4%	9.5%
	2024*	2026*	
	10.5%	12.6%	

*- Projected

Figure 12: Share of online gaming in the M&E sector in India



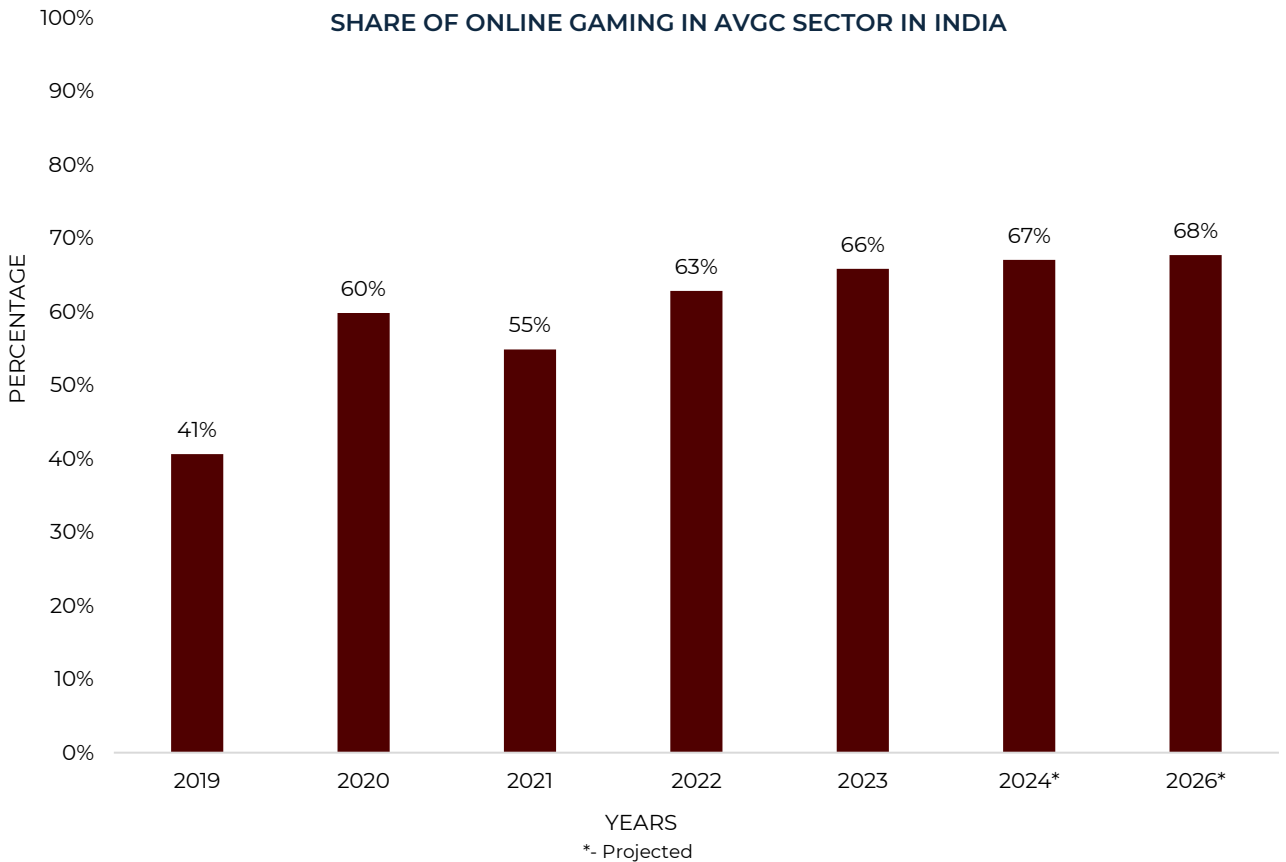
Source: EY-FICCI report, March 2024

[8] EY-FICCI report April 2023
[9] EY-FICCI report March 2024

The field of animation, visual effects, gaming, comics, and extended reality, together known as the AVGC-XR Sector, have evolved into significant development drivers for both the Indian economy and this industry. The industry has grown steadily in recent years and is now recognized as an exciting prospect in the country and around the world. The AVGC-XR sector has the potential to become the backbone of the nation's media and entertainment sector with the right set of initiatives.

India possesses the necessary ingredients to become a major contributor to the global AVGC sector. In 2019, the AVGC sector in India was valued at USD 2.3 billion, or roughly 0.7% of the global market. Market dynamics are predicted to propel the sector's growth to 2.2 times over the following four years, making up roughly 1.5% of the worldwide AVGC sector^[10].

Figure 13: Share of online gaming in the AVGC sector in India



Source: EY-FICCI report, April 2023 & March 2024

*For the Figure 13, revenue generated from AVGC sector has been calculated by adding revenue from the Online Gaming sector and the Animation & VFX sector. No data was available for revenue generated from Comics segment in the EY-FICCI reports. Hence, it was assumed revenue from Comics segment have been merged with the Online Gaming and the Animation & VFX sector.

[10] https://mib.gov.in/sites/default/files/Annexure%20C-AVGC-XR%20-%20Draft%20for%20National%20Policy_16th%20December%202022-AG%20EDIT.pdf

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SURGE IN GAMERS AND GAMING COMPANIES

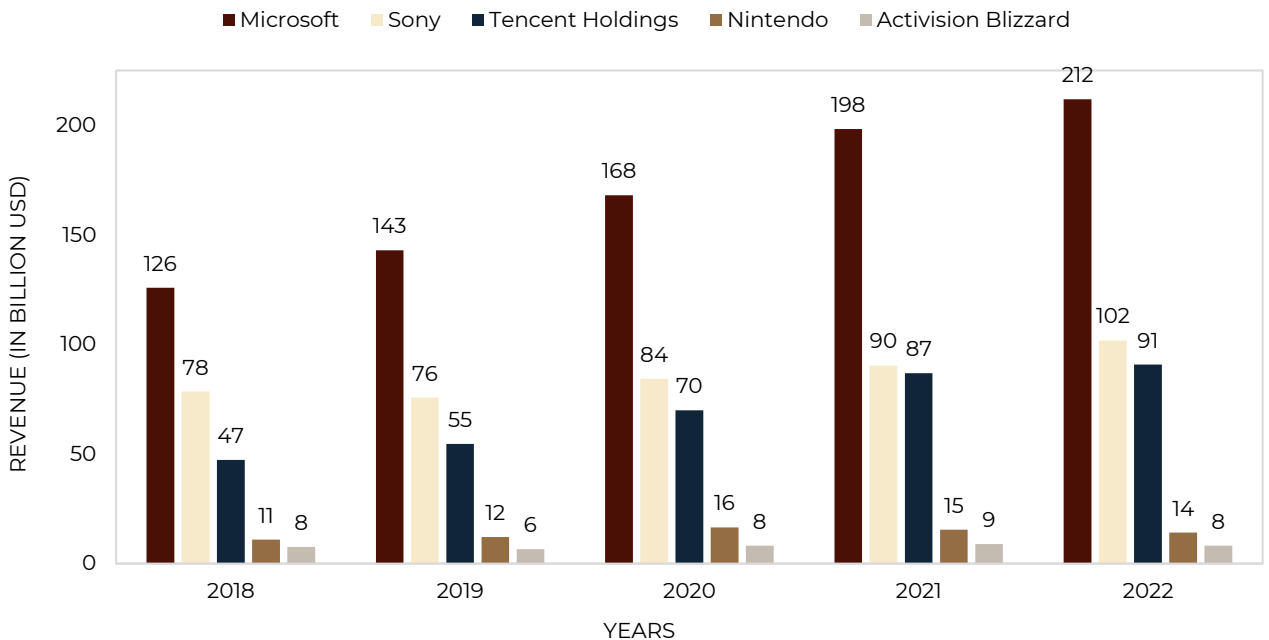
At a CAGR of 9.64%, the worldwide gaming market, which was valued at USD 198.4 billion in 2021, is projected to reach USD 314.4 billion by 2026.



The revenue from the top 5 gaming companies in the world consistently grew from 2018 to 2022 and collectively it crossed 400 billion USD in 2022.

Figure 14: Revenue of top five gaming companies (Worldwide & Consolidated)

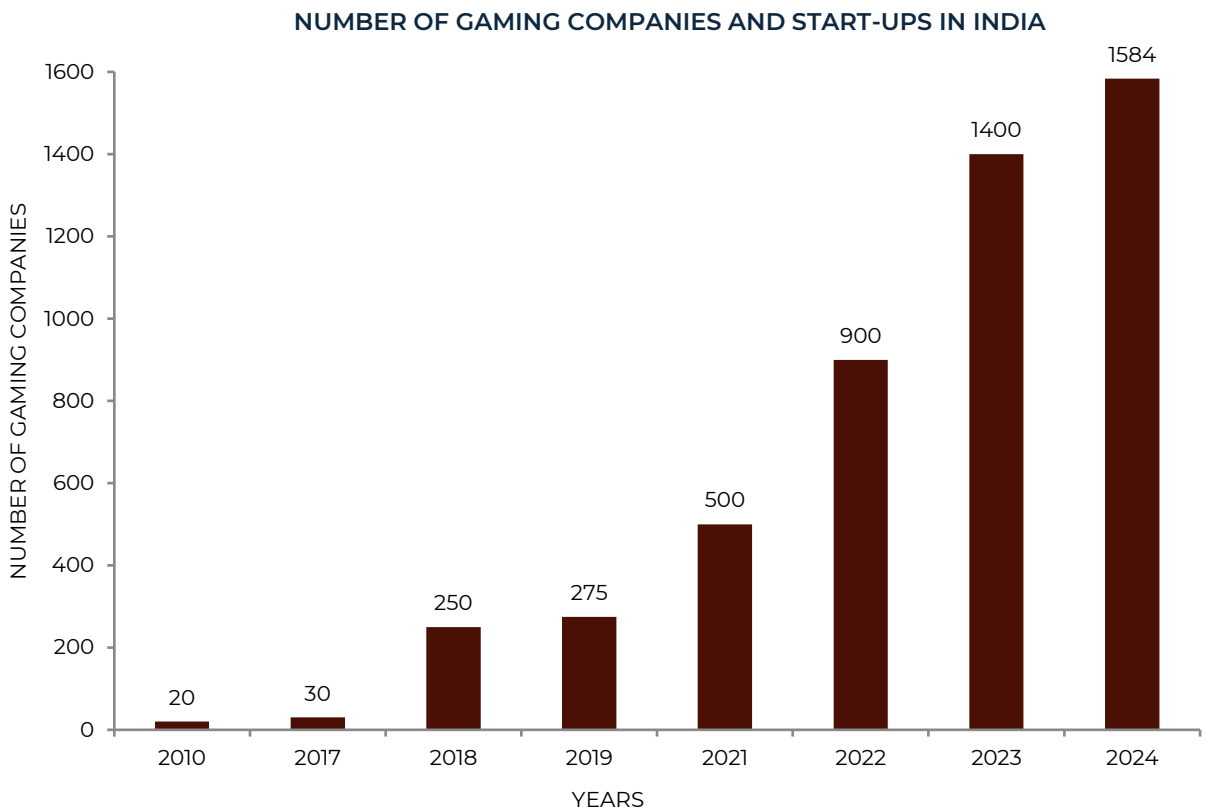
REVENUE OF TOP FIVE GAMING COMPANIES (WORLDWIDE & CONSOLIDATED) IN BILLION USD



Source: Statista Market Insights

The number of Indian online game providers went up from 30 companies in 2017 to 250 companies in 2018^[1] and to 1584 by 2024 (year-to-date) (Figure 15). The period between 2010 and 2018 was a transformative era for internet usage in India, with smartphones emerging as the primary means of accessing the internet, replacing the feature phones. This shift was fuelled by several factors, including increased internet penetration, the availability of affordable smartphones, the expansion of mobile networks, rising disposable income, a digital payment user base on the rise, affordable new technologies, and the emergence of localized games.

Figure 15: Number of gaming companies and start-ups in India



Source: Business Standard articles, KPMG 2017 report, and Tracxn article^[12] ^[13] ^[14]

[1] KPMG report 2017

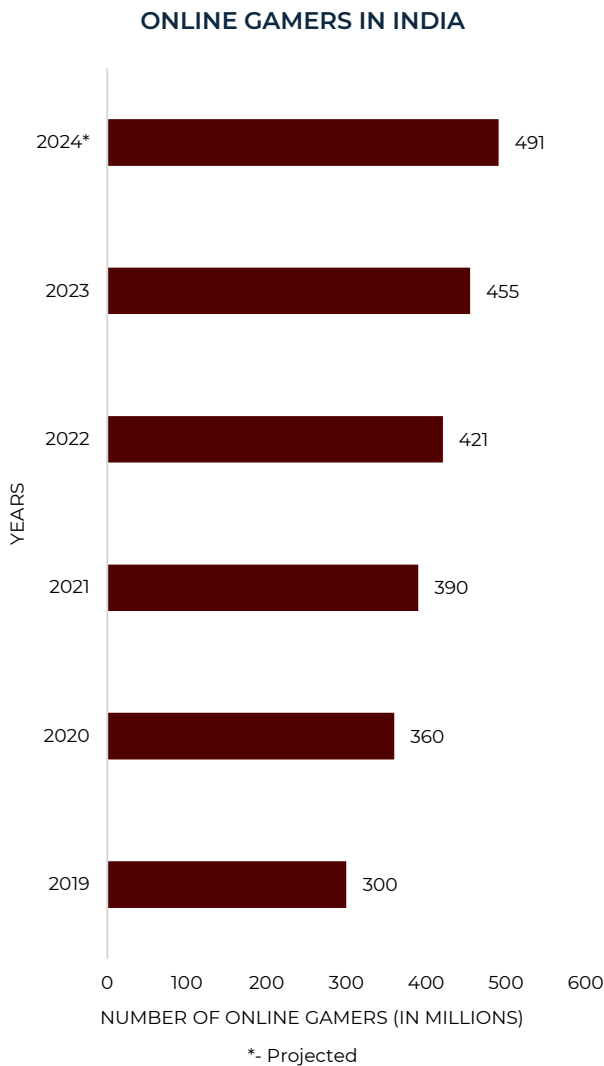
[2] Explained: Has Indian gaming industry got what it takes to catch up?

[3] Indian gaming worth \$2.6 bn in FY22, will grow four-fold by 2027: Report

[4] Tracxn- Gaming startups in India

With the increase in the supply of online gaming platforms, there is a rise in the demand for the game, too. From 2021-22, the number of online gamers in India increased by around 8.00% (Statista).

Figure 16: Online Gamers in India



Source: EY-FICCI: M&E report, April 2023, March 2024





ONLINE GAMING AND THE EVOLVING LANDSCAPES OF ELECTRONICS

The Online gaming industry has various economic impact spanning technological advancements, job creation, revenue generation, and infrastructure development. The Online gaming industry continues to catalyse ancillary sectors like fintech, cloud services, data analytics, and cybersecurity^[15]. This sector has created a bubble in many ancillary industries related to Computer Software and Hardware, Internet and 5G, Digital platforms, and the Semiconductor industry.

[15] EY report: 2023: New frontiers, Navigating the evolving landscape for online gaming in India.

1

Impact Of Online Gaming on Electronics System Design and Manufacturing (ESDM)

The increasing demand for online games has a substantial and multi-faceted impact on electronic products, their components, design, and manufacture.

HARDWARE DEMAND

Online gaming drives demand for high-performance computing hardware, including CPUs, GPUs, and RAM, leading to advancements in their design and manufacturing processes.

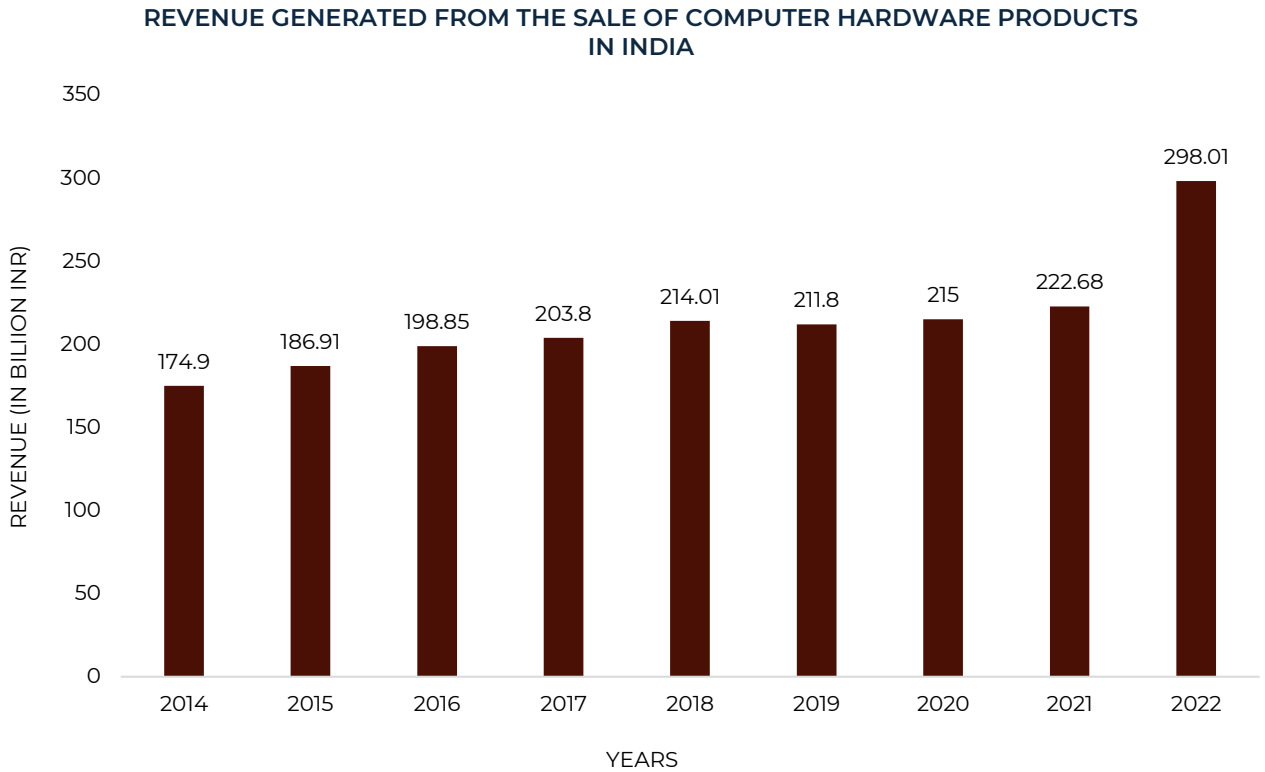
GRAPHICS PROCESSING

The idea of building advanced graphics is integral for online gaming. This leads to innovation in GPU design and manufacturing more powerful and efficient graphics.

INPUT DEVICES

Input devices like keyboards, mice, and other type of controllers undergo design enhancement in order to improve responsiveness, accuracy and ergonomics of the gamers.

Figure 17: Value of computer hardware production in India



Source: Statista

NETWORKING INFRASTRUCTURE

Good internet connectivity is a dire need for the smooth running of the game. India in last decade has experienced a good speed of internet, and also the penetration rate of the internet in India has increased 10 times in the last decade.

FORM FACTOR AND AESTHETICS

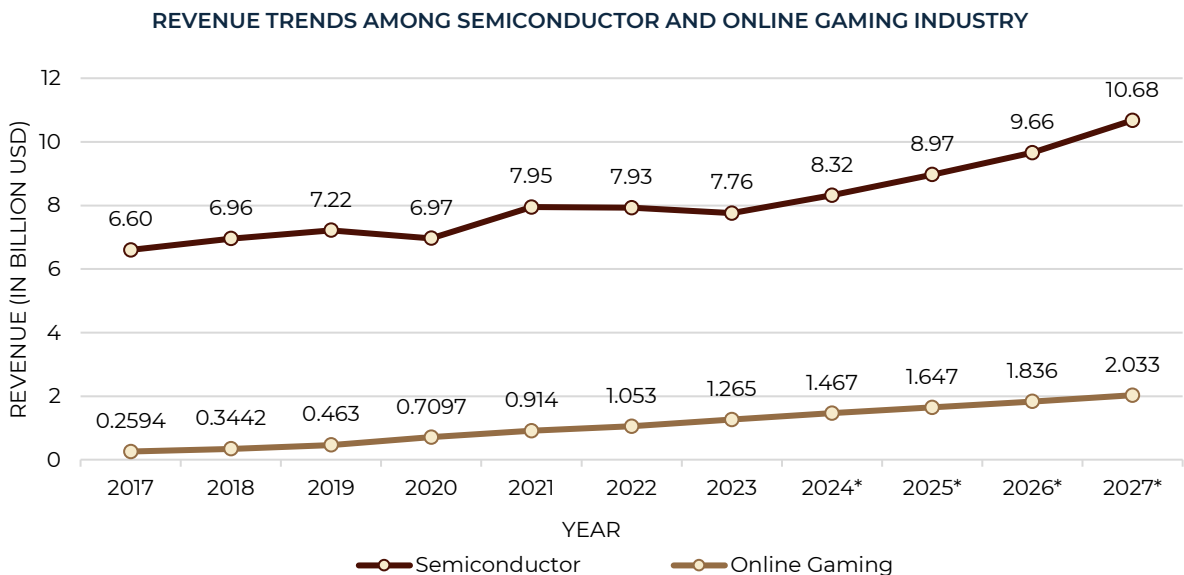
Gaming PCs and laptops often feature unique designs and aesthetics to cater to the preferences of gamers. This influences the design and manufacturing processes to produce visually striking and customizable products.

2 The Symbiotic Relationship Between Online Gaming and Semiconductors

The advancement of graphics processing units (GPUs), and semiconductor technology has indeed revolutionized the gaming industry, pushing the boundaries of what players perceive as realism. The intricate worlds and characters within modern video games owe much of their lifelike appearance to the relentless progress in graphics processing. Furthermore, the continuous refinement of semiconductor manufacturing techniques has empowered GPUs to handle increasingly complex computations, resulting in even more lifelike graphics. As a result, players can explore vast open worlds filled with rich detail, further enhancing the sense of immersion and realism. In essence, the marriage of advanced GPUs and semiconductor technology has propelled video games to new heights of visual fidelity, creating experiences that are more immersive and captivating than ever before.^[6]

In figure 18, the comparative analysis highlights the dynamic growth potential of the online gaming industry, outpacing the more gradual but significant revenue increases in the semiconductor sector. The data also underscores the burgeoning impact and economic significance of the online gaming industry, driven by rising consumer engagement and technological advancements, alongside the enduring relevance of the semiconductor industry in the technology market.

Figure 18: Revenue trends among semiconductor and online gaming industry



*- Projected

Source: Statista

[6] Allied market research blog

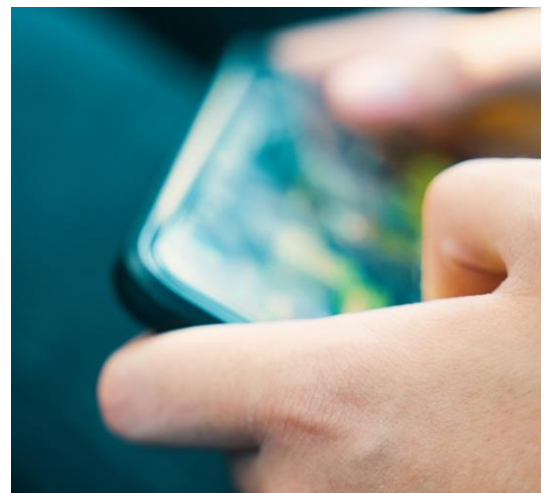
3

Positive Spillover Impact of Online Gaming

Online gaming as a sector is at the cutting-edge of technological innovation and has had huge positive spillover impact on other sectors in multiple countries. Many of these countries have benefited from such spillover impacts. As per a study conducted by FTI consulting^[17] it was found that multiple technologies developed in the gaming space were being used in other sectors of Denmark, Sweden, Norway and UK that boosted productivity of those sectors. Some examples include:

- o Advanced game engine technology is being integrated into digital interfaces for passenger vehicles, providing drivers and passengers with unobstructed views from all angles. These digital renderings offer high-resolution graphics in real-time, which contribute to the overall safety of the vehicles.
- o The oil and gas industry is leveraging VR and AR technology to enhance safety, training, maintenance, and construction by employing detailed virtual representations of facilities and equipment. Through the use of VR and AR headsets, workers can engage with a realistic 3D model of offshore platforms. This technology reduced travel time, costs, and emissions associated with offshore transportation, while also promoting the secure operation of the platform by allowing users on the rig to find and repair damaged equipment more efficiently.

- o Video rendering technology originating in game engines is now being used by real estate developers to produce interactive digital designs that assist in guiding the physical development and construction of their projects. The process is currently being employed in developing Co-op Live, the largest indoor arena in the UK. Digital renderings allowed the architect and design teams to visualise the final 23,000-seat arena.
- o Game engine technology is instrumental in creating state-of-the-art visual effects ("VFX"). The cinematographer of Disney+'s *The Mandalorian*—a top 50 ranked television show of 2023—praised game engines for their ability to not only speed up the production process but also improve the final product by providing a real-time view of the finished VFX. In addition to the time and visual benefits, the technology also reduces the need for physical props and locations, enabling studios to produce smaller-scale productions with smaller environmental footprints than previously.



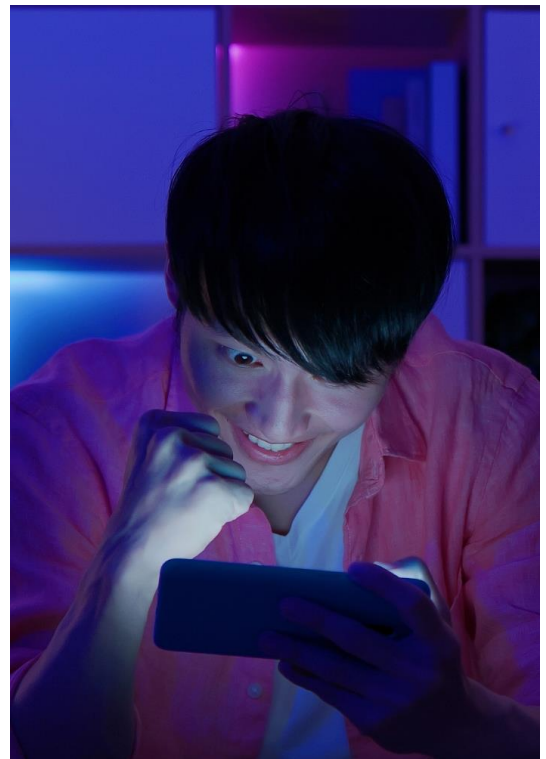
[17] <https://ukie.org.uk/news/2023/1/spillover-technology-from-video-games-worth-1-3-billion-in-2021>

Other than these specific examples, the report gives following estimates of the spillover impact of gaming on the economy in UK:

Metric	Unit	Direct	Indirect	Induced	Total
Employment	Jobs	4,420	3,140	2,340	9,890
Output	2021 GBP (Millions)	GBP 620	GBP 390	GBP 320	GBP 1320
GDP	2021 GBP (Millions)	GBP 360	GBP 210	GBP 190	GBP 750
Labour income	2021 GBP (Millions)	GBP 190	GBP 110	GBP 80	GBP 370
Government Revenue	2021 GBP (Millions)	GBP 100	GBP 80	GBP 70	GBP 260

In another study released by New York City government^[18] had estimated that in 2020, digital gaming industry had supported approximately 1500 indirect jobs, USD 160 Million indirect wages and USD 356 Million indirect economic output.

Online gaming, therefore, is critical to the growth of several other sectors and is expected to play a critical role in the area of AR, VR and metaverse as gaming involves an extensive and most prominent use case for such technologies but lack of a regulatory architecture for online gaming has proved to be a major impediment in the growth of this sector.



[18] <https://www.nyc.gov/assets/mome/pdf/mome-nyc-digital-games-industry-study-report.pdf>



ONLINE GAMING GROWTH: FUELLED BY IT BOOM

Information Technology advancement has been the significant driving force behind the growth of the online gaming sector in India. The growth of the technology sector, including IT services, software development, and tech start-ups, have played a vital role in the development of the online gaming sector in India.



The revenue of IT industry's crosses USD 200 billion in FY23 and is projected to maintain its upward trajectory.

As per the NASSCOM report, Technology Sector in India 2023: Strategic Review, this industry is expected to reach USD 500 billion by 2030.

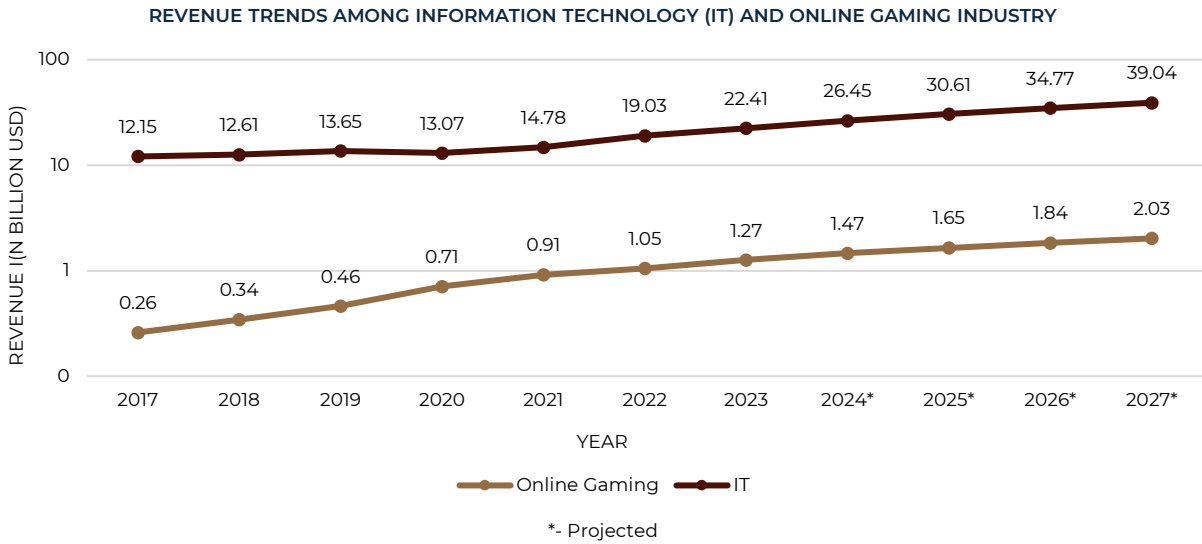
The Indian government saw immense potential in the IT industry and as India is home to technology talent worldwide, the government increased its focus on this industry. Government initiatives such as Digital India, Make in India, and Production Linked Incentive (PLI) schemes were launched to facilitate the growth of IT industry^[19]. As per the Union Budget 2021, the Central government allocated Rs 3,108 crore to the IT and telecom sector. During COVID19, the government of India announced several fiscal and monetary relief measures to cease severe economic repercussions due to lockdown restrictions. By embracing smart city developments and building new IT infrastructure, India has positioned itself as a rising digital economy.

India's technology industry: Driving GDP growth, employment, and innovation^[20].

The IT and the Online Gaming industry share a symbiotic relationship. The growth of the Online Gaming industry generates positive network effects across IT (Information Technology) and ITES (and Information Technology Enabled Services) sectors^[21]. Both these industries are heavily dependent on internet usage and 5G networks. In its very essence, they rely on the existence and functionality of the internet.

[19] India's technology industry: Driving GDP growth, employment, and innovation
[20] INDIAN IT SECTOR SET FOR A STELLAR GROWTH IN 2022 TO REACH USD 101 BILLION OF IT SPENDING
[21] EY-FICCI Report

Figure 19: Revenue trends among IT and Online Gaming Industry in India



Note: A log scale with a base of 10 has been used to plot the above graph.

Source: Statista Market Insights

Online gaming is dependent on internet due to the following major reasons:

DELIVERY PLATFORM

The internet acts as the essential delivery platform for online games. It provides the infrastructure for data transfer, allowing players to connect to game servers, download game content, and interact with other players in real-time. Without a stable internet connection, online gaming becomes virtually impossible.

GLOBAL REACH

The internet breaks down geographical barriers, enabling gamers from all corners of the world to participate in online games. This global reach has

fueled the growth and popularity of online gaming, fostering a sense of community and competition on a massive scale.

CONSTANT EVOLUTION

Both the internet and online gaming are constantly evolving. Advancements in internet technology, such as increased bandwidth and lower latency, directly impact the quality and experience of online gaming. Conversely, the growing demand for high-performance online gaming puts pressure on internet service providers to improve their infrastructure and capabilities.

MONETIZATION MODELS

The internet is crucial for the various monetization models employed by online games. This can include in-game purchases, subscriptions, advertising, and microtransactions, all of which rely on a secure and reliable internet connection to facilitate transactions.

In short, the internet provides the lifeblood for online gaming. Their interconnectedness has fostered a mutually beneficial relationship, driving growth and innovation in both sectors.

1

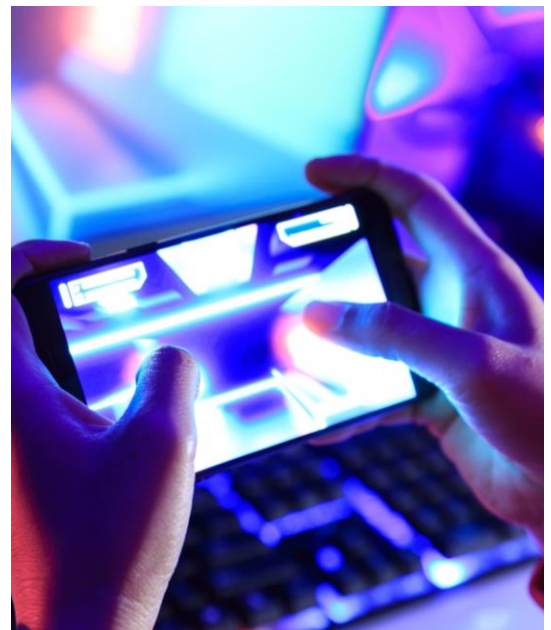
A Comparative Analysis of The Internet Usage in Emerging Economies (EE) and Developed Economies (DE)

The online gaming industry is experiencing a global surge, with emerging economies like India poised for significant growth. This trend is particularly evident when compared to developed nations like the United States, United Kingdom, Germany and Japan. This analysis explores the potential for emerging economies to outperform developed economies by examining internet penetration rates – a key driver of online gaming growth.

The comparative analysis between the emerging economies and developed economies was conducted as the total GDP of BRICS was over 25.94 trillion USD, in 2022, which is slightly more than that of the United States (25.43 trillion USD)^[22]. BRICS countries are among the world's

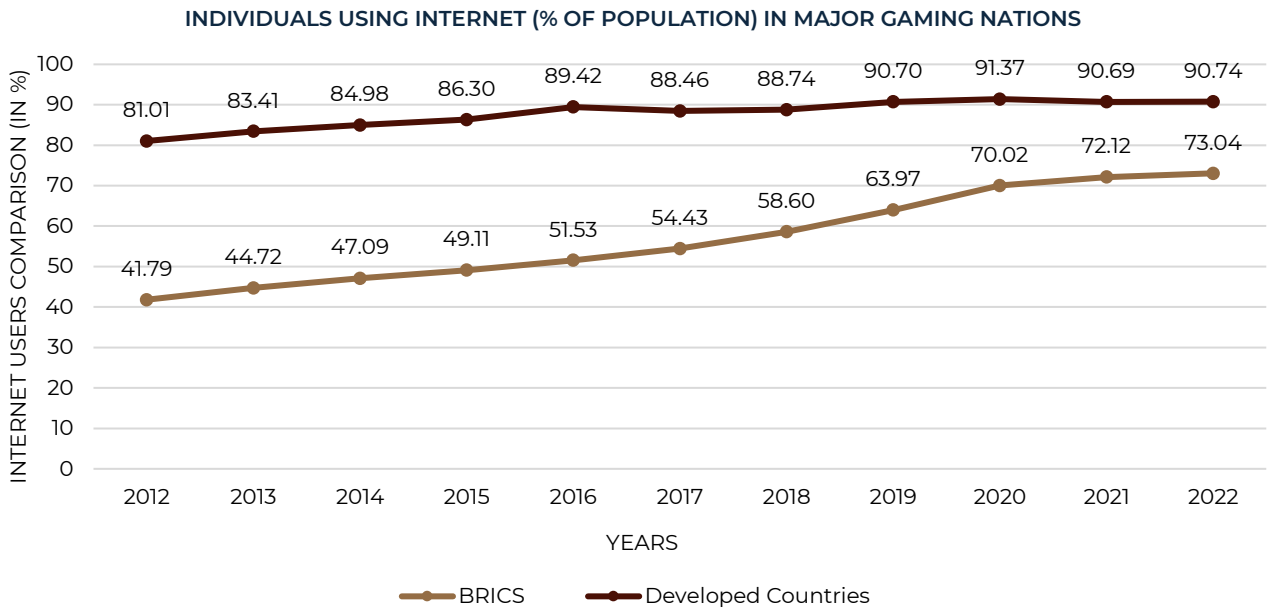
largest countries in terms of population size, area, GDP nominal and by purchasing power parity. BRICS countries account for 30% of the world's land surface and 45% of the global population^[23].

The world of online gaming is changing rapidly, and emerging economies are stepping up as big players. One example is India, a developing economy with a lot of potential. While access to the internet is still important, these countries are growing quickly in this area. They also have a young population and changing consumer tastes, which means online gaming is likely to become even bigger here in the future. Figure 20 clearly shows this trend. By 2021, internet usage in emerging economies (EE) was almost as widespread as in developed economies (DE). This confirms that online gaming will grow much faster in emerging economies as compared to developed ones.



^[22] World Bank- GDP (World)
^[23] Wikipedia-BRICS

Figure 20: Internet penetration in Emerging Economies and Developed Economies



Source: World Bank

2

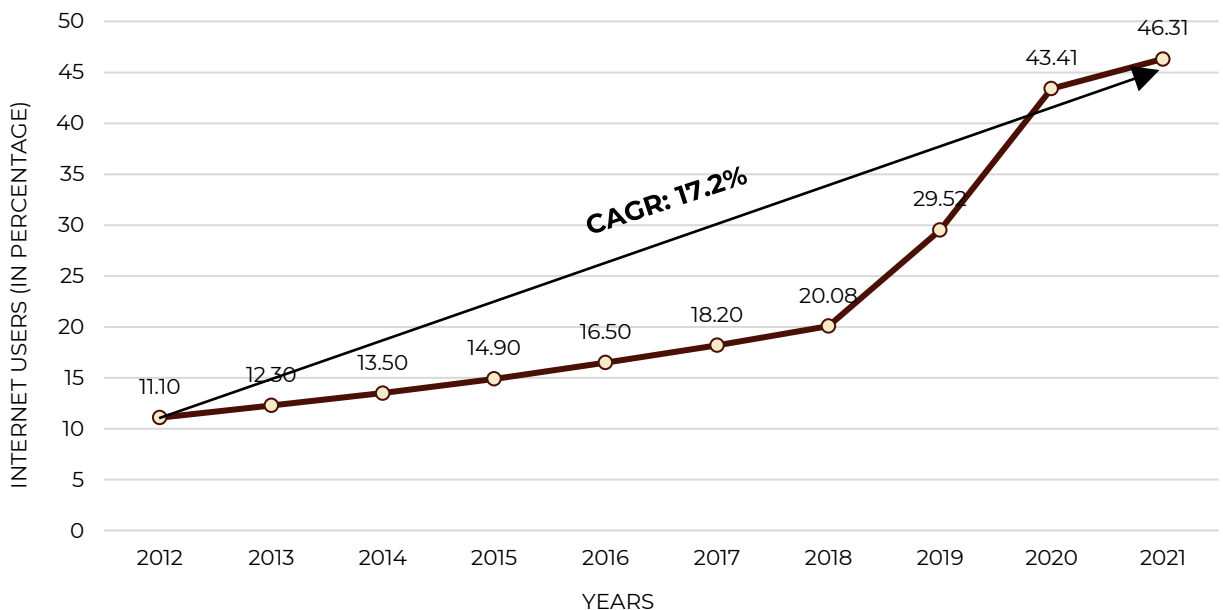
The Rise of Internet Usage and Mobile Gaming in India: Affordability and Accessibility

India's online gaming sector has experienced explosive growth in recent years, fueled by a surge in internet access, smartphone adoption, and evolving entertainment preferences. The year 2016 marked a turning point. Increased accessibility of affordable data plans encouraged gamers to explore, download, and play more games on their smartphones. This trend fueled a surge in game downloads and online gaming activity, while also amplifying monetization opportunities within the industry. The development of digital payment infrastructure, such as UPI (Unified Payments Interface), further boosted this trend by making online transactions for in-game purchases more convenient for users.

Figure 21 illustrates this robust trajectory, highlighting the rising internet usage over the past decade. This growth is driven by advancements in technology, supportive government policies, and the increasing importance of digital connectivity in India.

Figure 21: Internet Usage in India

INDIVIDUALS USING THE INTERNET (% OF POPULATION)



Source: World Bank^[24]

[24] World Bank- Mobile cellular subscriptions

A closer look at Figure 21 reveals a period of steady but moderate growth in internet usage with a CAGR of 17.2% between 2012 and 2021. This phase underscores the transformative impact of digital infrastructure on India's socio-economic landscape. However, as the growth rate stabilizes, future efforts may shift towards enhancing internet service quality and bridging the remaining digital divide.

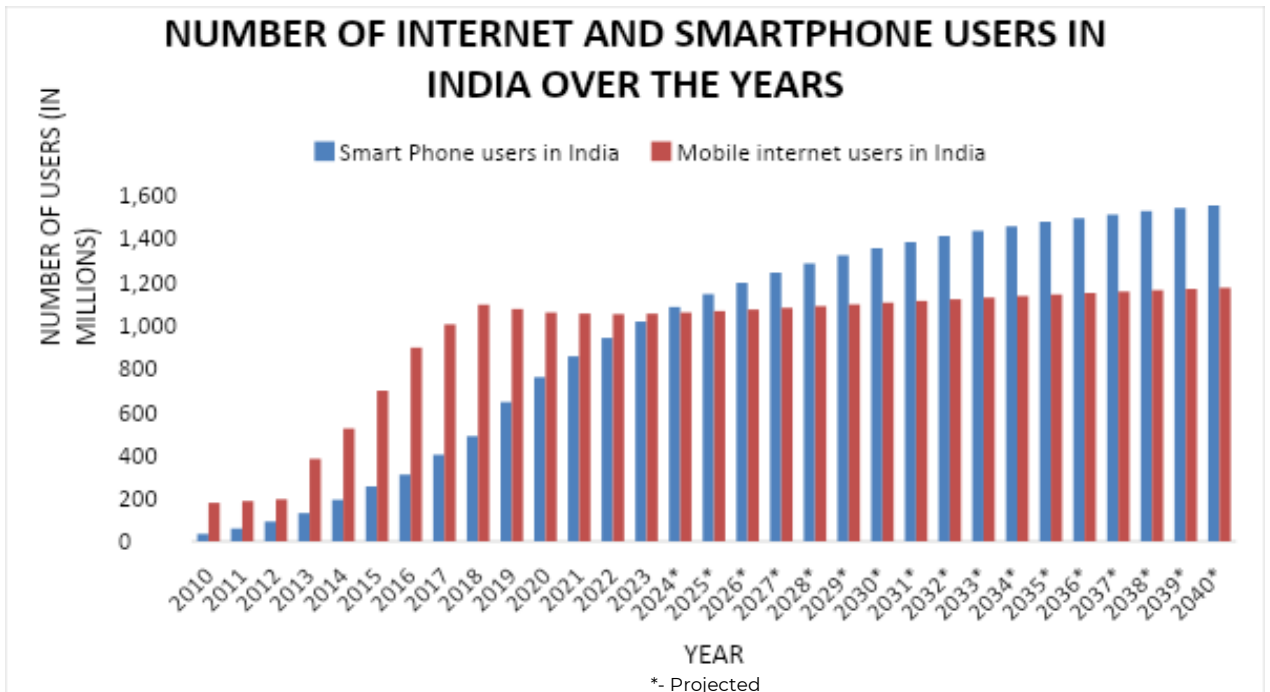
The onset of COVID-19 in 2020 further propelled the online gaming sector. Users increasingly viewed online gaming as a viable alternative form of entertainment during lockdowns and social distancing restrictions. This shift in perspective spurred the development of new gaming formats, notably social and community gaming, fostering a sense of connection and competition during a time of isolation.

3

Levelling Up Accessibility: Mobile and Internet Growth Drives Online Gamer Explosion

The number of mobile internet users in India has also increased during the last decade. Indeed, there has been an exponential increase in mobile internet users from 2010 to 2016 in India. This increase in the usage of smartphones and mobile internet is also attributed to the penetration rate of the internet in India. A quick glance at the data shows that India has experienced a massive increase in internet penetration over the last decade (2014 to 2024) which has increased by 10%.

Figure 22: Number of mobile internet and smartphone users in India projected till FY2040



Source: Statista

Technological advancements also led to a surge in internet users in the last decade. Further, with the rapid expansion of 5G networks and the availability of affordable smartphones has instrumented the growth of India's gaming sector, particularly by attracting a large number of users from Tier 2 and Tier 3 cities where disposable incomes are lower. All this led to not only in the increase in the number of Indian gaming companies to 1400 in 2023^[25] but also to number of online gamers using mobile phone.

Figure 23 highlights the significant reliance on mobile phones for online gaming in India, reflecting the widespread accessibility and affordability of mobile technology. This trend shows the mobile-centric nature of the Indian gaming landscape, where portable devices outpace traditional gaming platforms such as PCs and laptops. The high usage of mobile phones indicates a market that favors convenience and on-the-go gaming experiences, shaping the strategic direction for developers and marketers aiming to capture this burgeoning sector. The analysis underscores the critical role of mobile devices in driving the growth and engagement of the online gaming industry in India.

TOP ONLINE GAMING DEVICES IN INDIA, 2022

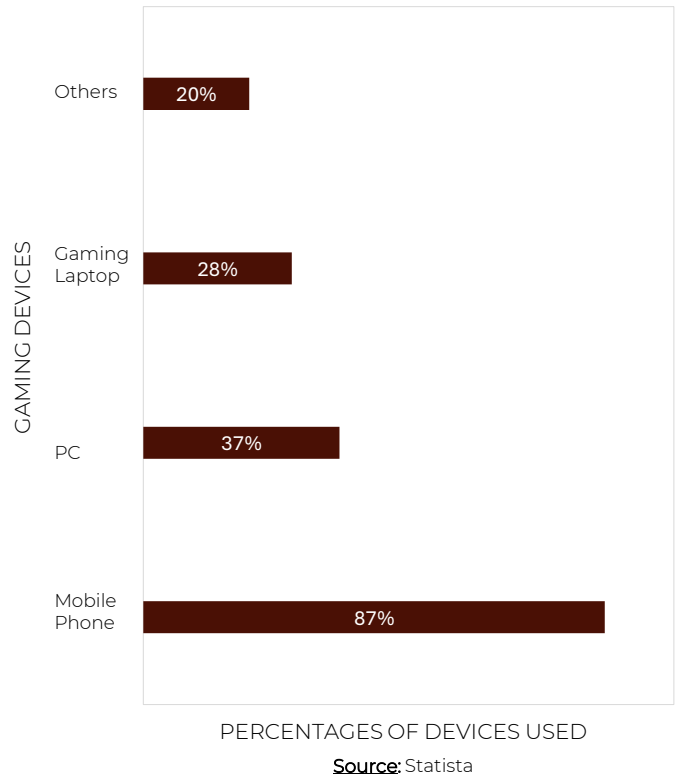


Figure 23: Top Online Gaming Devices in India, 2022



[25] Economic Times article

As illustrated in Figure 16, number of online gamers were 300 million in 2019. This grew to 360 million in 2020 which most likely was influenced by the global pandemic and subsequent lockdowns that drove more people towards online gaming. This growth continued with 390 million gamers in 2021 and 421 million in 2022. The upward trend is projected to persist, with estimates suggesting the number will rise to 455 million in 2023 and further to 491 million by 2024. This consistent growth highlights the increasing penetration and popularity of online gaming in India, driven by enhanced digital infrastructure, greater accessibility to affordable smartphones, and a rising youth population. The data elucidates the expanding market potential and the significant role online gaming plays in the Indian digital ecosystem.

In the fiscal year 2022, the share of paying gamers stood at 22% of the overall online gaming population. Figure 24 exhibits a gradual increase in the subsequent fiscal years, rising to 25% in FY 2023 and 28% in FY 2024. The upward trajectory continued, with the share reaching 30% in FY 2025 and 32% in FY 2026.

The graph further forecasts a more substantial growth in the following fiscal years, with the share of paying gamers projected to reach 33% in FY 2027 and culminating at 34% in FY 2028. This steady increase in the proportion of paying gamers within the online gaming population is quantified by the corresponding values, which showcase a rise from 397 million in FY 2022 to 425 million in FY 2023, 443 million in FY 2024, 465 million in FY 2025, 488 million in FY 2026, 513 million in FY 2027, and ultimately reaching 538 million in FY 2028.

The consistent upward trend in the share of paying gamers as shown in Figure 24, highlights the growing monetization potential within the online gaming industry in India and the willingness of gamers to invest in premium gaming experiences or in-game purchases.

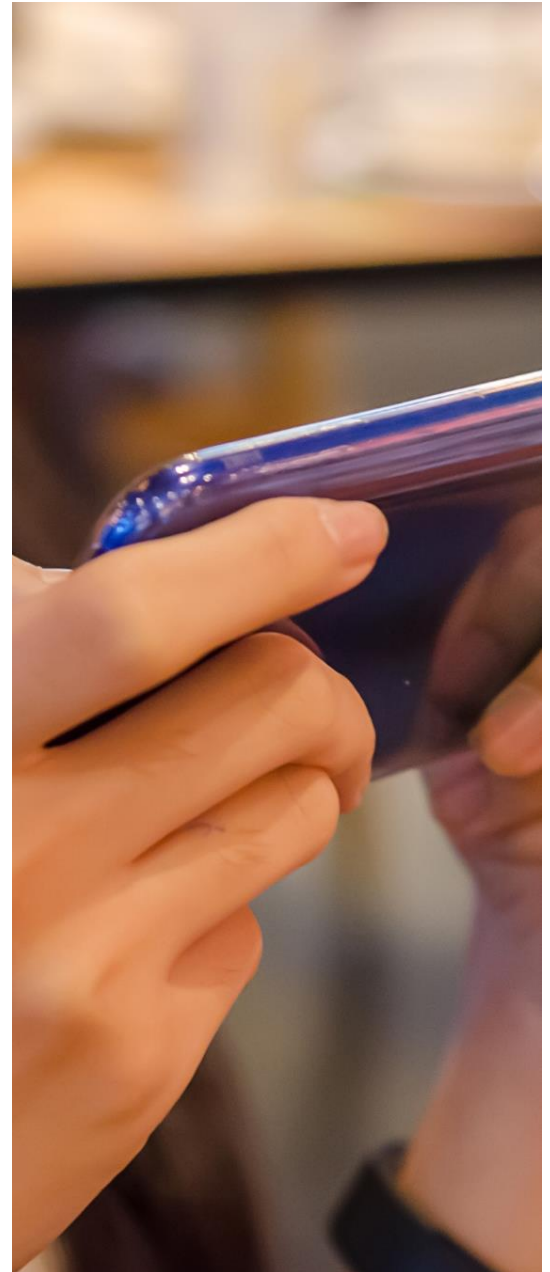


Figure 24: Paying Gamers as a Share of Online Gaming Population of India

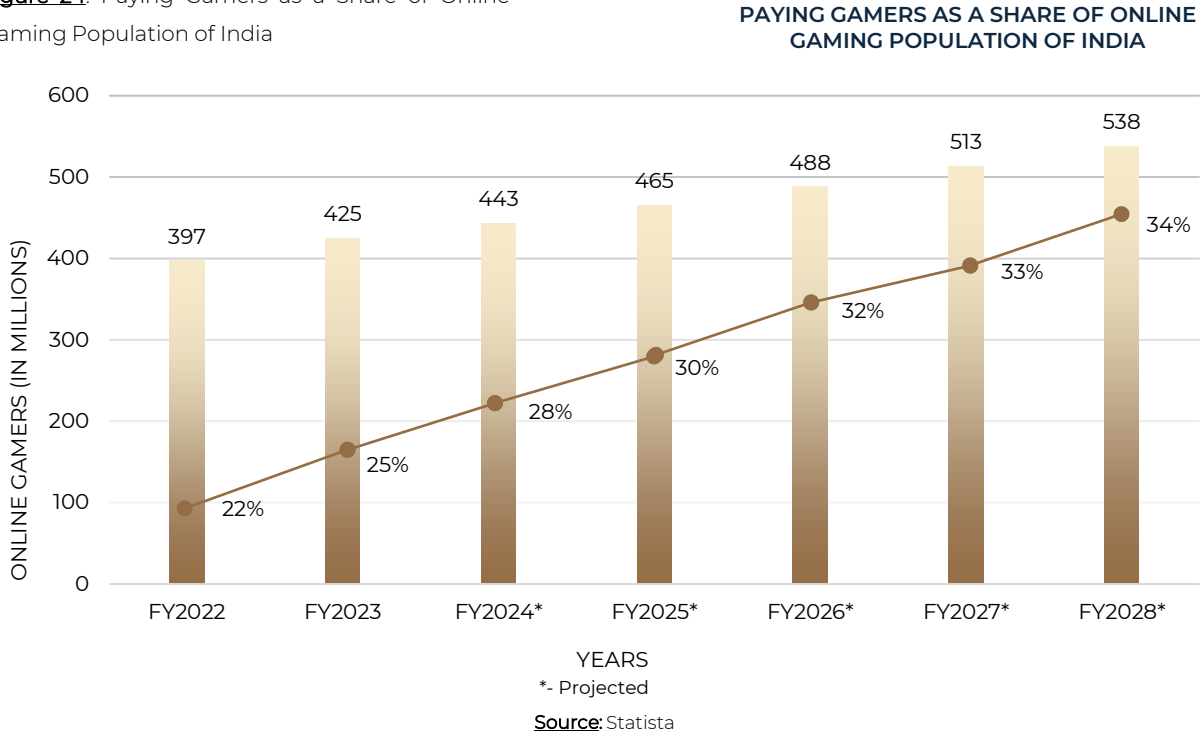


Figure 25 highlights the diverse patterns of online gaming engagement across genders, reflecting the evolving landscape of gaming preferences and behaviors within the Indian population.

Figure 25: Frequency of Online Gaming in India by Gender, 2022

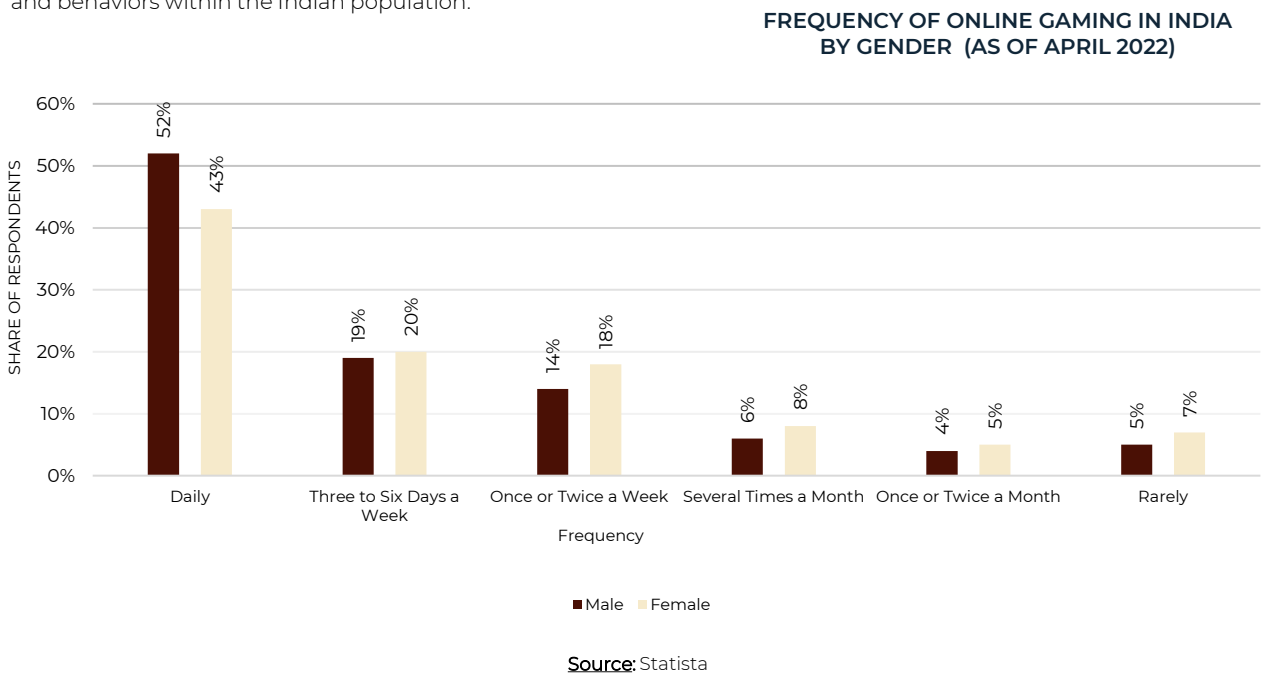
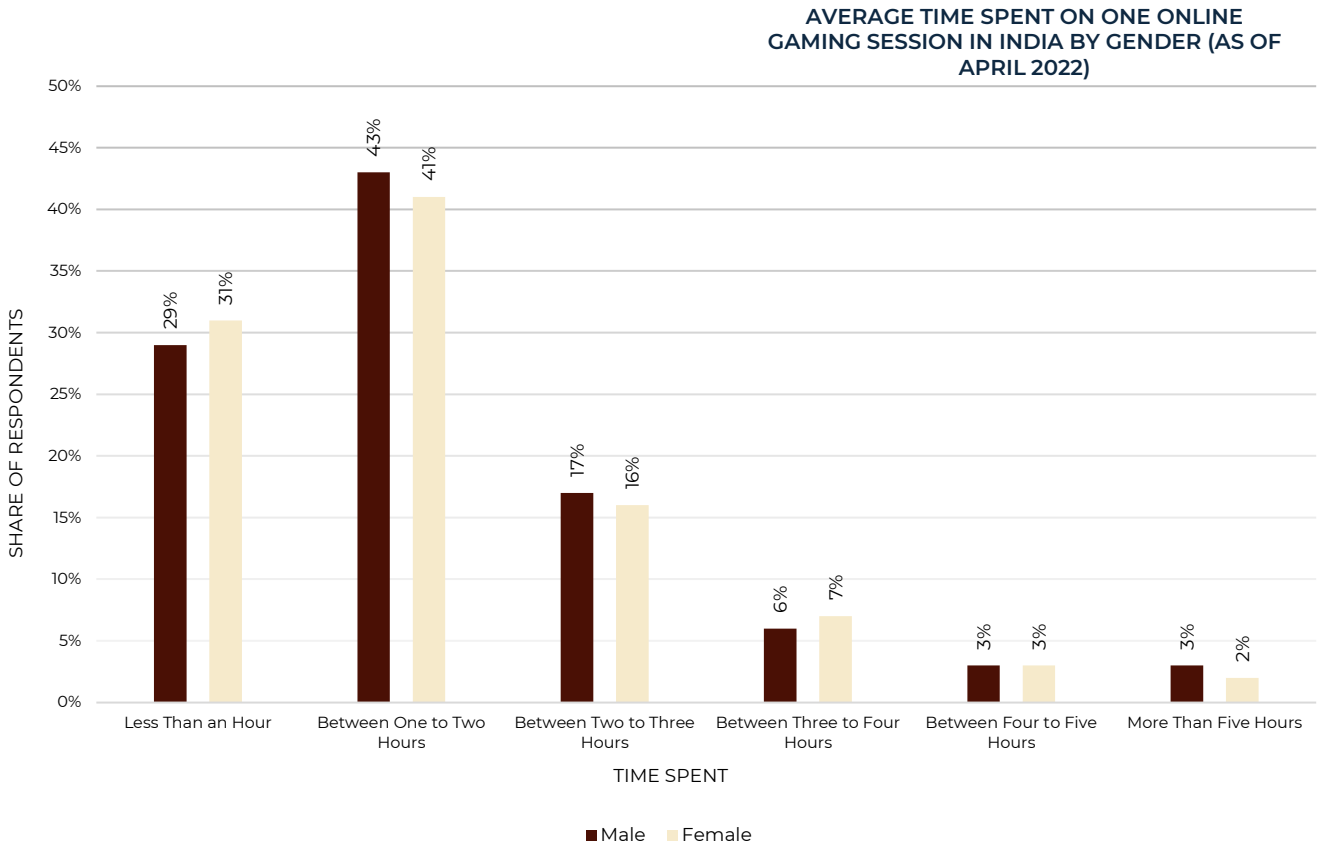


Figure 26 below highlights that the average time spent on Online Gaming sessions in India by males and females are almost equally inclined towards online gaming.

Figure 26: Average Time Spent on One Online Gaming Session in India by Gender, 2022



Source: Statista

4

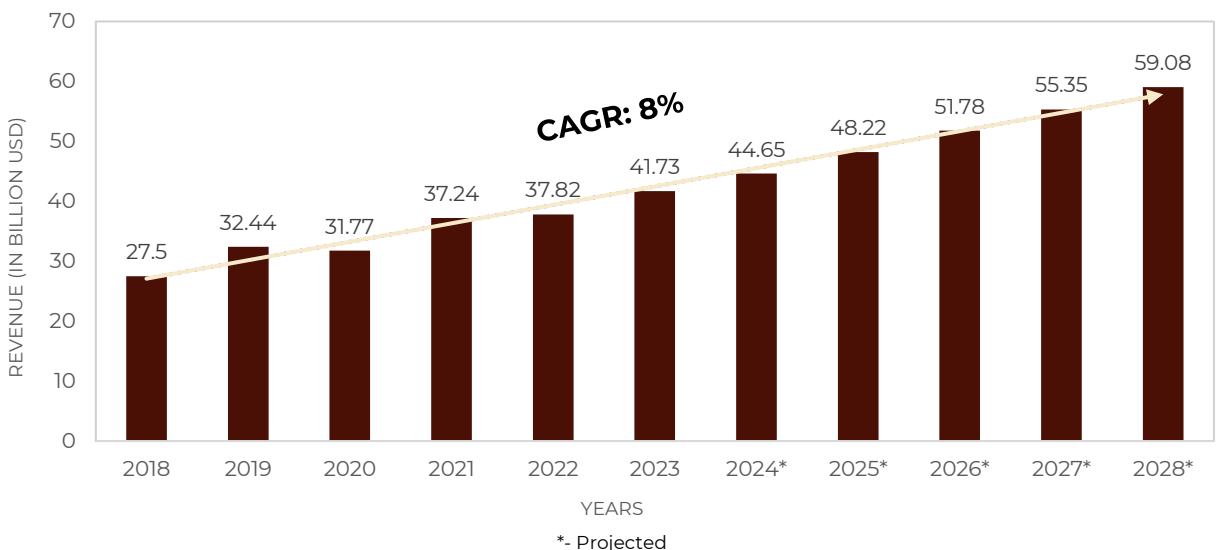
Growth Trajectory: Online Gaming Industry in the Era of Smartphone

Technology advancement in online gaming just did not only lead to an increase in entertainment but also led to many innovations in this sector. Game developers leveraged artificial intelligence and machine learning to provide gamers with more personal experiences. Further, cloud computing technology revolutionized the way games were accessed and played. Now, it no longer requires expensive consoles or gaming PCs to play high-quality or good graphics games. An easy download on the smartphones can provide a world-class experience of playing games.

In 2018, the revenue from smartphone sales stood at 27.5 billion USD. The Figure 27 exhibited a steady rise in subsequent years, reaching 32.4 billion USD in 2019 and 31.8 billion USD in 2020. The graph then illustrates a notable surge, with revenue climbing to 37.2 billion USD in 2021 and 37.8 billion USD in 2022. The upward trend continued, with projections indicating revenue of 41.7 billion USD in 2023 and 44.7 billion USD in 2024. From 2024 onwards, the graph forecasts an accelerated growth rate, denoted by a Compound Annual Growth Rate (CAGR) of 8%. The consistent upward trajectory and the projected high growth rate underscore the immense potential and significance of the smartphone market in India, driven by factors such as increasing disposable incomes, technological advancements, and the growing demand for mobile connectivity and digital services.

Figure 27: Revenue generated by Smartphone sales in India

REVENUE GENERATED BY SMARTPHONE SALES (IN BILLION USD) IN INDIA



Source: Statista Market Insights

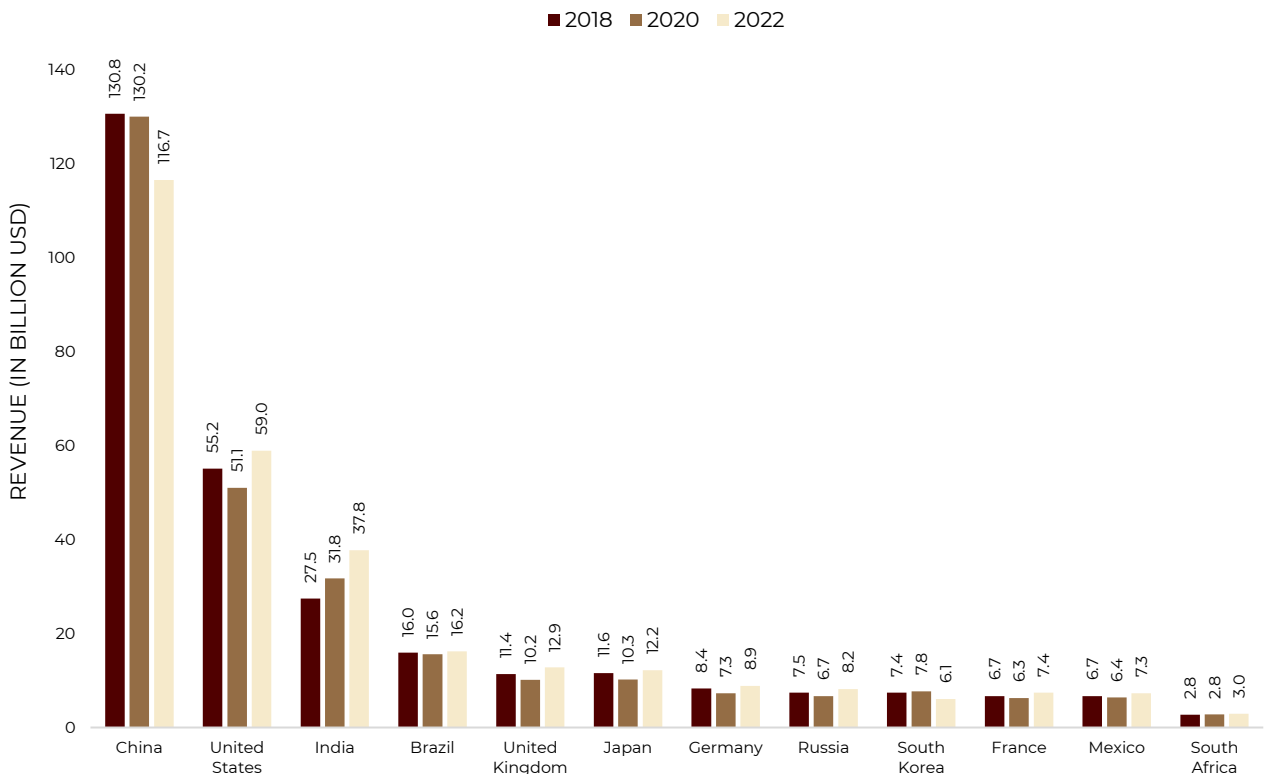
The revenue generated from smartphone sales in major gaming nations and BRICS countries has also seen a substantial growth from 2018 to 2022. In India, the revenue had a CAGR of 8.3% for the same period.

China consistently leads the market, with revenue peaking at \$130.8 billion in 2018 and showing a slight decline to \$116.7 billion in 2022. The United States follows, with a notable increase from \$51.1 billion in 2018 to \$59.0 billion in 2022. India also displays significant growth, with revenues rising from \$27.5 billion in 2018 to \$37.8 billion in 2022, highlighting the rapid expansion of its gaming market.

Other nations such as the United Kingdom, Japan, and Germany show steady but less dramatic growth over the same period. Furthermore, the data underscores the substantial economic impact of smartphone sales in the gaming industry, particularly in leading markets like China, the United States, and India, while also reflecting broader global trends in mobile gaming consumption and technological adoption. The consistent revenue increases across most countries indicate a strong, sustained demand for smartphones, driven by the growing popularity of mobile gaming.

Figure 28: Revenue generated by smartphone sales in major gaming nations

REVENUE GENERATED BY SMARTPHONE SALES (IN BILLION USD) IN MAJOR GAMING NATIONS



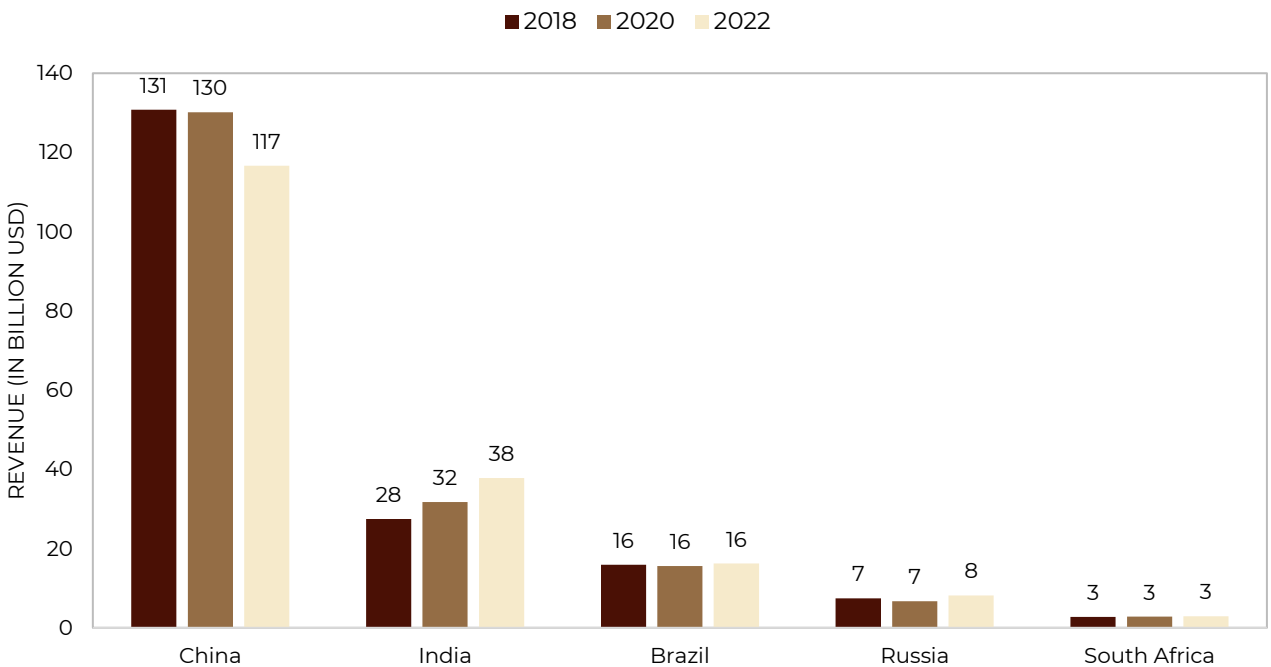
Source: Statista Market Insights

China dominates the market, with revenues peaking at \$130.8 billion in 2018 and showing a slight decrease to \$116.7 billion in 2022. India follows, with a steady increase from \$27.5 billion in 2018 to \$37.8 billion in 2022, reflecting the country's burgeoning demand for smartphones. Brazil's revenue remains relatively stable, fluctuating slightly around the \$15 billion mark. Russia shows a gradual increase from \$7.5 billion in 2018 to \$8.2 billion in 2022, while South Africa exhibits modest growth, moving from \$2.8 billion in 2018 to \$3.0 billion in 2022.

The data elucidates China's significant role in the global smartphone market and highlights India's rapidly expanding market. The stable revenues in Brazil, Russia, and South Africa suggest a more mature market with steady, albeit slower, growth. Overall, the graph indicates robust smartphone sales in BRICS nations, driven by technological advancements and increased consumer adoption.

Figure 29: Revenue generated by smartphone sales in BRICS countries

REVENUE GENERATED BY SMARTPHONE SALES (IN BILLION USD) IN BRICS COUNTRIES

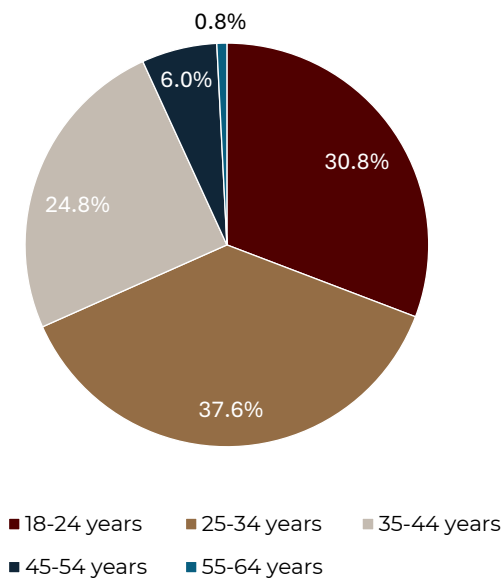


Source: Statista Market Insights

India is among the top five mobile gaming countries in the world. This rise in gamers can be accounted for by the rising demand for smartphones. As per FICCI estimates, number of smartphone users was expected to reach 859 million by 2022. As per IAMAI, India is the largest mobile gaming market because of the increasing number of app downloads in smartphone. India is estimated to contribute up to 12% of the world total number of app downloads^[26].

Gamers between the age 18-24 account for 60% of the total gamers' population in India. The younger population in India accounts for the maximum usage of smartphones, with 37.6% of them belonging to the 25-34 age bracket and 30.8% belonging to the 18-24 age group AVGC Action report.

Figure 30: Smartphone users by Age in India, 2021

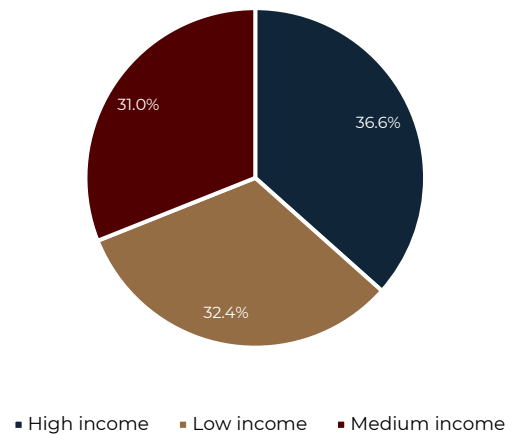


Source: Statista Market Insights

[26] AVGC Action report

As the Indian market offers multiple types of smartphones with varying prices, the distribution among high-income, medium-income, and low-income of smartphone users are almost equal.

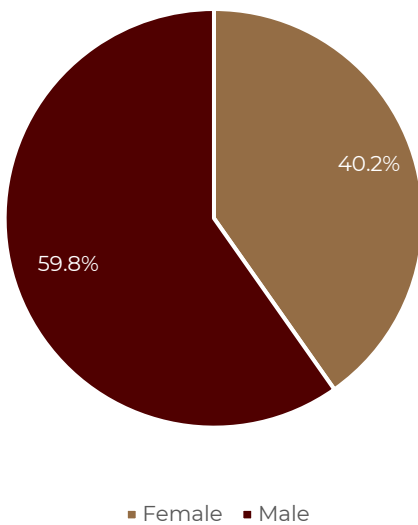
Figure 31: Smartphone users by Income in India, 2021



Source: Statista Market Insights

Among the smartphone-using population of India, nearly 60% are male, and the rest 40% are female. (No data available for other genders). Awareness of mobile phones and the internet is comparatively low among women. Women also often rely on male members of their family to use mobile phones or smartphones.

Figure 32: Smartphone users by Gender in India, 2021



Source: Statista Market Insights

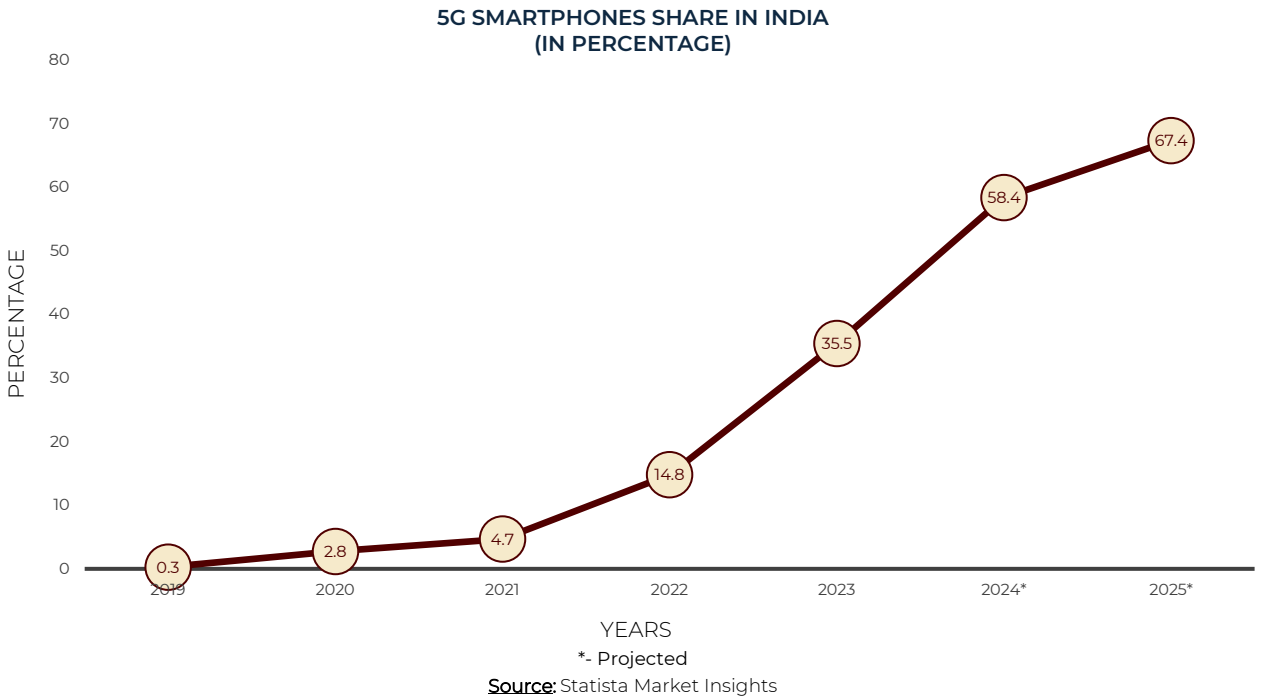
5 Industry expansion: 5G rollout and BTS Deployment

A contributing factor to the rise in the number of gamers in India is that most of gaming companies offer cloud-based subscription services^[27]. These companies also benefit from 5G rollout and Policy initiatives and programs by the Government of India like Digital India, Start-up India, Make in India. These initiatives have aided the increase in digital connectivity and 5G services^[28]. The availability of low-cost internet data makes India have the lowest mobile data rates among the leading online gaming countries^[29].

India has marked itself as the fastest 5G rollout in the world after 5G BTS deployments crossed the 3-lakh mark in August 2023. The two largest operators in India, Bharati Airtel and Reliance Jio are rapidly providing 5G coverage across the nation. Beginning at a minimal 0.3% in 2019, the adoption of 5G smartphones has shown a significant upward trajectory. By 2020, this share rose to 2.8%, followed by a further increase to 4.7% in 2021. The growth accelerated markedly in 2022, reaching 14.8%, and continued to climb to 35.5% in 2023. Projections indicate that by 2024, 58.4% of smartphones in India will be 5G-enabled, with the figure 35 expected to rise to 67.4% by 2025. This exponential increase highlights the rapid adoption and integration of 5G technology within the Indian smartphone market, driven by enhanced network infrastructure, consumer demand for faster connectivity, and the proliferation of 5G-compatible devices, positioning it as a key player in the global 5G market.

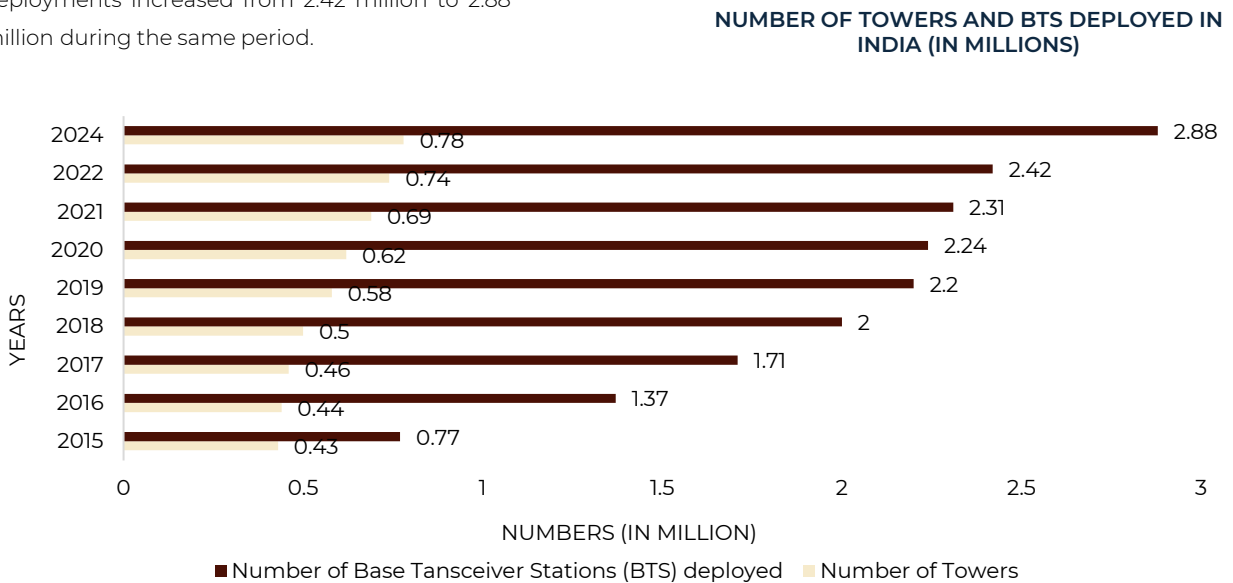
^[27] Realising AVGC-XR Sector Potential in India
^[28] AVGC Action Report
^[29] AVGC Action Report

Figure 33: 5G Smartphones share in India



The number of telecom towers in the country has also increased from 0.74 million in December 2022 to 0.78 million in January 2024 (as of January 18, 2024) and the base transceiver station (BTS) deployments increased from 2.42 million to 2.88 million during the same period.

Figure 34: Number of Towers and BTS deployed in India



Source: Department of Telecommunications, Government of India^[30]

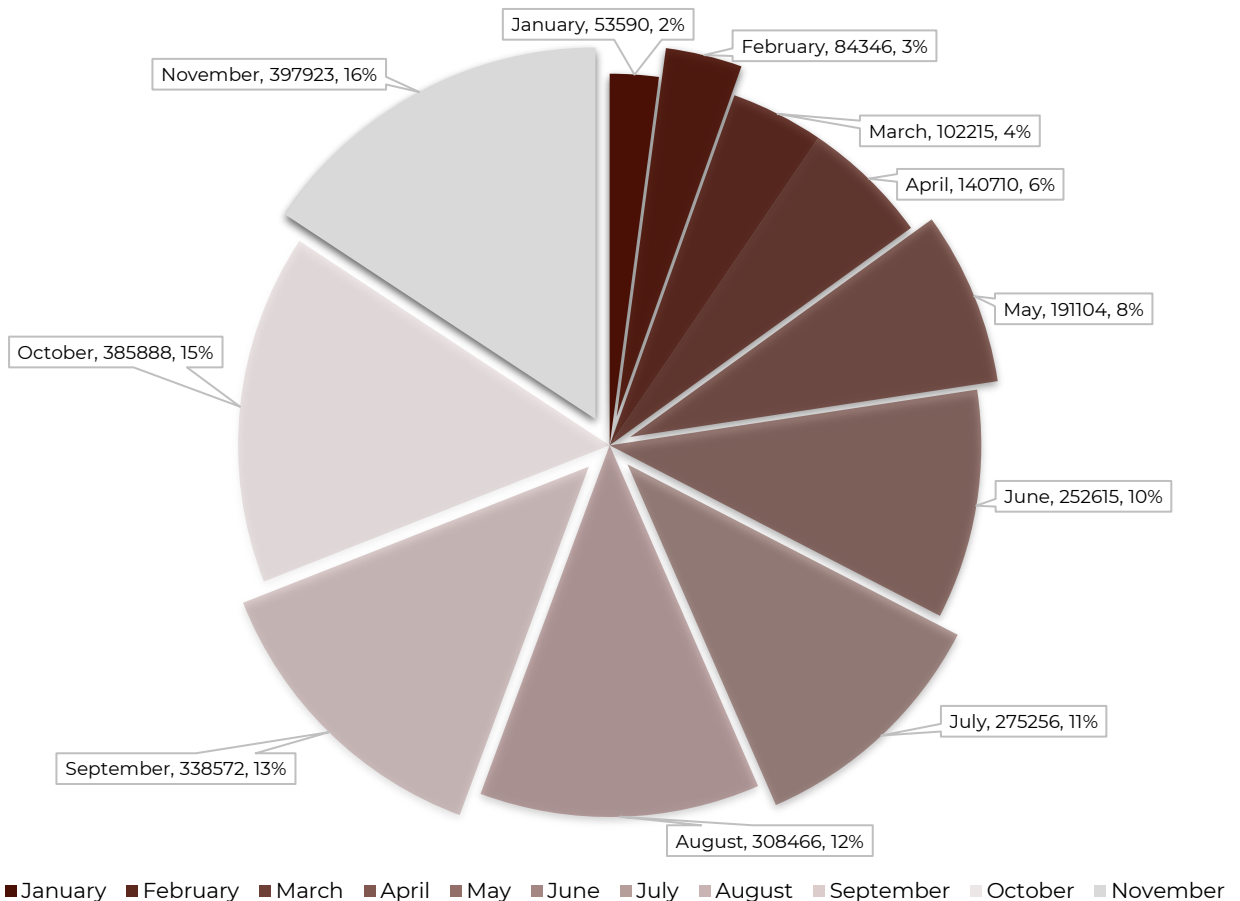
[30] Ministry of Communications- Dashboard

In 2015, the number of towers stood at 0.77 million, and the number of BTS deployments was 0.43 million. Over the subsequent years, the tower counts consistently rose, reaching 1.37 million in 2016, 1.71 million in 2017, and 2.0 million in 2018. The BTS deployments followed a similar pattern, though at a more gradual rate, with 0.44 million in 2016, 0.46 million in 2017, and 0.5 million in 2018. This trend continued until 2024 suggesting a concerted effort to enhance and expand telecommunication infrastructure in India to

meet the increasing demand for connectivity and services. Furthermore, it is evident that the number of towers has experienced a steady increase, while the number of BTS deployments has followed a similar upward trajectory, albeit at a slower pace.

Figure 35: Number of 5G BTS deployment in India, 2023

NUMBER OF 5G BTS DEPLOYMENT IN INDIA IN 2023



Source: Department of Telecommunications, Government of India

Notably, the months of May and June witnessed the highest installations, with 191,104 and 252,615 units respectively, underscoring the concerted efforts to bolster the 5G infrastructure. The momentum persisted in the subsequent months, with substantial deployments recorded in July (275,256 units) and August (308,466 units), reflecting the consistent and extensive endeavors to augment the 5G network coverage throughout the year.

The remaining months, spanning September to April, also contributed significantly to the overall expansion of the 5G BTS infrastructure. Notable figures include September (338,572 units), October (385,888 units), November (397,923 units), and the early months of January (53,59 units), February (84,346 units), March (102,215 units), and April (140,710 units).

The diverse range of deployment figures across different months suggests a strategic and methodical approach to enhancing the 5G network capabilities nationwide. This comprehensive deployment effort aligns with the country's ambitions to establish a robust and widespread 5G ecosystem, facilitating faster data speeds, lower latency, and a myriad of innovative applications and services for its citizens and businesses.

As the online gaming sector continued to evolve, it also became a catalyst for economic growth and employment. Skilled professionals in fields such as game development, programming, and design found ample opportunities in India's burgeoning gaming industry.

6

India's Online Gaming: A Goldmine Poised for Exponential Growth

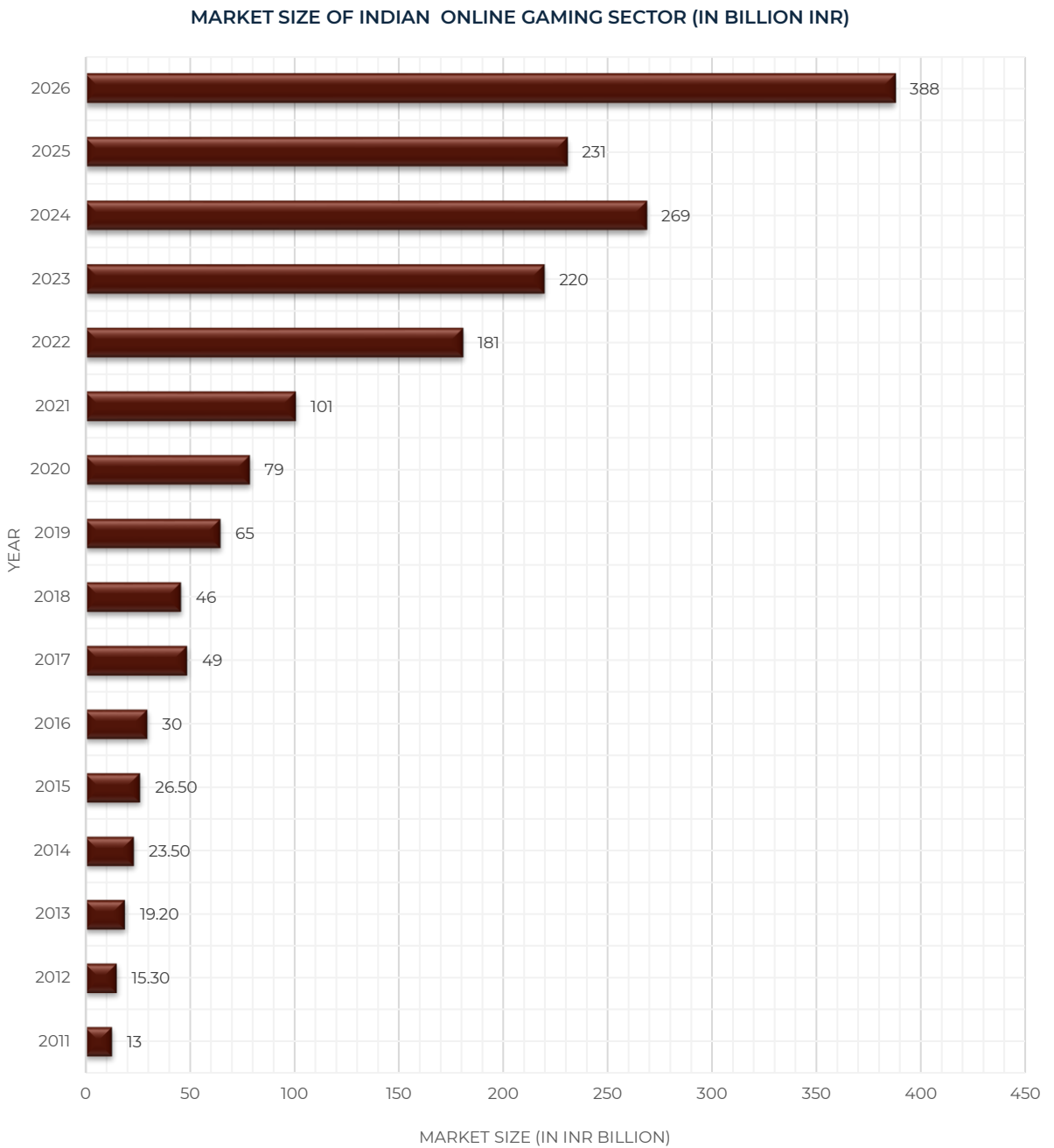
The Information Technology growth propelled the exponential demand and growth in India's online gaming industry which is reflected in the sector's rising revenue. Figure 37 provides a snapshot of the Indian online gaming market size, highlighting its consistent growth over the past decade and its promising future potential.

A Statista report reveals that the Indian online gaming industry surged in value, reaching approximately ₹220 billion in 2023, up from ₹181 billion the previous year.



This momentum is projected to continue, with the market expected to surpass ₹388 billion by 2026, reflecting a remarkable CAGR of 20.7% from 2011 to 2026 (Figure 38).

Figure 36: Market size of Indian online gaming sector with projection up to 2026



Source: Statista Market Insights



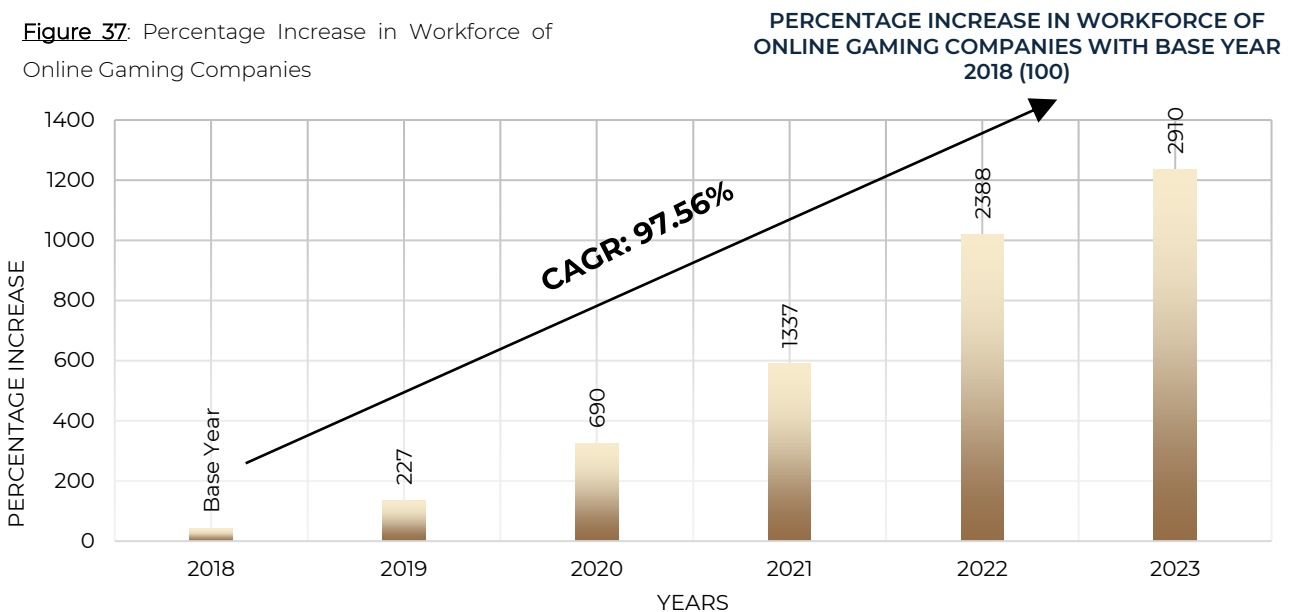
1

Talent Pool: India's skilled workforce in Animation, VFX, and Game Development

The workforce in online gaming companies increased significantly and steadily between 2018 and 2023, according to data from the industry. Starting in 2018 as the base year, the workforce increased by 100%, with an exponential increase of 2910% by 2023. Notably, the industry growth was immense, as evidenced by the 97.56% CAGR (see figure 37). The trend also highlights that the industry has witnessed an exponential growth as well as the rising demand for expertise workforce due to the rising number of consumers and investments, i.e., domestic as well as foreign, into infrastructure within the online gaming sector. Furthermore, the statistics does not only underline the sector's influential role in creating jobs and providing employment but also underscores its economic influence and the prospects it offers for the Indian labour market.

ASSESSING INDIA'S STRENGTHS AS A GAMING HUB

Figure 37: Percentage Increase in Workforce of Online Gaming Companies



Source: Primus Partners' and EGROW's research and analysis

The technical workforce in online gaming companies followed the same trend as general workforce did, i.e., increased significantly and steadily between 2018 and 2023, as per the data from the industry.

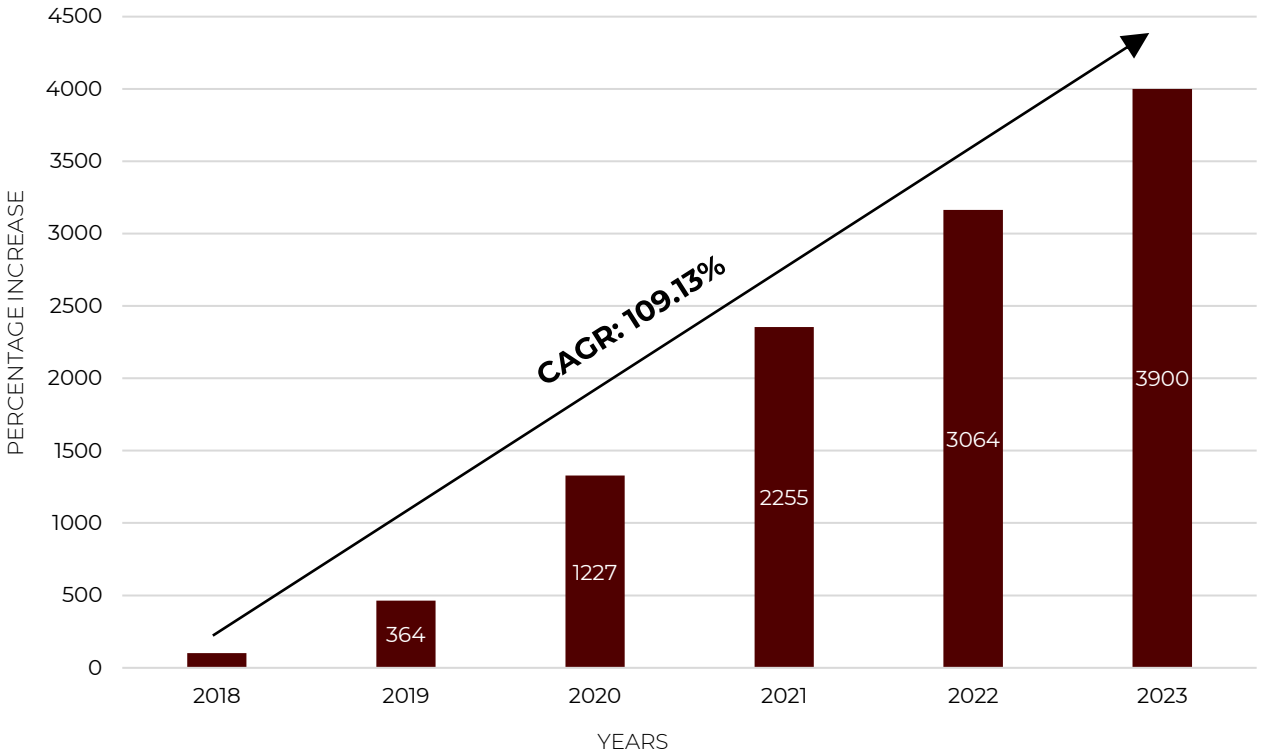
The trend clearly underlines the rising demand for a technical workforce in the online gaming industry, driven by increased consumer engagement, advancements, and innovations in gaming technology. It also exhibited the sector's role in advancing technological innovation and economic development, as well as the technical workforce's vital importance in fostering the industry's growth. The robust increase in the technical workforce elucidates the industry's dynamic nature and its capacity to not only generate opportunities for high-value employment but also provide the same.



With 2018 as the base year, the technical workforce demonstrated an exponential increase of 3900% by 2023. Furthermore, the CAGR of 109.13% exhibited the sector's monumental growth.

Figure 38: Percentage Increase in Technical Workforce of Online Gaming Companies

PERCENTAGE INCREASE IN TECHNICAL WORKFORCE OF ONLINE GAMING COMPANIES WITH BASE YEAR 2018 (100)

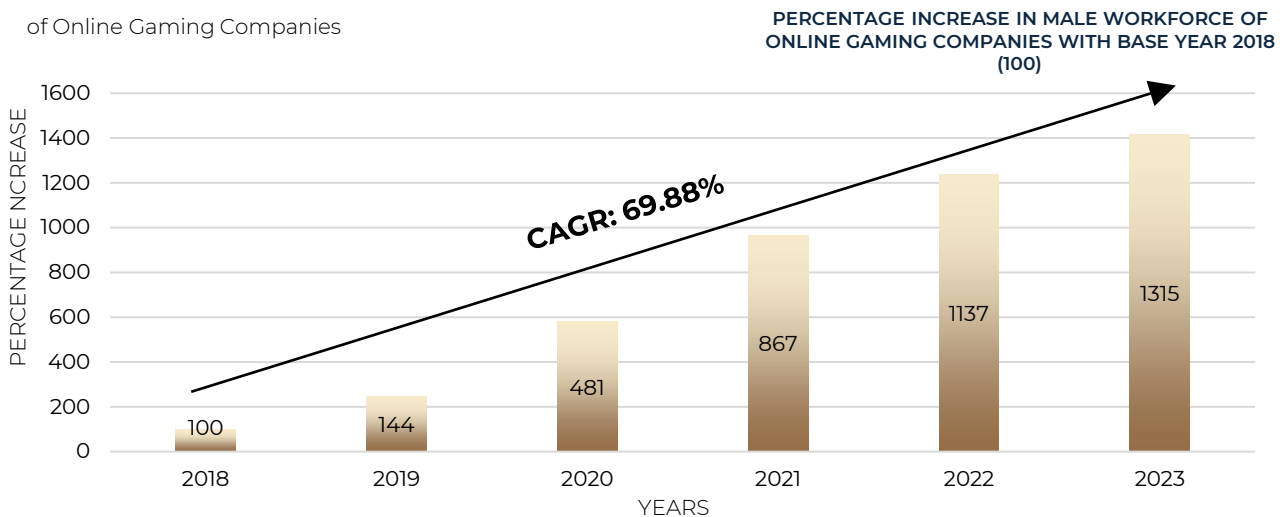


Source: Primus Partners' and EGROW's research and analysis

The male workforce in the Indian online gaming sector elucidated a significant upward trajectory, culminating in a 1315% increase by 2023, with 2018 as the base year.

69.88% CAGR for the period 2018–2023 reflected robust and steady growth in male employment. Each year showed an immense increase, with 2020 and 2021 experiencing particularly notable rises of 481% and 867%, respectively.

Figure 39: Percentage Increase in Male Workforce of Online Gaming Companies

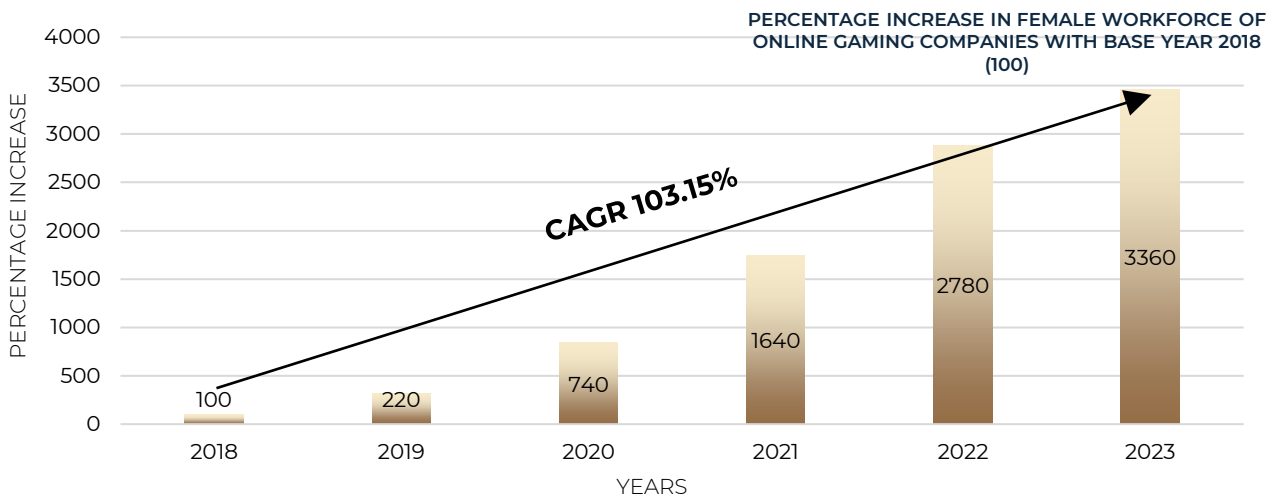


Source: Primus Partners' and EGROW's research and analysis

The female workforce in the online gaming industry has experienced substantial and consistent growth, culminating in a remarkable 3360% increase by 2023, with 2018 as the base year.


The CAGR of 103.15% for the period 2018–2023 outlines a significant rate of expansion. The year 2020 saw a notable gain of 740%, while the year 2021 saw an increase of 1640%, with successive years showcasing robust growth.

Figure 40: Percentage Increase in Female Workforce of Online Gaming Companies



Source: Primus Partners' and EGROW's research and analysis

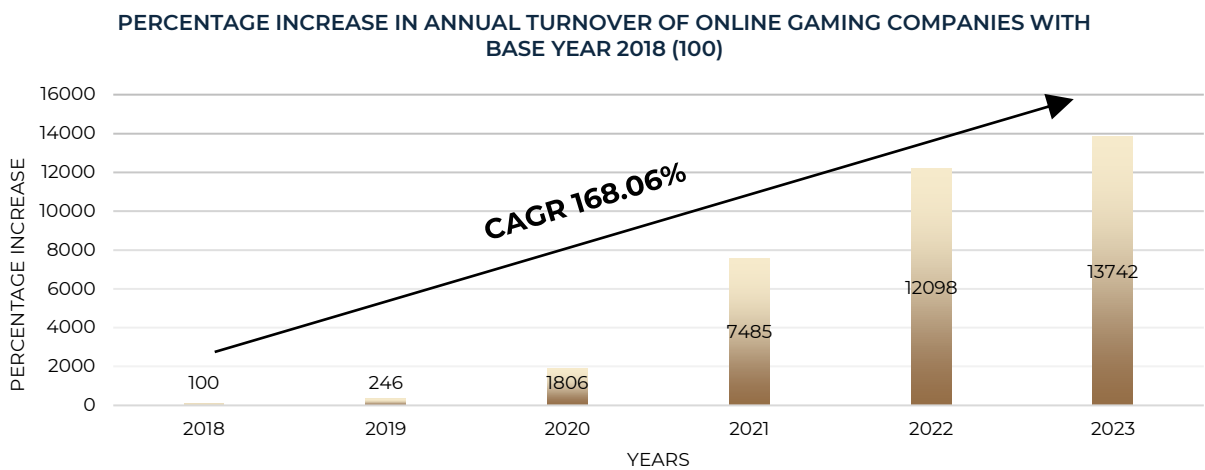
The continuous growth and exponential increase also highlight the sector's role as a significant employment generator, contributing to economic development.



The remarkable CAGR of 168.06% between 2018 and 2023 is indicative of the online gaming industry's rapid expansion and substantial earnings generation

In 2018, the base percentage increase was 100%. However, in 2019, there was a significant increase to 246%. Furthermore, the economic momentum picked up speed in 2020, rising to 1,806%, and carried over into 2021, when it reached 7,485%. After a notable uptick to in 2022 (12098%), the trend continued to be robust in 2023 (13742%). This exponential rise in annual turnover illustrates the sector's dynamic evolution and is a reflection of the industry's expanding market demand, wide customer engagement, and significant economic impact.

Figure 41: Percentage Increase in Annual Turnover of Online Gaming Companies



Source: Primus Partners' and EGROW's research and analysis

2 Government support: Policy Initiatives to Foster Gaming Industry Growth

A) 100% CLEARANCE TO FDI FOR THE ONLINE GAMING INDUSTRY

The government has given 100% clearance to Foreign Direct Investment (FDI) in the online gaming industry. This is a great move that can bring significant benefits to both the Indian

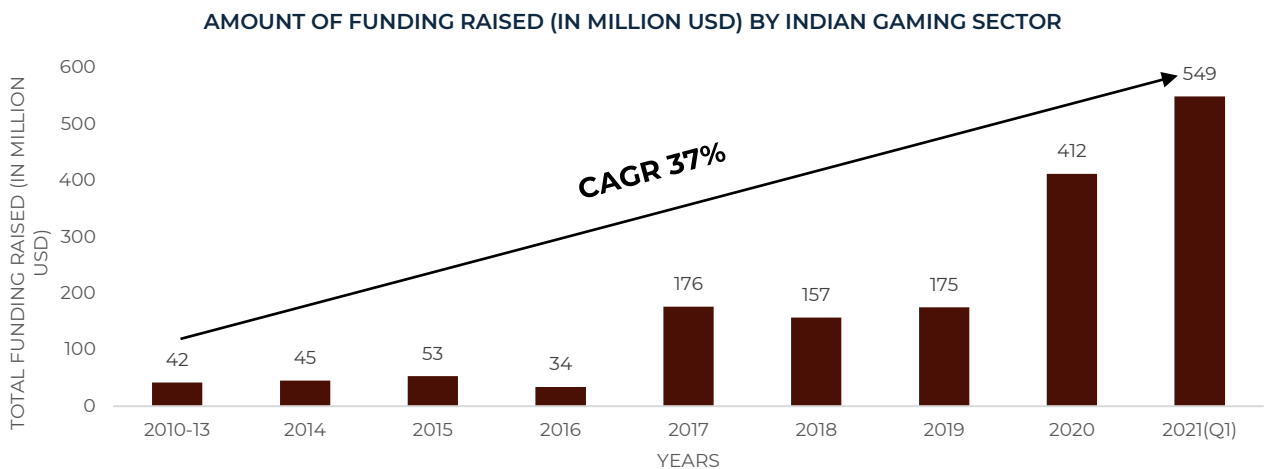
economy and the global gaming industry^[31]. By allowing overseas investors to collaborate with Indian gaming companies, the government creates opportunities for knowledge exchange, technological advancement, and market expansion. This policy can attract foreign capital, expertise, and technology into India's gaming industry, stimulating growth, innovation, and job creation^[32]. Foreign investment is crucial for an economy's growth as it caters to improving infrastructure, creating further employment, and provides exposure to cutting-edge technologies

^[31] Teamlease- Gaming Tomorrows Blockbuster
^[32] India's Gaming Sector Set to Grow Rapidly Due To Friendly Govt Strategy: Gamezop CEO

The support from the government and the recent increase in demand for online gaming has attracted foreign investment in this industry. As per BCG X Sequoia estimates, the Indian Online gaming sector raised a total investment of \$412 million in 2020 and \$549 million by the first quarter of 2021^[33].

Furthermore, Deloitte in its April 2023 report titled “Fantasy Sports: A Catalyst for The Sports Economy” stated that online gaming industry in FY2022 raised INR 15000 Crores^[34] investments and is expected to attract FDI of INR 25000 Crores^[35] by the end of FY2024.

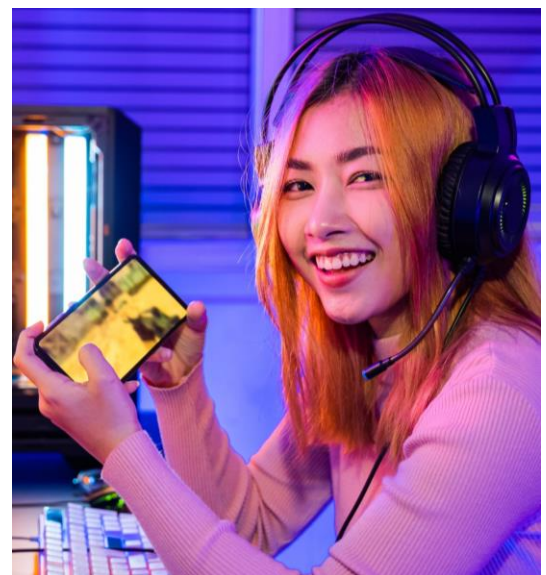
Figure 42: Amount of funding raised by the Indian gaming sector



Source: BCG- Sequoia Report

MEITY AS THE NODAL MINISTRY FOR ONLINE GAMING

In December 2023, the Ministry of Electronics and Information Technology (MeitY) was notified as the nodal ministry for online gaming. This signifies the government's recognition of the significant potential of the gaming industry in fulfilling the PM's vision of a \$1 trillion digital economy. MeitY's involvement suggests a focus on issues such as data privacy, cybersecurity, and consumer protection within the online gaming space^[36].



^[33] BCG-Sequoia: Mobile Gaming- India's \$5Bn Market Opportunity
^[34] Deloitte, Deloitte Analysis, 2023
^[35] TIOL News Service, "Indian Fantasy Sports Industry Can Drive Foreign Investments: TIOL Whitepaper," TIOL News Service, 2022
^[36] AIGF-Growth Of Gaming In India: How To Foster Talent, Innovation, And Investment

3

Emerging Infrastructure: Incubators, Accelerators and Gaming Clusters

The development of the NCOE (National Centre of Excellence) for the AVGC-XR (Animation, Visual Effects, Gaming, and Comics - Extended Reality) sector is a significant step to provide cutting-edge infrastructure for digital post-production. By offering access to state-of-the-art technologies like motion capture, 2D & 3D animation, and high-speed rendering, this initiative will boost innovation and creativity within the industry. The AVGC-XR sector will also provide latest art infrastructure such as digital post-production AVGC-XR labs. R&D labs in various Institutes of Eminence like IITs, NITs, IISc, in the country, will also be evaluated^[37].

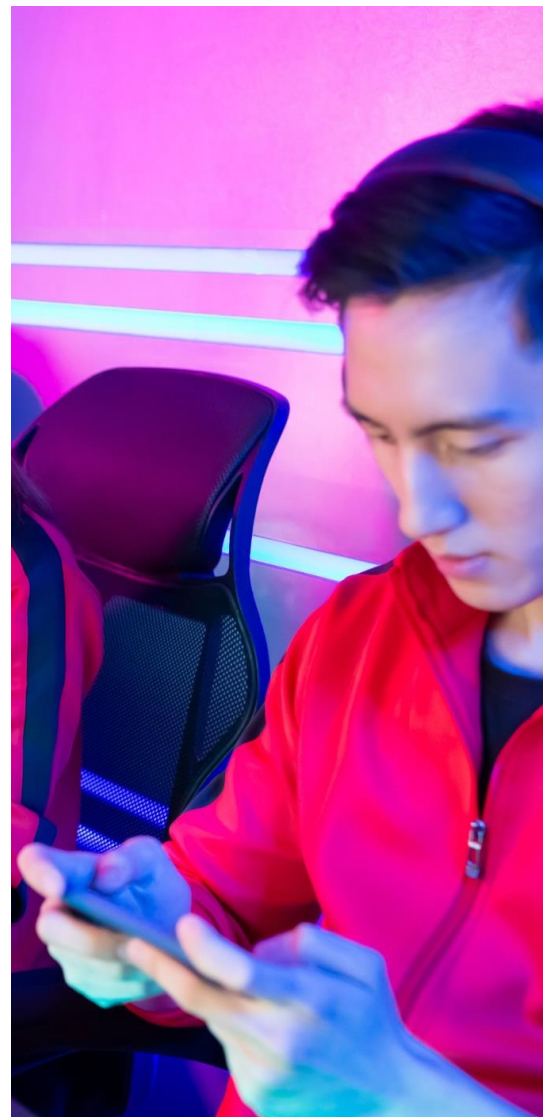
4

Cultural Factors: India's rich Gaming Heritage and Market Potential

India has an old tradition of skill-based games like chess and rummy. These games require strategy, critical thinking and expertise, making them popular among those players who prefer to test their abilities rather than rely solely on chance^[38]. However, people choose games and themes that they are acquainted with, as was seen by Ludo's enormous success, which saw over 250 million downloads during the first phase of the Covid-19 lockdown^[39].

AWS and Lumikai conducted a survey in April 2023, which revealed 82% of players are interested in playing games with Indian mythological themes, and more than 40% of non-gamers are more likely to pick up a game if it has an Indian theme.

The Indian gaming industry, however, has changed in recent years and now employs technology that brings mythology to life for contemporary players by drawing from the rich tapestry of Indian mythology. With captivating gameplay, these games provide a distinctive experience that adapts to India's cultural legacy. To mention a few well-known ones: Uncharted: The Lost Legacy, Skyblazer, Smite, Raji: An Ancient Epic, Asura's Wrath, and Kurukshetra: Ascension^[40].



[37] AVGC Promotion Task Force Report- Annexure C
[38] Medium-GAMBLING IN INDIA -REGULATION AND CHANGES IN 2023
[39] Online games with Indian themes, characters becoming all the rage
[40] India's mythology is being retold, one game at a time



REGULATORY FRAMEWORKS AND STRATEGIES FOR THE ONLINE GAMING SECTOR IN INDIA

1

AMENDMENT TO INDIA'S EXISTING IT RULES

On January 2, 2023, the Ministry of Electronics and Information Technology (MeitY) published a draft amendment to India's existing Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules). This amendment incorporated provisions and regulations for online gaming in India. MeitY subsequently notified amendments to the IT Rules on April 6, 2023.

[41] Live Law- Looking Into What's Inside And Beyond The New Online Gaming Rules
[42] Legal Live-How is Consumer Protection Ensured in Online Gaming

The rules have been summarised below^[41]-

1. A clear distinction between permissible online games and non-permissible online games has been made.
2. Verification by a self-regulatory body (SRB) is required by companies if they want to host permissible online real-money games, with a focus on responsible gaming practices. SRBs must create frameworks covering financial protection, user safety, and protection of children (players under the age of 18).
3. Online gaming industries are obligated to prevent any harm to the users and inform them about policies related to deposits, winnings, fees, and KYC procedures.

2

CONSUMER PROTECTION ACT, 2019

The Consumer Protection Act, 2019 provides protection to consumers who engage in online transactions. This means if a consumer faces any issue with the product being purchased, then they have the right to file complaints with the appropriate consumer dispute redressal authorities^[42]. In accordance with this act, the Central Consumer Protection Authority (CCPA) recently also issued a comprehensive advisory on the prohibition of advertising, promotion, and endorsement of betting and gambling which is an illegal activity in most of the states in India.

3 TDS

Under the old tax regime, TDS for winnings less than INR 10,000 was not applicable. In the new tax regime introduced in FY24, a distinction between online gaming and betting and gambling was created under the Income Tax Act. Further, it was proposed that all net winnings be taxed. The player has the choice to calculate TDS either at the time of withdrawal or at the end of the financial year.

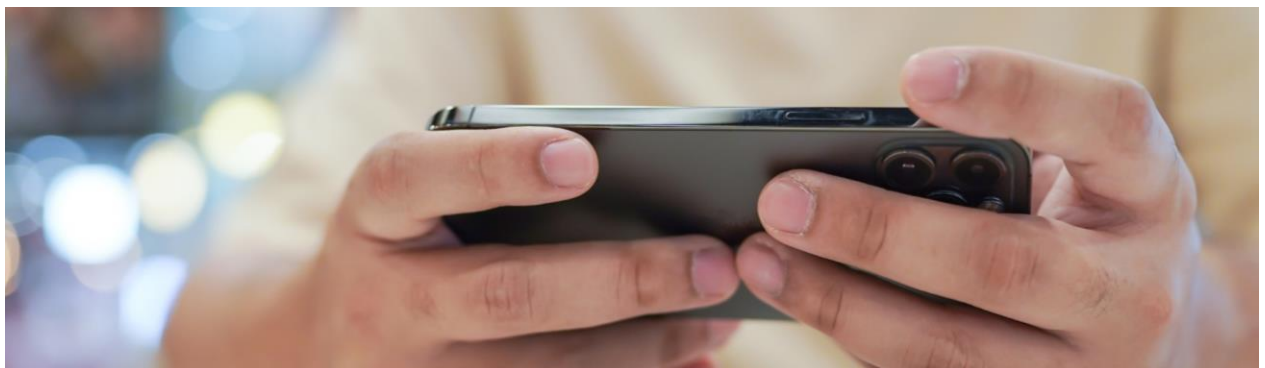
4 AMENDMENTS TO GST LAWS

Legislative amendments in the CGST and IGST Amendment Acts relating to online gaming were notified w.e.f. October 1, 2023, to give effect to the recommendations of the 50th and 51st GST Council meetings. Specific rules were introduced for the determination of the value of supply of specified actionable claims involved in online money gaming.

5 SKILL DEVELOPMENT INITIATIVES

Bridging skill gaps in the online gaming industry with short-term courses is a fantastic approach. These courses can provide proper training on specific skills like design, animation, and aesthetics, allowing the individuals to quickly gain the expertise so that they can excel in their roles.

The Ministry of Information and Broadcasting together with Ministry of Education and Ministry of Skill and Development is setting up country's first National Centre of Excellence (NCOE). The NCOE will deliver mandate, across skilling, education, industry development, research and innovation for the AVGC-XR sector. This will increase the employability of the existing workforce through skilling policies and will increase the number of degree holders to meet industry demand^[43].



[43] AVGC Promotion Task Force Report: Annexure C



Online gaming industry is expected to grow at a compound annual growth rate (CAGR) of 11% (2017 to 2023) and the projected revenue of this market is expected to reach \$35.66 billion by FY29.

In the global context, majority of the revenue generated through online gaming comes from China followed by the United States and Japan. However, future growth is expected to come from developing countries with a growing population^[45]. Therefore, we conducted a comparative analysis (as shown in Figure 43) of the growth of revenue generated of leading nations in the gaming industry and top developing countries.

GLOBAL COMPARISONS

The online gaming industry worldwide is also experiencing significant growth. It has been estimated that the total revenue of the online gaming industry is \$26.14 billion for FY23^[44].

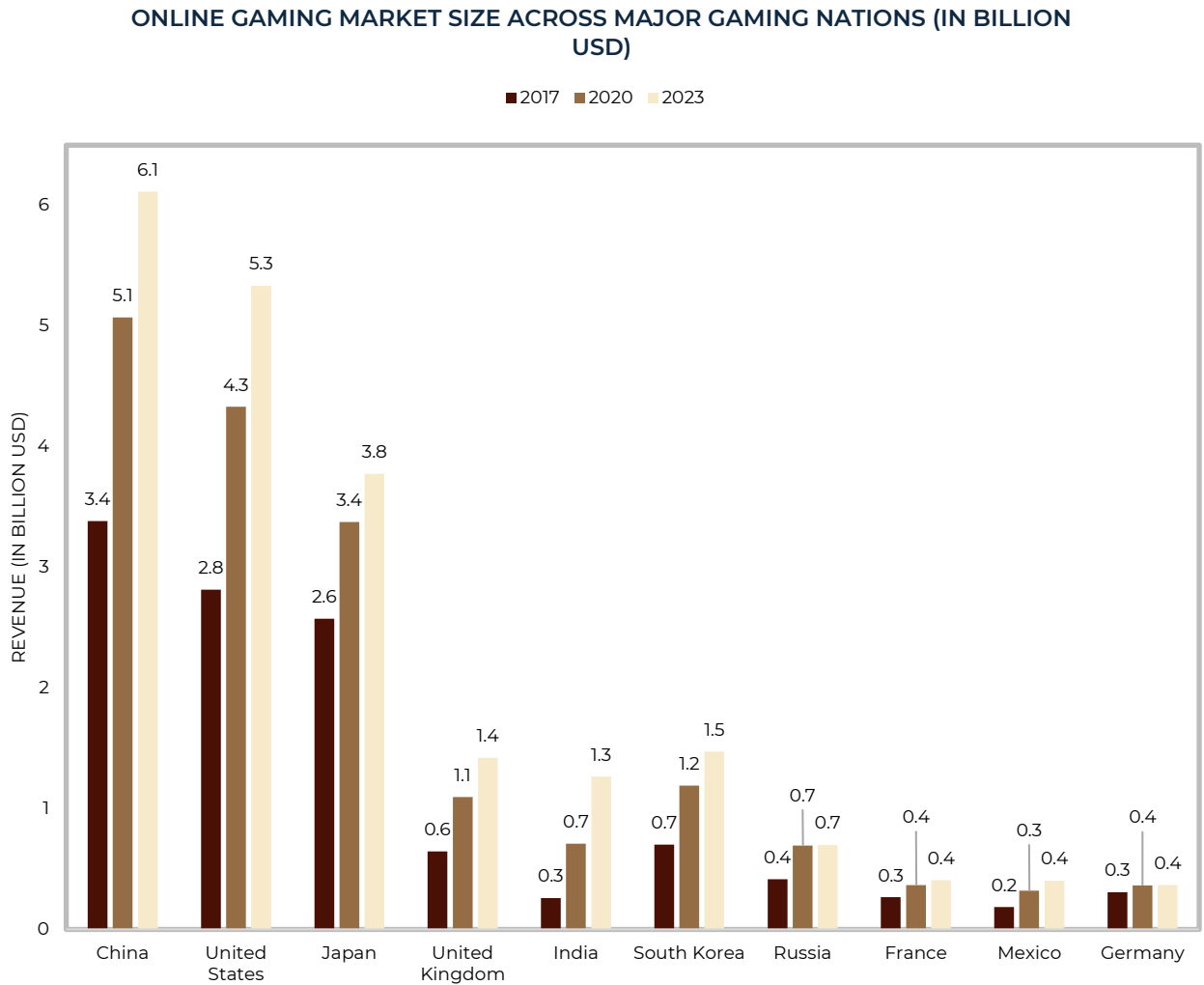
With the increase in smartphones, gaming laptops, gaming devices, and consoles, the global



[44] Statista Market Data

[45] World Economic Forum- Gaming is booming and is expected to keep growing

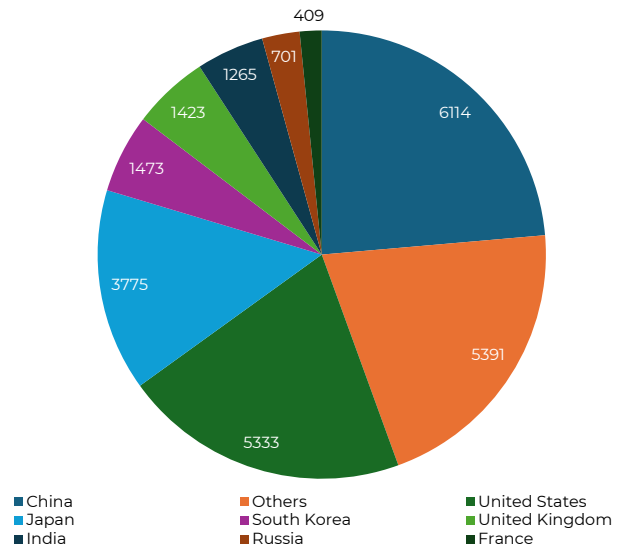
Figure 43: Growth of revenue generated from the Online Gaming Industry in Major Gaming Nations



Source: Statista Market Insights

Comparative analysis of the revenue generated for the year 2023 has been shown in Figures 46. The market size has been calculated based on the revenue generated by the online gaming industry. The gaming industry generates income from both hardware and software. Hardware includes sales of gaming consoles, PCs, Laptops, Tablets, Smartphones, etc. Software includes subscription fees, in-app purchases, advertisements, etc.

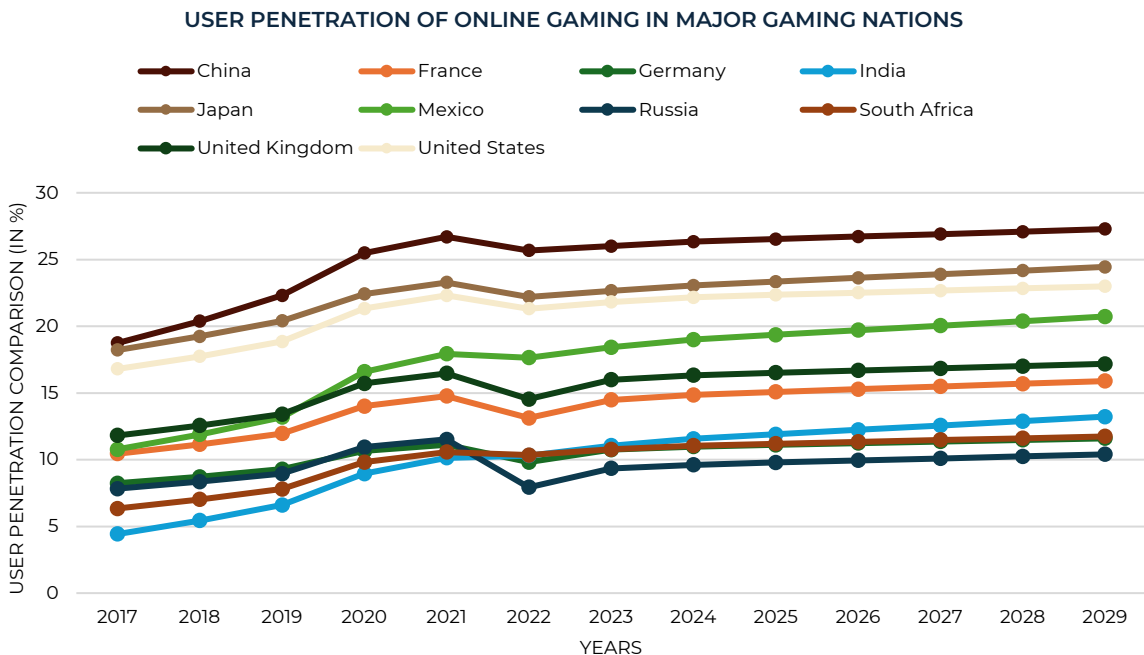
Figure 44: Revenue comparison of Online Gaming Industry for FY2023 (In Million USD)



Source: Statista Market Insights

User penetration is also an important metric for understanding the growing online gaming industry. It gives insight into the number of consumers in the online gaming industry in a country.

Figure 45: User penetration of Online Gaming across Major Gaming Nations



Source: Statista Market Insights

It's observed from Figure 46 that maximum user penetration is also from the leading market players in this industry- China, Japan, and the United States. These reflect both historical trends and the current landscape of the gaming industry across different regions.

China accounted for 3% of the total online gaming market in 2017^[46]. Factors like a large population and increasing purchasing power enabled individuals to afford online games and their equipment. The online gaming industry reflected approximately 11% CAGR over the last couple of years. This was possible due to technological advancements, increasing accessibility, and evolving consumer preferences.

Figure 46: Revenue comparison of the online gaming industry for BRICS countries

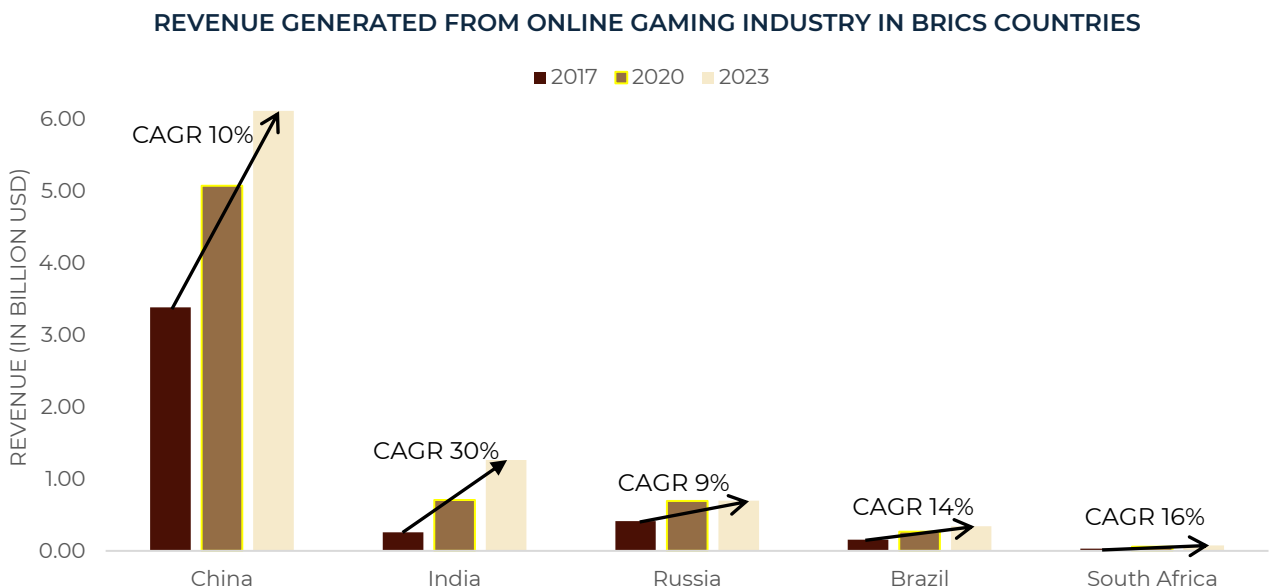


Table 2: Comparison of growth rates of revenue generated from the online gaming industry in BRICS countries

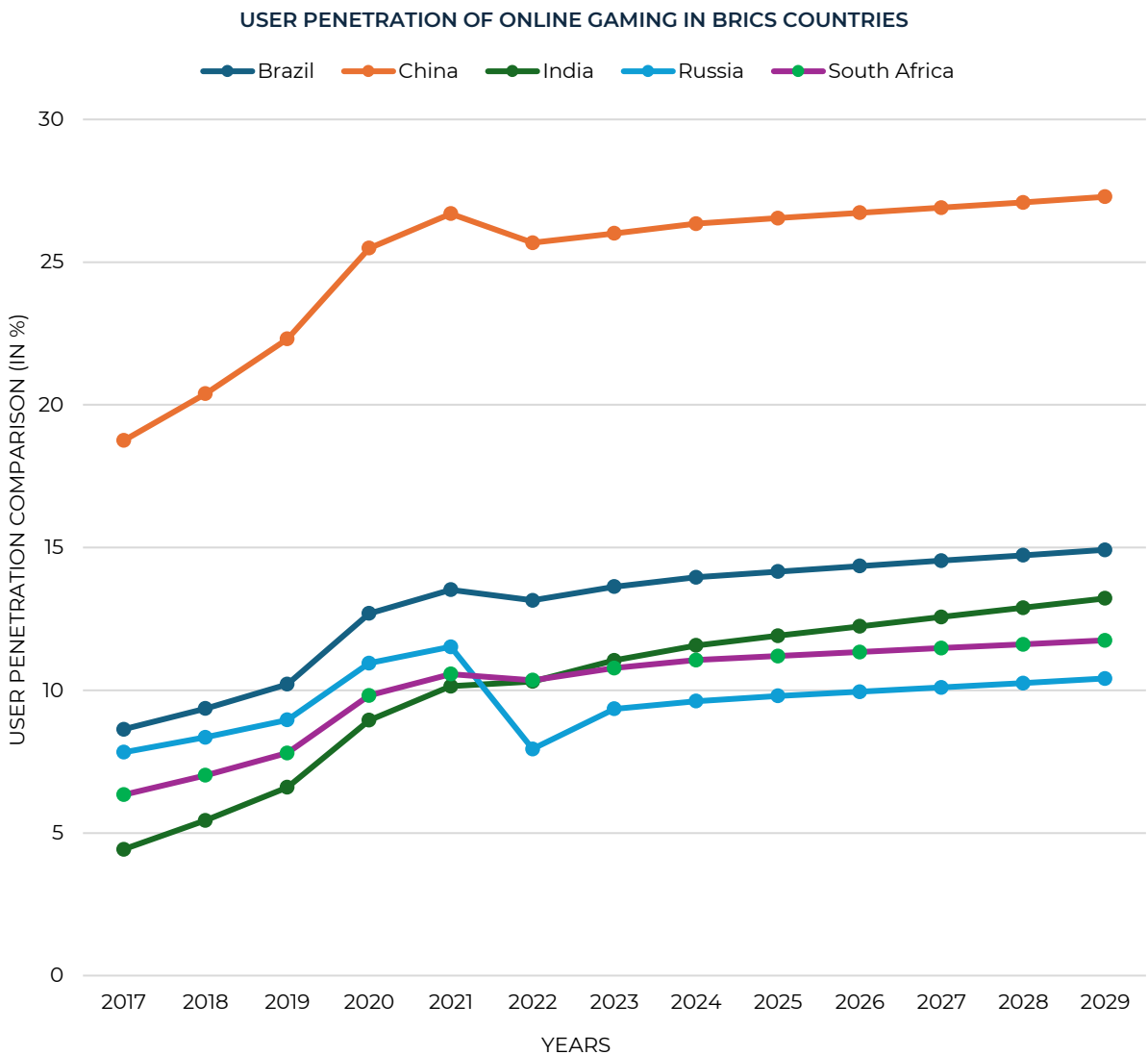
Countries	India	South Africa	Brazil	China	Russia
CAGR (2017-2023)	30.2%	16.4%	14.1%	10.4%	9.0%

Source: Statista Market Insights

[46] Clairfield International- Gaming Industry- Facts, Figures, and Trends

India has a CAGR of 30% from 2017 to 2023 for revenue generated from the online gaming industry. India has the highest CAGR among the top 10 nations considered, as well as the BRICS countries.

Figure 47: User penetration of online gaming in BRICS countries



Source: Statista Market Insights

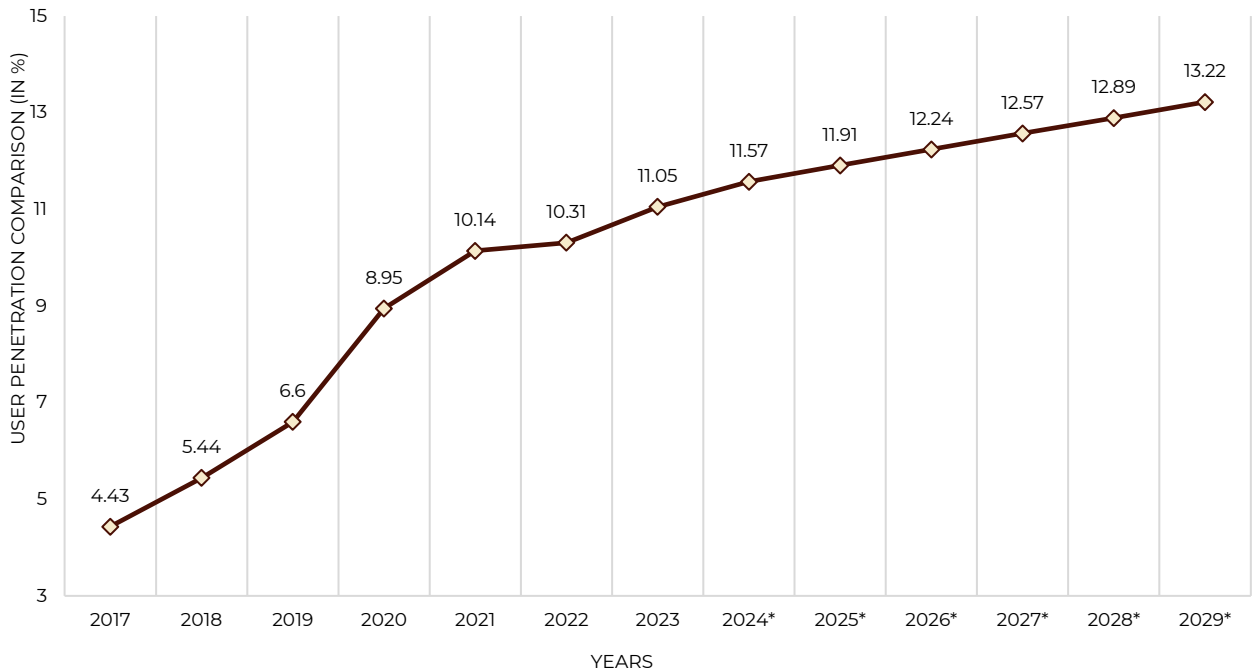
Through the above figures, 48 and 49, it is observed that BRICS countries also account for significant growth in the online gaming industry.

The online gaming sector in South Africa and Brazil has been consistently rising. In South Africa, there has been a substantial rise in smartphone usage and internet connectivity such as 5G. Moreover, with the increase in overall wealth, more individuals can afford to engage with online gaming^[47]. Brazil is known as the fifth largest market by number of players. It also has the fastest-growing market in online gaming in the whole of Latin America. Brazilians innately have a passion for gaming, and this is the primary reason for the consistent increase in revenue generated from the online gaming industry^[48].

The online gaming industry in India traces its roots back to the early 2000s, marked by the introduction of console and PC gaming. Initially, online gaming primarily comprised social games, driven by international developers. However, India has since emerged as a key player in the global gaming landscape, fueled by rising internet penetration and smartphone usage.

Figure 48: User penetration in India

USER PENETRATION OF ONLINE GAMING IN INDIA (IN PERCENTAGE)



Source: Statista Market Insights

[47] Mordor- Africa Gaming Industry
[48] Newzoo- Key Insights into Brazilian Gamers



EXAMINATION OF GST STRUCTURES AND THEIR IMPACT ON INDUSTRY GROWTH

There are a few setbacks for the online gaming sector to flourish in India. While the government has brought clarity to the industry by levying 28% GST on the full face value of deposits, the tax authorities have issued notices for GST dues to online gaming companies in India stating that all such companies are in the nature of betting and gambling and are required to pay taxes on the “full face value paid by the users” for the period that is prior to the amendments made to the CGST Act. This will have a significant impact on the online gaming industry pushing smaller companies into unsustainable territory, leading to closures. Job cuts will also streamline operations and manage costs in the face of decreased revenue or increased expenses due to taxation, leading to slower growth.

[49] 2021 Essential Facts about the Video Game Industry

It is crucial to review the GST amendment and revise the rate and valuation methods to sustain the industry without associating it with betting or gambling. Even if the tax rate remains unchanged, reverting to gross gaming revenue as the valuation method is essential.

As per the report by Entertainment Software Association (ESA)^[49], 38% of the gaming population belongs to the age group of 18-34.

With the significant rise in the youth population in the online gaming industry particularly real money games, it is important to have regulations to ensure responsible gaming practices. Taxation also serves as a source of revenue for governments, which can further be allocated to various infrastructure and innovation initiatives for online gaming.

1

Case studies of countries with thriving Online Gaming Industries

In real money gaming, there are two kinds of games- skill-based and chance-based games i.e., betting and gambling. Countries such as Denmark, Malta, and United Kingdom do not have separate regulations for games of skill and games of chance. However, online gambling is strictly restricted in Australia and South Korea.

In the table given, we see a global comparison of tax rates imposed on online gaming in different countries.

Table 3: Tax rates imposed in different countries

COUNTRY	STATE	TAX RATE
UNITED STATES	Pennsylvania	14% ^[50]
	New Jersey	10.50%
	Nevada	3.5%-6.75%
	Mississippi	8%
	Louisiana	15%
	Colorado	10%
	Missouri	21%
	Iowa	6.75%
	New York	15%
	Michigan	20%-28%
	Delaware	15.50%
INDIA		28% ^[51]
UNITED KINGDOM		21%
FRANCE		11%
GERMANY		5.30%

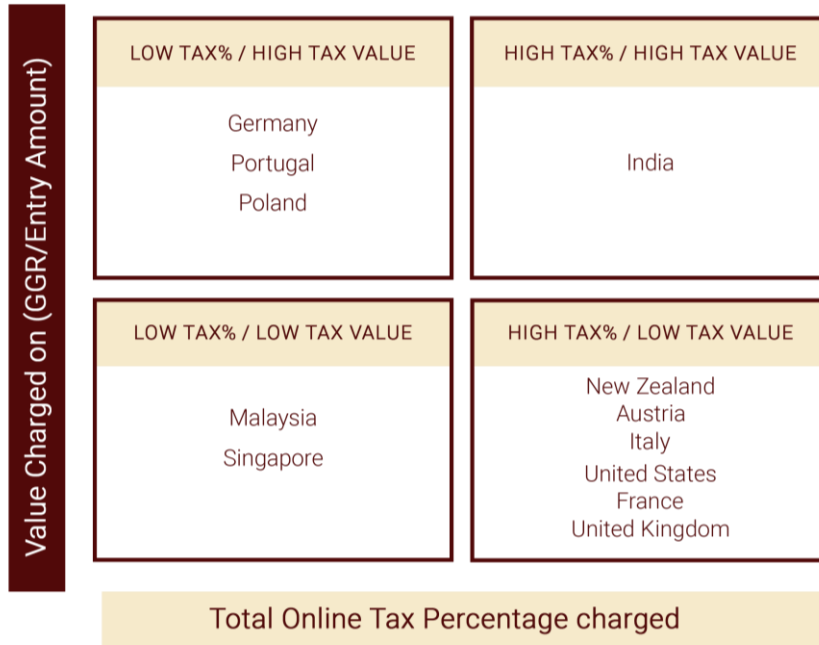
The United States has different state taxes, whereas countries like India, the United Kingdom, France, and Germany have federal taxes. Each country also follows a model to calculate tax on online games.

United States, United Kingdom, and France follow the GGR model and Germany follows the Turnover Tax model.

Internationally, there are two widely recognized models for taxing online games, the Gross Gaming Revenue (GGR) Tax model with a moderate tax rate and the Deposit or Turnover Tax model with lower tax rates.^[52] In the GGR model, tax is calculated on the total money a player spends minus the amount paid out as winnings or prizes. In the turnover tax model, tax is calculated on the total money spent by the players, regardless of whether they win or lose.

^[50] Lakshmisri-Taxation of the Digital Economy
^[51] EY Report- Navigating the Evolving Landscape for online gaming in India
^[52] Deepstrat- Analysis of the recommendation of the report of the GoM

Figure 49: Landscape of the global online RMG taxation



Source: EY-FICCI Report and Primus Partner's and EGROW's recreation

2

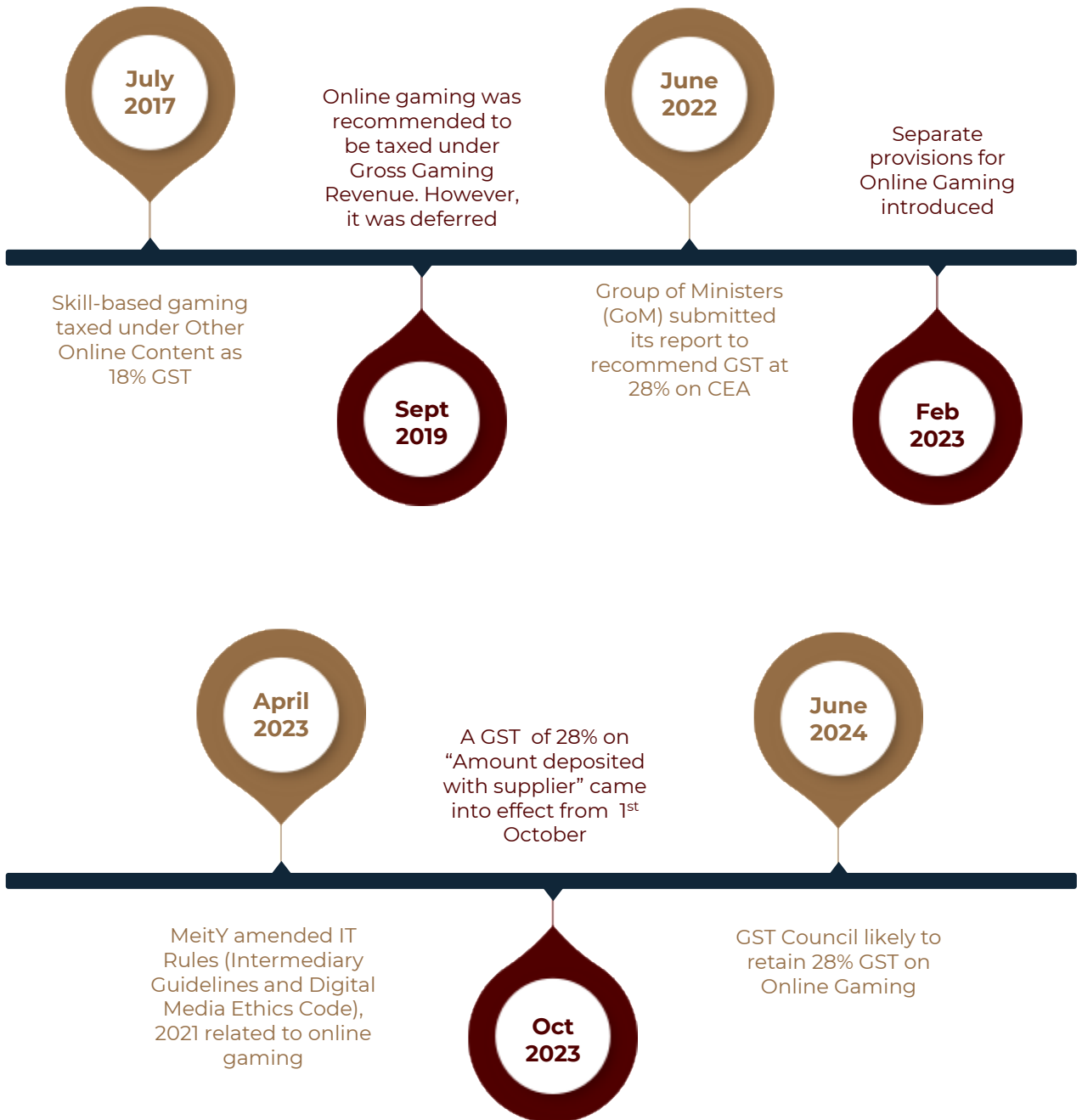
Overview of GST Implementation on Online Gaming services in India

India is emerging as one of the largest gaming markets in the world. The government of India recognises the tremendous potential of this industry to attract foreign direct investment (FDI), and further create employment opportunities in India^[53]. According to the recent amendments to the Income Tax Act, online gaming has been recognised as a separate industry. The GST Council in its 50th (11th July 2023) and 51st Meetings (2nd August 2023) decided to levy 28% GST on the full deposit value instead of GGR/platform fee as done previously.

This has left the industry in significant distress. Earlier an 18% tax was imposed on the Gross Gaming Revenue. The objective of the decision was to bring the taxation of the Online Gaming industry at par with the taxation mechanism adopted for lottery, betting, and gambling (games of chance). The entire timeline is shown in Figure 51. In addition, the issuance of retrospective show cause notices by DGGI has come as a double whammy to the industry, with the GST demand totaling up to Rs. 1.5 lakh crore, an amount which significantly exceeds the industry's total revenue.

[53] AVGC Promotion Task Force

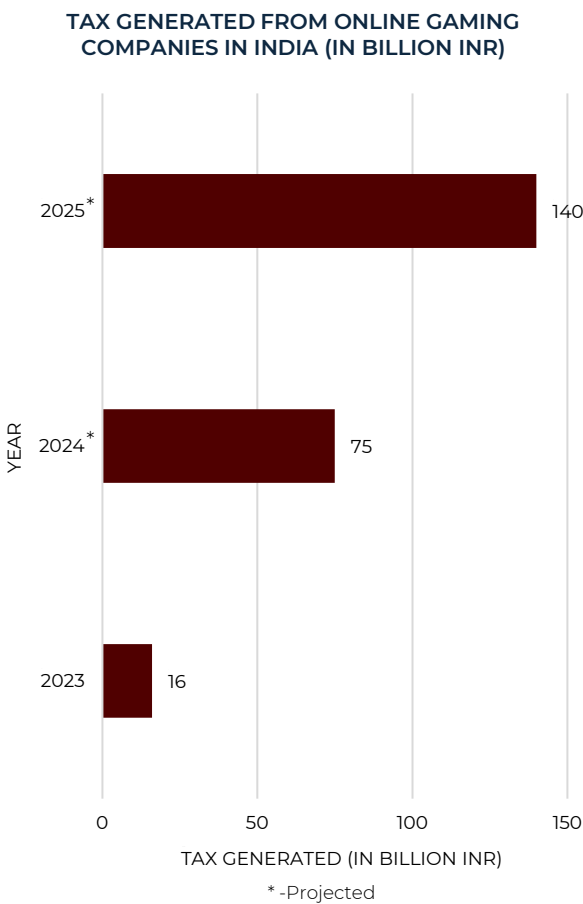
Figure 50: Timeline of events leading to the implementation of GST on Online Gaming in India



Source: EY report, Deloitte report, and Primus Partners' and EGROW's recreation

In FY 2022-23, India collected INR 16 billion in GST from online gaming companies. In the fiscal year that ends on March 31, 2024, INR 75 billion will be collected from the tax. As the new GST of 28% was imposed in October'23, INR 35 billion tax was generated in the October-December quarter. India expects to collect up to INR 140 billion in GST in the next fiscal year (2024-25) from online gaming companies^[54].

Figure 5|: Tax generated from the Online Gaming companies in India



Source: Reuters article^[54]

[54] Reuters- India aims to collect \$1.7 billion from online gambling tax in FY25
[55] ICLG-Gambling Laws and Regulations India 2024

3 Comparative study of Gaming Regulations in different Jurisdictions of India

In April 2023, the government of Tamil Nadu implemented the Tamil Nadu Prohibition of Online Gambling and Regulation of Online Games Act, 2022 (TN Act) to ban online gambling and real-money online games of chance in the state of Tamil Nadu. The TN Act has also established the Tamil Nadu Gaming Authority to regulate and oversee the rapidly growing online gaming industry. The Authority has a lot of responsibilities like protecting the consumers, issuing license to gaming operators, combating illegal gambling activities and promoting responsible gaming practices^[55].

Several other states like Telangana, Nagaland and Karnataka have devised their own laws to regulate betting and gambling. Multiple states have their own understanding of gambling.

Telangana has a blanket ban on games of skill which have part elements of chance and does not consider them as 'games of skill'. It has banned these games in both offline and online channels under the Telangana Gaming Act (2017).

Andhra Pradesh has prohibited any forms of games that involve real money and made the play of such game's illegal under the Andhra Pradesh Gaming Act 2020.

According to the Assam act all the games which include money are banned.

However, there are a few states that have regulated online gaming, such as Sikkim and Nagaland.

The Nagaland Prohibition of Gambling and Promotion and Regulation of Online Games of Skill Act, 2015 legalizes online skill gaming but due to enormous annual fees, no online player has shown interest in this region

The Meghalaya Regulation of Gaming Act, 2021, the state has decided to implement a license-based system for regulating gaming and gambling within the state. The Act seeks to regulate both "games of skill" and "games of chance" involving the betting or wagering of money or the value of money.

Sikkim is one of the states where offline and online gaming is legal. Casinos, online games & sports games are under the administrative control of the Directorate of Sikkim State Lotteries and is governed by the Sikkim Online Gaming (Regulation) Act, 2008 and the Sikkim Online Gaming (Regulation) Amendments Act, 2009^{[56][57]}.

4

Impact Analysis: Short-term and Long-term effects on Industry Viability

The Deloitte report assesses the impact of the recent GST changes on the online gaming industry based on the revenue, cost and consumer behaviour related data. Based on such analysis, it has been estimated that shift from the 18% on GGR to 28% on CEA, may result in a degrowth of the industry and parallel reduction of GST revenue collection. The GST revenue in 5 years is expected to decrease by 58 % to 72 % compared with the current regime. The degrowth of the industry may also result in significant job losses and reduced investments, making small gaming startups unviable. Also, the industry size may shrink by 33x to 43x in the next 5 years^[58].

The 28% GST on online gaming will influence the development of the gaming market in India negatively. It will discourage the participation and engagement of online gamers, drive away legitimate and licensed online gaming platforms, create a vacuum for illegal and unregulated operators, and affect the contribution of the online gaming industry to the economy^[59].



[56] RedSeer report- Online Gaming Market

[57] Primus Partners- Online Gaming in India

[58] Deloitte- GST on Online Gaming

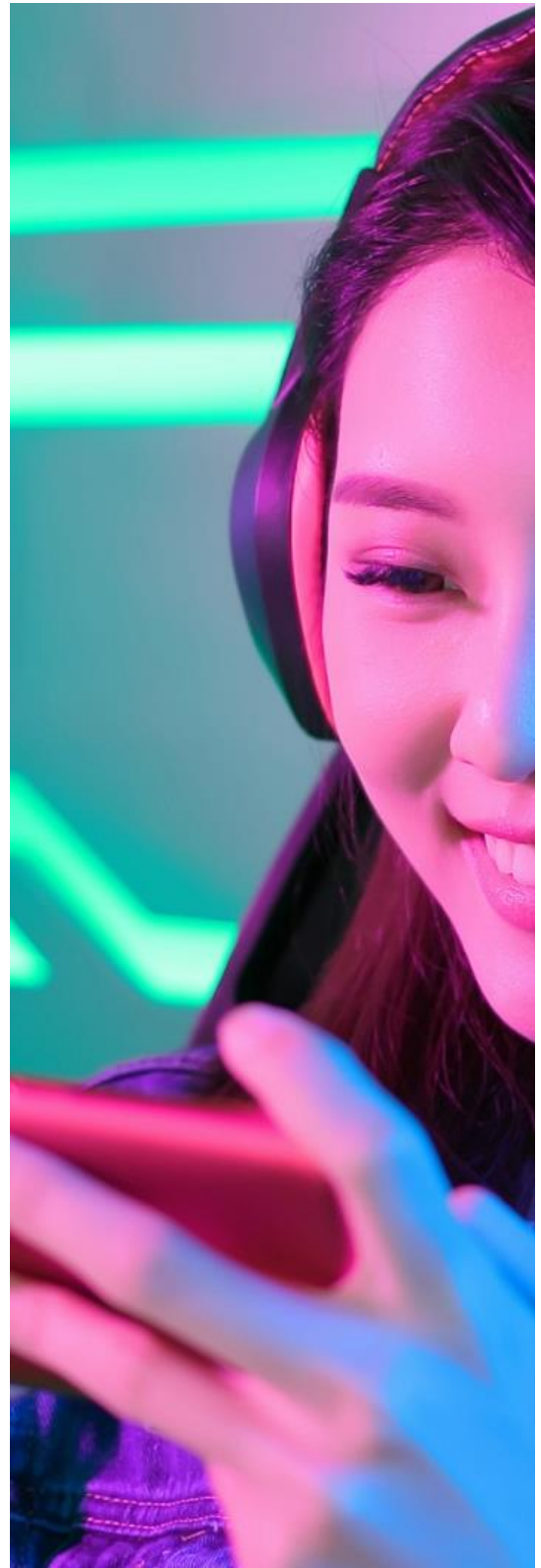
[59] Entrepreneur- How The 28% GST On Online Gaming Will Influence The Development Of The Gaming Market In India

5

Financial performance of Gaming Companies under the GST Regime

The increase in Goods and Services Tax (GST) on the gaming sector has led to reduced profitability for the companies. With operating costs skyrocketing by 4x to 6x, gaming companies are forced to make tough decisions to stay in the business. They are forced to reduce marketing budgets and laying off employees to mitigate the financial strain.

For startups, the burden is even heavier. Many promising ventures may struggle to survive under the weight of such tax increases. The closure of these startups not only represents the loss of innovation and job opportunities but also reflects the challenges facing the gaming industry in adapting to regulatory changes^[60].



[60] Financial Times-Taxing times for online gaming



CHALLENGES TO THE ONLINE GAMING INDUSTRY AND ITS CONSUMERS

1 AMENDMENTS IN GST

As per the recent amendments in GST, skill-based games are considered similar to chance-based games, and all are taxed at under 28% GST. This classification leads to miscalculation. Earlier, 28% GST was imposed on online games that involved betting and gambling, and for other online real money games, GST was levied at 18%. Now, every online game is levied at 28% GST. Such a high tax rate discourages gamers to continue playing.

[61] Money Control - Online gaming: Understanding the tangled web of taxes

Most of the gaming companies have raised this issue as such a high tax rate is not sustainable for start-ups in this sector. The online gaming platforms are partially or fully absorbing this high GST^[61].

The government of India has given 100% clearance to FDI but the imposition of 28% GST on online gaming acts as a hinderance in attracting foreign direct investment. As start-ups mostly depend on external investment to fuel their expansion, innovate new products, and develop strategies to enhance their operations, a decline in FDI would directly impact the growth of both existing and new start-ups in this sector

2

DELAY IN THE IMPLEMENTATION OF REGULATORY POLICIES UNDER THE INFORMATION TECHNOLOGY (IT) RULES

The Ministry of Electronics and IT (MeitY) has not created self-regulatory bodies (SRBs) to regulate the online gaming sector because MeitY determined that the SRBs may be influenced by the big players of the industry and may lack independence. It is crucial for these Rules to be operationalised at the earliest, while also addressing MeitY's concerns. MeitY may include a three-tier structure like in the OTT sector with an oversight committee at the apex. This body can provide a framework for SRBs leaving less room for them to be influenced. This framework must differentiate between the 'game of skill' and the 'game of chance' based on the definition given by the court. Also, this framework must take strict steps for KYC, consumer rights, responsible gaming, financial safety, and platform integrity. Games of skill need to be distinguished from games of chance based on a robust statistical framework.

3

GST SHOW CAUSE NOTICES THAT COMBINE GAME OF SKILL WITH BETTING AND GAMBLING

The online gaming companies have been issued 71 show cause notices for tax evasion in the last two years. According to Finance Ministry the online gaming industry has evaded more than Rs.1.12 lakh crores tax in FY23 and FY24. These notices claim that when the games involve money then they qualify as betting. But this notice is contradictory to the GST law (1st October 2023) as actionable claims in relation to games of skill were exempted from the definition of 'supply of goods/services' under Schedule III, Entry 6 of the GST Act. Actionable claims of only betting, gambling, and lottery may be taxed under the erstwhile law. Also, the amount claimed in the show cause notices is approximately 5 to 10 times the lifetime revenues of the companies. Thus, these amounts cannot be possibly paid by the gaming companies.

4

THE MENACE OF OFFSHORE ILLEGAL GAMBLING PLATFORMS

This is also a challenge to the user safety and national security. There is presence of offshore gambling and betting websites which are also offering gambling services to the states even where such activities are a crime. So, there is need to devise a system that allows users, Law Enforcement Agency (LEAs), financial service providers and other businesses to recognize illegal gambling and betting websites.

The solution again lies in differentiating between 'games of skill' and 'games of chance'. If the government implements the regulatory framework under the IT Rules, all legitimate games of skill will be verified by SRBs and receive official verification. This will make it easier for the stakeholders to differentiate between legitimate skill games and illegal gambling offerings^[62].



[62] Money Control-Opinion: Need for a coherent 'game' of law and policy



CONCLUSIONS

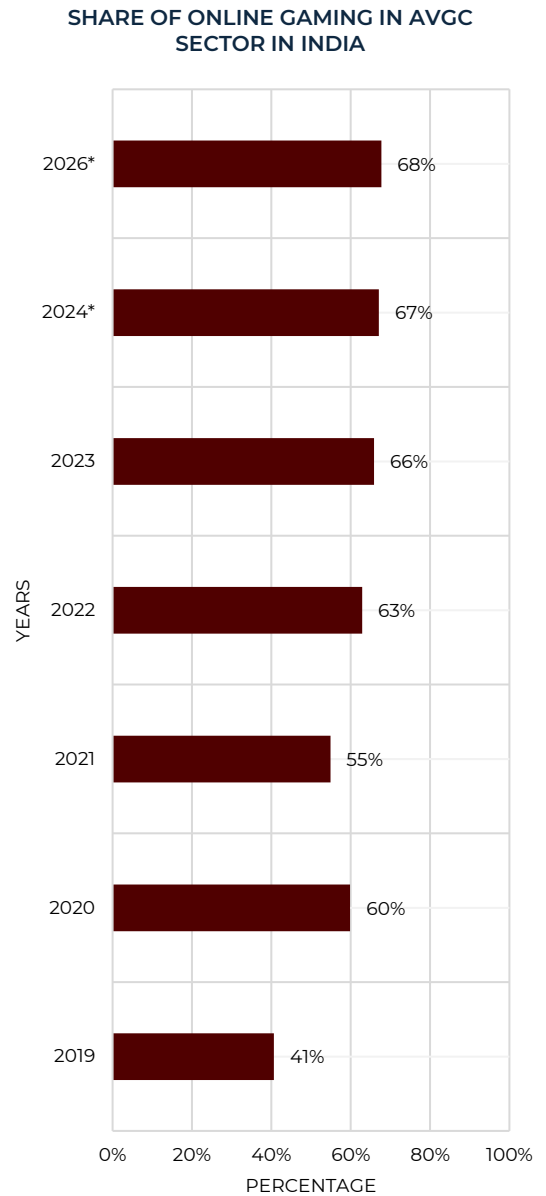
1

CONTRIBUTION OF THE ONLINE GAMING INDUSTRY TO THE M&E AND THE AVGC SECTORS

The share of online gaming in the M&E sector was 3.4 percent in 2019 which is expected to rise to 12.6 percent in 2026.

The contribution of the online gaming sector to the AVGC industry is expected to increase from 41% in 2019 to 68% in 2026. The AVGC sector is expected to reach 573 billion INR by 2026 with the online gaming sector reaching 388 billion INR.

Figure 52: Contribution of Online Gaming to the AVGC Sector



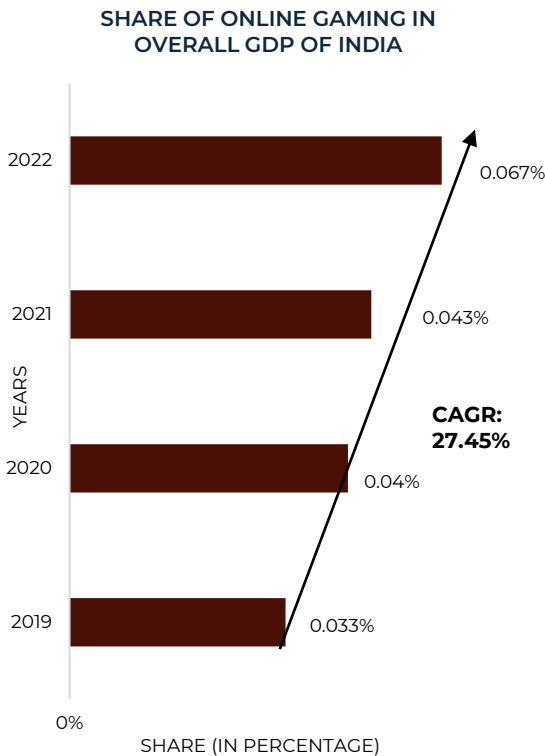
Source: EY-FICCI report, April 2023, March 2024

2

DIRECT CONTRIBUTION OF THE ONLINE GAMING INDUSTRY TO INDIA'S GDP

The share of the online gaming in GDP has grown from 0.003% in 2019 to 0.067% in 2022 with a CAGR of 27.45%.

Figure 53: Contribution of online gaming to India's overall GDP



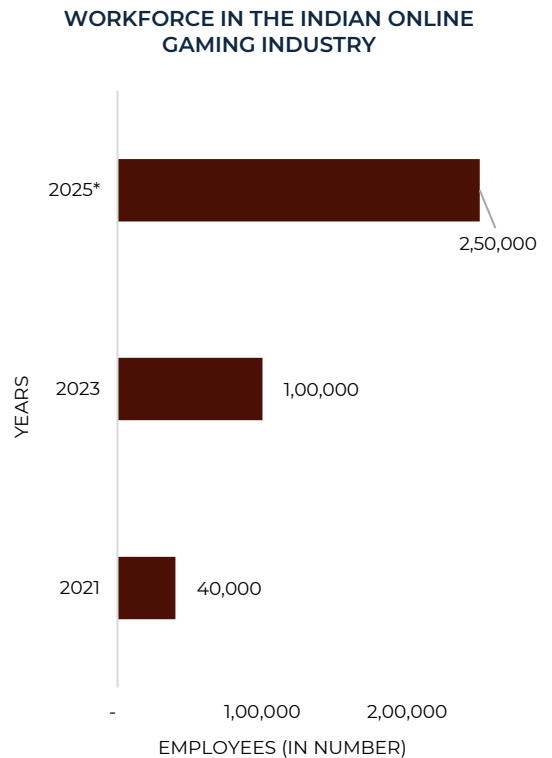
Source: EY-FICCI report, April 2023 , March 2024 & World Bank for GDP data

3

ONLINE GAMING SECTOR AND THE NUMBER OF DIRECT JOBS

It was estimated by IAMAI that the gaming industry will offer approximately 40,000 direct jobs in 2021. According to the EY-FICCI report, there were 1 lakh employees in 2023, and this number is expected to go up to 250,000 by 2025.

Figure 54: Workforce in the Indian Online Gaming Industry

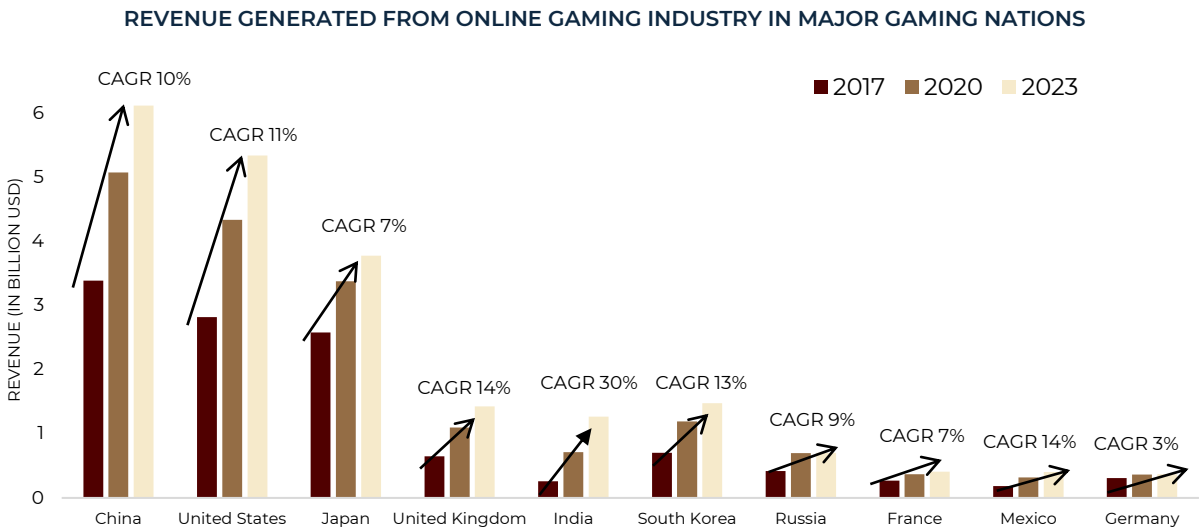


Source: EY-FICCI report

4 INDIA HAS THE POTENTIAL TO BE AHEAD OF CHINA, US, UK, JAPAN

The revenue generated from the Online Gaming industry in India is lower compared to China, the United States, Japan, and the United Kingdom. However, for India as compared to other countries in Figure 56, the growth rate of this industry in the past six years has been the highest with a CAGR of 30% from 2017 to 2023.

Figure 55: Revenue generated from the Online Gaming Industry in Major Gaming Nations



Source: Statista Market Insights

Table 4: Comparison of growth rates of online gaming revenues in major gaming countries

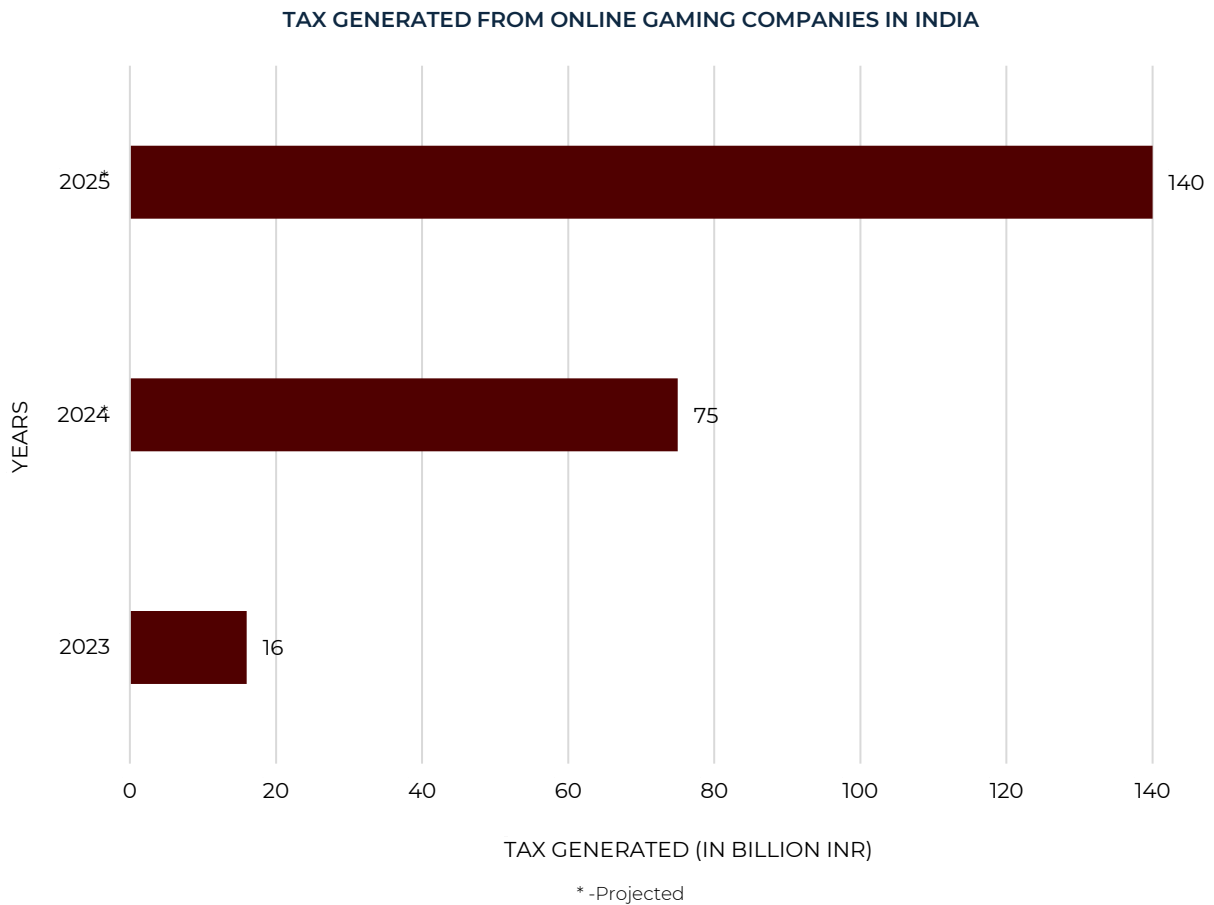
Countries	India	United Kingdom	Mexico	South Korea	United States
CAGR (2017-2023)	30%	14%	14%	13%	11%
China	Russia	France	Japan	Germany	
10%	9%	7%	7%	3%	

5

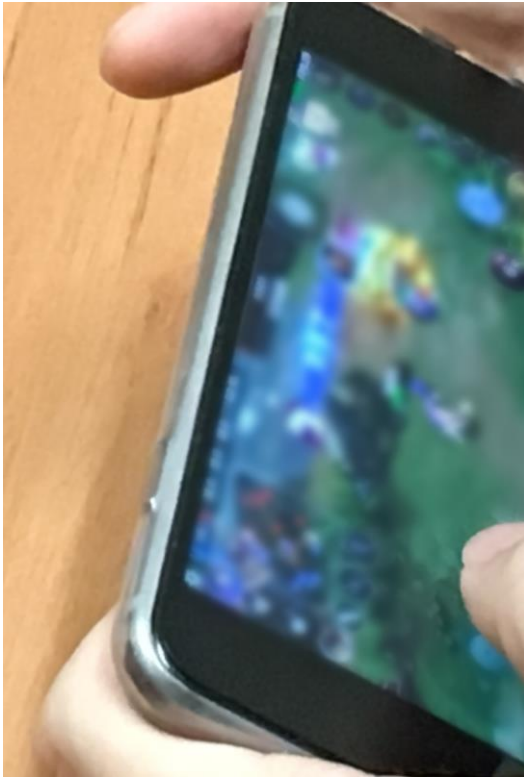
TAX GENERATED FROM ONLINE GAMING INDUSTRY

In FY 2022-23, India collected INR 16 billion in GST from online gaming companies. In the fiscal year INR that ends on March 31, 2024, 75 billion will be collected from the tax with INR 35 billion generated in the October-December quarter. India expects to collect up to INR 140 billion in GST in the next fiscal year (2024-25) from online gaming companies.

Figure 56: Tax Revenue from Online Gaming Companies in India



Source: Reuters article



ANNEXURE: RESEARCH METHODOLOGY

1

MIXED METHODOLOGY APPROACH

The study adopts a mixed methodology approach, which integrates both qualitative and quantitative research methods. This approach allows for a holistic exploration of the subject matter, providing a more comprehensive view of the online gaming industry of India.

2

QUESTIONNAIRE-BASED SAMPLE ANALYSIS

The foundation of this study is the utilization of a structured questionnaire. The survey questionnaire was meticulously designed and prepared by experts from EGROW. It was implemented by Primus. This questionnaire served as the primary tool for collecting data from the target sample, i.e. leading online gaming companies of India.

3

DATA COLLECTION

Data collection involved the systematic administration of the questionnaire to the leading prominent online gaming companies of India. The data collection process was conducted through online surveys by Primus.

4

ANALYSIS OF PERCEIVED IMPACT

To explore and assess the economic ascendancy and growth of the Online Gaming Companies of India, the survey inquired about various aspects including revenue and profit growth, number of consumers and employees, skill gap, government policies and recommendations, etc. This information was collected through the questionnaire responses. Subsequently, EGROW and Primus conducted rigorous statistical analyses to quantify these impacts.

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